

ANNUAL PROGRESS REPORT 2023

SUBMITTED TO
ATARI
ZONE VIII, PUNE

SUBMITTED BY



MANJARA CHARITABLE TRUST'S
KRISHI VIGYAN KENDRA
ADDL MIDC, Plot No. P-160, Harangul (B) Post- Gangapur
Barshri Road, LATUR-413531 (MS)



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ICAR-ATARI, Pune
DETAILS OF ANNUAL PROGRESS REPORT OF KVKs DURING 2023
(January 2023 to December 2023)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
Krishi Vigyan Kendra Latur, Addl. MIDC, Plot No. P-160, Barshi Road, Post- Gangapur, Tq.Dist Latur (MH) 413531	Office	FAX	kvklaturms@gmail.com	www.kvklatur.in
	9404957511	-		

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

Address	Telephone		E mail	Website address
	Office	FAX		
MANJARA CHARITABLE TRUST Addl. MIDC, Plot No. P-160, Barshi Road, Post- Gangapur, Tq.Dist Latur (MH) 413531	9404957511	kvklaturms@gmail.com	www.kvklatur.in	

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

Name	Telephone / Contact		
	Office	Mobile	Email
Dr. Digrase Sachin Swaruprao	-	9423211384 9404957511	sdigrase@gmail.com

1.4. Date and Year of sanction: 20.05.2005

1.5. Staff Position (as on December, 2023)

Sl. No.	Sanctioned post	Name of the incumbent	Mobile No.	Discipline	If Permanent, Please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
					Current Pay Band	Current Pay		
1.	Senior Scientist and Head	Dr. Digraze S.S.	9404957511	Horticulture	(131400-217100)	161600	14.10.2016	-
2.	Subject Matter Specialist	Bedre S.B.	9422469021	Agril.Extension.	(56100-177500)	90000	11.07.2006	-
3.	Subject Matter Specialist	Deshmukh S.B.	9404957510	Entomology	(56100-177500)	90000	11.07.2006	-
4.	Subject Matter Specialist	Smt.Gunjal A.A.	9404957515	Home Science	(56100-177500)	90000	13.10.2006	-
5.	Subject Matter Specialist	Matai P.D.	7899357261	Agronomy	(56100-177500)	65000	03.05.2018	-
6.	Subject Matter Specialist	Dr.Shinde S.P.	9421618790	Agril Engg.	(56100-177500)	57800	1.10.2022	-
7.	Subject Matter Specialist	Dr. Ulemale P.D.	9921048008	Horticulture	(56100-177500)	57800	1.10.2022	-
8.	Programme Assistant	Dr. Salunke S.B.	9404957517	Veterinary	(35400-112400)	62200	01.10.2006	-
9.	Computer Programmer	Suryawanshi V.M.	9404957520	Computer	(35400-112400)	56900	19.01.2009	-
10.	Farm Manager	Vacant	-	-	-	-	-	-
11.	Accountant/Superintendent	Deshmukh A.J.	9850614733	-	(35400-112400)	62200	11.07.2006	-
12.	Stenographer	Adgaonkar M.M.	9834020867	-	(25500-81100)	42200	01.04.2006	-
13.	Driver 1	Pitale N.B.	9822964401	-	(21700-69100)	35000	01.04.2006	-
14.	Driver 2	Shaikh W.M.	9657667082	-	(21700-69100)	25200	17.12.2018	-
15.	Supporting staff 1	Sagar O.K.	9850157843	-	(18000-56900)	30600	01.04.2006	-
16.	Supporting staff 2	Jadhav V.H.	9763621672	-	(18000-56900)	30600	01.04.2006	-

1.6. Total land with KVK (in ha):

S. No.	Item	Area (ha)
1	Under Buildings	2
2.	Under Demonstration Units	2
3.	Under Crops	13.7
4.	Horticulture	2.00
5.	Pond	0.3

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Completion Year	Complete Plinth area (Sq. m)	Expenditure (Rs.)	Starting year	Incomplete 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	ICAR	22.02.2012	400	50,00,000	-	-	-
4.	Fencing	ICAR	31.03.2011	2800 Rgm	7,00,000	-	-	-
5	Rain Water harvesting system	-	-	-	-	-	-	-
6	Threshing floor	-	-	-	-	-	-	-
7	Farm godown	-	-	-	-	-	-	-
8	Soil and water testing lab	-	-	-	-	-	-	-
9	Mini soil testing Kit	-	-	-	-	-	-	-
10	Sell Contour	-	-	-	-	-	-	-
11	Demo unit	ICAR	26.03.2009	80	5,00,000	-	-	-
12	ICT lab	-	-	-	-	-	-	-
13	Solar Panel	-	-	-	-	-	-	-
14	counter seal	-	-	-	-	-	-	-
	Other pl mention	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Running	Present status
Jeep (MH-24-AW-3105)	2019-2020	8,00,000	92428	Under working
Motor Cycle (MH-24-Q-1404)	2006-2007	50,714	133217	Needs replacement
Motor Cycle (MH-24-Q-1405)	2006-2007	50,714	124348	Needs replacement

C) Equipment & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Tractor (45 hp)	2006-07	5,09,002.00	Tractor needs replacement
Mould Board Plough	2006-07	42,019.00	Needs replacement
Spring tyne cultivator	2006-07	26,434.00	Needs replacement
Tractor operated Sprayer HTP	2019-20	60,714	Under working
Reaper	2019-20	1,23,214	Under working
Bund former	2019-20	17,857	Under working
Seed cum fertilizer drill (BBF) (03 Nos.)	2019-20	1,80,000	Under working
Sugarcane trash shredder	2019-20	1,78,571	Under working
Reversible two bottom plough	2019-20	35,714	Under working
Mulching Machine	2019-20	35,714	Under working
Sugarcane Set cutter planter	2019-20	1,74,107	Under working
Sugarcane seedling trans planter	2019-20	1,29,464	Under working
Subsoiler	2019-20	35,000	Under working

Minitractor	2019-20	3,75,000	Under working
Minitractor operated cultivator	2019-20	13,392	Under working
Rotary Tiller	2019-20	42,200	Under working
Boom Sprayer	2022-23	1,20,000	Under working
Drone	2022-23	8,00,000	Under working
Poultry mini hatchery unit	2019-20	5,82,400	Under working
Fruits and vegetable Processing unit	2019-20	15,68,220	Under working
Computer with projector	2006-07	1,21,900.00	Needs replacement
Genset (Generator)	2011-12	2,50,000.00	Under workings
Computer (02 Nos) & Printer , Tab	2016-17	1,20,000.00	Need to replacement

1.8. Details of SAC meeting conducted in the year:

Date	Name and Designation of Participants	Salient Recommendations	Action taken
Nil	Nil	Nil	Nil

2. DETAILS OF DISTRICT / JURISDICTION AREA OF KVK

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

S. No	Farming system/enterprise
1	Dry land Single cropping system Soybean, Pigeon pea, Greengram, Blackgram Inter-cropping system Soybean + Pigeon pea (4:2) 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. No.	Agro-climatic Zone (Planning Commission)	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.

a) Topography

S. No.	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 Shirur Antanpal)	Medium to heavy soils with command area

2.3 Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Light	0.75-25 cm depth	145079
2	Medium	25-50 cm depth	60274
3	Black Cotton	Above 50 cm depth	137288

2.4. Area, Production and Productivity of major crops cultivated in the area of jurisdiction of KVK (2023)

S. No	Crop	Area (ha)	Production (000 T)	Productivity (Kg/ha)
	Major Field crops			
1	Kharif Jawar	63.87	20	310.45
2	Soybean	4897.53	5398	1102.11
3	Groundnut	2.99	2	595.84
4	Other Oilseeds	3.72	0	0
5	Sugarcane	542.56	0	0
6	Cotton	61.91	30	476.93
7	Pigeonpea	688.89	234	340
8	Greengram	60.76	35	571.28
9	Blackgram	40.19	24	602.66
10	Other Pulses	790	1197	1514
	Major Horticultural crops			
1	Mango	2390	-	-
2	Custard Apple	140	-	-
3	Pomegranate	180	-	-
4	Guava	72	-	-
5	Citrus	87	-	-
6	Tomato	1256	-	-
7	Chili	125	-	-

Source: Statistic Department SAD Latur

2.5. Weather data (2023)

Month	Normal RF(mm)	Normal Rainy days (number)	Temperature (° C)		Relative Humidity (%)	
			Maximum	Minimum	Maximum	Minimum
January	-	-	30.28	9.42	83.0	32.28
February	-	-	34.5	10.85	73.0	23.0
March	11	1	34.57	13.50	74.28	21.85
April	73.5	4	36.28	15.35	73.0	26.0
May	69.5	2	39.9	19.64	85.57	22.0
June	7.0	1	34.22	19.78	85.42	37.14
July	174.06	9	32.34	20.1	77.75	34.75
August	-	-	29.86	20.14	83.69	36.51
September	230.6	10	77.5	29.06	78.08	36.71
October	74	1	29.22	20.16	77.49	36.76
November	4.01	1	29.21	20.16	77.52	36.52
December	46.05	4	29.29	14.67	94.5	35.25
Total	689.72	33				

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

Category	Population (No)	Production	Productivity
Cattle			
<i>Crossbred</i>	9100	24988 MT	7.558 Kg
<i>Indigenous</i>	56300	60181 MT	2.832 Kg
Buffalo	80900	139757 MT	4.281 Kg
Sheep	35901	21.168 MT (Wool)	0.605 Kg.
Goats	48300	4177 MT. (Milk)	0.283 kg
	235962	113.26 MT (Meat)	12 Kg.
Pigs			
<i>Crossbred</i>	1172	-	-
<i>Indigenous</i>	8159	-	-
Rabbits	520	-	-
Poultry			
Hens (<i>Crossbred</i>)	261600	754.348 Lakh (Eggs)	288.35 Eggs
<i>Desi</i>			
Fish (Reservoir)	-	-	-

2.7. Details of Operational area / Villages

Taluka / Block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Latur	Khandapur	Pigeonpea	Use of local varieties Unawareness about seed treatment and use of pesticide Unaware about advanced technologies to enhance yield Imbalanced use of fertilizers	Improved high yielding varieties resistance to pest and diseases Integrated Nutrient Management Use of biofertilizers & Fungicides for seed treatment
	Chata, Chikhurda, Borgaon,	Soybean	Unawareness about pest and Disease incidence. Less productivity due to use of old varieties Labour shortage at the time of harvesting Unawareness about seed treatment	Use of improved and resistance to pest,diseases varieties Use of mechanization to overcome labour problem Use of biofertilizers & Fungicides for seed treatment
	Khandapur	Chickpea	Major Problem Incidence of Wilt disease Yield reduced due to use of old varieties Unawareness about seed treatment Unaware about pest and disease attack.	Use of improved and resistance to pest,diseases varieties Use of Tricoderma Viridi for control of wilt disease Use of biofertilizers & Fungicides for seed treatment
		Farm implements	Low level of mechanization Use of improved implements On farm conservation practices Unavailability of labour for farm work	Use of improved sowing/planting equipments Precision Rotary Dibbler and BBF technology Improved farm equipment's
	Babhalgaon Harangul Murud	Natural Resource Management	Depletion of Water level Unavailability of water to crop	Implementation of borewell recharge to enhance the ground water level.

	Gangapur Harangul	Spraying Equipment's	Improved farm equipment's	Use of drone technology for spraying crops.
	Harangul	Sericulture	Uneven maturity of silkworm causes low yield and quality Heavy infestation of Uzi fly on silkworm reduces more yield	Use Sampoorna hormone for uniform maturity Integrated management of Uzi fly
		Sericulture	More labor required for cocoon harvesting, high labour cost and time required for harvesting and de flossing.	Use of CSRTI Cocoon harvester
	Kasarkheda	Rabi Sorghum	Low yield Unawareness about use of pesticide Sowing on Rainfed Situation Non adoption of seed treatment High cost of cultivation	Improved high yielding varieties Protective irrigation at critical growth stages Biofertilizers & Fungicides for seed treatment Improved technology to reduce cost of cultivation
	Harangul	Rabi sorghum	Infestation of fall army worm and causes losses up to 50%	Integrated Pest Management practices
	Bhoisamudraga, Akarwai, Gangapur	Value addition	Post harvest losses.	Post harvest management for loss reduction
		Drudgery reducing implement	Drudgery prone activities at farm & home	Drudgery reducing technologies for loss reduction
		Nutrition	Nutritional inadequacy	Family nutrition & livelihood security
		Entrepreneurship	Unknown about the entrepreneur knowledge & skills	Entrepreneurship development through Processing and value addition in farm produce
	Bhoisamudraga	Soybean	Heavy infestation of girdle beetle and stem fly	Integrated Pest Management practices

			Seedling mortality due to fungal diseases and pod blight	Use of polymer coating along with seed treating chemical pesticides
			Heavy infestation of Snail and stem fly	Mass campaign for management of snail Integrated Pest and disease Management practices
	Chikurda, Gondegaon	Sugarcane	Yield loss due to white grub during onset of monsoon Yield reduction due to yellow leaf disease Heavy Stem borer infestation in ratoon crop	Bio-control of pests using entomopathogenic nematode Integrated Pest and disease Management practices
	Gangapur Niwali Harangul B Khandapur Sugav	Dairy	Low milk yield Poor body condition Unavailability of green fodder round the year	Fodder production Feeding management Disease management
	Gangapur Shirala	Backyard Poultry	High mortality Less egg production Low weight gain Less income	Improved poultry breeds Feeding management Disease management
Ausa	Javali, Ramvadi	Soybean	Unawareness about pest and Disease incidence. Less productivity due to use of old varieties Labour shortage at the time of harvesting Unawareness about seed treatment	Use of improved and resistance to pest,diseases varieties Use of mechanization to overcome labour problem Use of biofertilizers & Fungicides for seed treatment

Gaur, Lodga, Kharosa	Safflower	Low yield due to use of local varieties Major attack of Aphids, sucking pest on Safflower Unavailability of labour for harvesting of crop	Use of improved varieties, high yielding and pest disease resistance Integrated Pest Management Harvesting by combine harvester
Borgaon, Jawali	Chickpea	Major Problem Incidence of Wilt disease Yield reduced due to use of old varieties Unawareness about seed treatment Unaware about pest and disease attack.	Use of improved and resistance to pest,diseases varieties Use of Tricoderma Viridi for control of wilt disease Use of biofertilizers & Fungicides for seed treatment
Lodga Kharosa	Onion	Low yield use of local varieties & wrong planting methods Unkonon about right maturity indices Rotening in storage due to no pre cooling / curing Pest disease occurrence specially thrips & blight	Use of old/ local varieties Imbalance use of fertilizers Lack of knowledge about proper curing Unavailability of storage structure
		Stemphylium blight (Stemphylium vesicarium) and purple blotch (Alternaria porri) diseases and onion thrips (Thrips tabaci) causes major yield losses	Integrated Pest and disease Management practices
Lodga Borgaon	Farm implements	Low level of mechanization Use of improved implements On farm conservation practices Unavailability of labour for farm work	Use of improved sowing/planting equipments Precision Rotary Dibbler and BBF technology Improved farm equipment's
	Natural Resource Management	Depletion of Water level Unavailability of water to crop	Implementation of borewell recharge to enhance the ground water level.

		Spraying Equipment's	Improved farm equipment's	Use of drone technology for spraying crops.
Renapur	Iti Nagapur	Sugarcane	Yield loss due to white grub during onset of monsoon Yield reduction due to yellow leaf disease Heavy Stem borer infestation in ratoon crop	Bio-control of pests using entomopathogenic nematode Integrated Pest and disease Management practices
		Chickpea	Plant population reduction due to wilt, heavy infestation of pod borer	Integrated Pest and disease Management practices
		Pigeon pea	Heavy yield losses due to sudden infection of phytophthora stem blight Low yield due to flower drop cusses due to disease infection	Integrated Disease Management practices
Chakur	Janwal wadwal	Tomato	Low yield due to occurrences of pest and disease Deficiencies of micro nutrients Fruit quality affected by physiological disorders Fruit and flower drop due to extreme climatic conditions Improper use of fertilizers leads to low quality fruit	Imbalanced application of fertilizers Use of old released varieties More infestation of peat and disease

2.8. Priority thrust areas:

Crop/Enterprise	Thrust area
Soybean	• Introduction of newly released improved varieties by conducting demonstration • Promotion of Broad Bed Furrow (BBF) Sowing method to maintain plant population • Introduction of sowing by Token machine for soybean plantation on raised beds • Promotion of improved high yielding, Pest and disease resistant varieties. • Soybean seed production programme in adopted village for economic return • Soil test based fertilizer application to mitigate the RDF • Introduction of Mechanical harvesting equipment due to unavailability of labours. • Integrated Management of Snail infestation • Integrated pest and disease management
Greengram	• Demonstration on pulses for introduction of improved varieties • Reduction in yield due to attack of pest and diseases on old varieties • Balanced application of fertilizers on soil test based reports • Promotion of crop & Varieties through demonstration, training group discussion etc. • Integrated pest & disease management.
Blackgram	• Introduction of pest and diseases resistance improved varieties • Awareness through extension activities to control pest and diseases • Introduction of early maturing varieties to reduce environmental losses • Balanced application of fertilizers on soil test based reports • Crop diversification from blackgram to other Kharif crops due to climatic changes • Integrated pest and disease Management
Pigeonpea	• Introduction of newly released improved varieties by conducting demonstration • Application of foliar fertilizers with RDF at Critical growth stages of crop • Introduction of growth regulators through spraying to enhance branching • Application of biofertilizers for seed treatment • Awareness about new technologies through training, field visits group discussion etc. • Use of biofertilizers for seed treatment • Management of Phytophthora stem blight disease

Chickpea	• Integrated use of Foliar fertilizers,Biofertilizers and RDF to increase productivity • Chickpea Seed production programme to supply good quality seed • Promotion of Broad Bed Furrow (BBF) Sowing method to maintain plant population • Awareness about new technologies through training and extension activities • Integrated management of Fusarium and other wilts • Use of Biofertilizers and fungicides to reduce wilt disease attack
Safflower	• Crop diversification from chickpea to safflower due to same cropping pattern every year • Application of Mechanical harvesting to overcome labor shortage problem • Demonstration of newly released pest and disease resistance improved varieties • Promotion of new varieties through field day
Sorghum	• Promotion to increase area of millet crop in International Millet Year • Introduction of Improved high yielding varieties for Grain and Stover • Protective irrigation at critical growth stages of crop • Application of fertilizers through integrated approach to increase productivity and Nutritional Security
Sugarcane	• Integrated pest and disease management • Use of disease free planting material
Chili	• Integrated Management of leaf curl virus incidence • Use of biocontrol agents and biopesticides
Mango	• Plant protection measures for management of powdery mildew and hoppers • Integrated disease management
Onion	• Integrated management of blight and thrips • Integrated Pest and disease Management practices
Custard Apple	• Integrated Management of fruit fly in early bahar fruits specifically on NMK cultivar • Improved pruning techniques
Sericulture	• Use Sampoorna hormone for uniform maturity • Integrated management of Uzi fly • Use of CSRTI Cocoon harvester

Farm Machinery and Implements	• Improvement in tillage practices and reduction in labour requirement by using improved implements. • Resources conservation techniques in crops. • Care and Maintenance of Micro Irrigation Systems. • Reduction in post-harvest losses, value addition to agricultural produce, processing and utilization of by-products.
Value addition	• Post harvest management for loss reduction • Empowering farm women through small scale processing & value addition
Drudgery reducing equipments	• Drudgery reducing technologies for farm women • Entrepreneurship development
Foods and Nutrition	• Establishment of Nutritional gardens & production of nutritive millets. • Family nutrition & livelihood security
Entrepreneurship Development	• Entrepreneurship development for income generation
Dairy animals	• Integrated approaches for enhancing production and reproduction • Animal health and care –(Timely vaccination, deworming and insemination) • Fertility management in dairy animals. • Balanced/ supplement feeding in livestock
Poultry	• Scientific management of poultry birds • Health management • Introduction of improved breeds poultry birds for backyard poultry farming
Goatery	• Animal health and care • Balanced/ supplement feeding in livestock • Fertility management of goats • Round the year availability of green fodder

3. TECHNICAL ACHIEVEMENTS

3.1. A. Details of target and achievements of mandatory activities

OFT				FLD			
1				2			
Number of OFTs		Number of farmers		Number of FLDs		Number of farmers	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
18	15	160	150	21	18	412	398

Training				Extension Programmes			
3				4			
Number of Courses		Number of Participants		Number of Programmes		Number of participants	
Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
86	86	450	4659	190	180	23233	22333

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
350	381.785	15000	12418

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
1500	1990	2000	1426.5

3.1. B. Operational areas details during 2023

S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Intervention (OFT, FLD, Training, extension activity etc.)*
1	Soybean	Uneven Distribution of Rainfall Labour Shortage from sowing to harvesting Use of old & local varieties Imbalance application of fertilizers Pest and disease occurrence Unavailability of labours for harvesting and threshing.	245278	Ankoli, Gondegaon, Khandapur, Kharosa	OFT,FLD,CFLD
2	Pigeon pea	Low yield in Redgram due to attack of wilt disease. Use of wilt susceptible variety BSMR-736 in the micro situation. Imbalance use of fertilizers Incidence of pest attack.	80540	Gangapur Kharosa Harangul	CFLD, Training
3	Green gram	Unawareness about use of Newly Released Improved Varieties Unawareness about use of fungicides. Due to Short duration crop weed management not done properly.	9214	Itti, Kharosa ,Killari	CFLD, Training
4	Black gram	Low yield due to attack of powdery mildew disease. Use of old varieties Imbalance use of fertilizers Unawareness about use of fungicides.	8425	Ankoli ,Itti, Khandapur	CFLD, Training
5	Chickpea	Use of same cropping pattern continuously. Low yield due to incidence of wilt disease Use of susceptible varieties	124690	Javali, Lodga, Ankoli, Chata	OFT, CFLD, Training

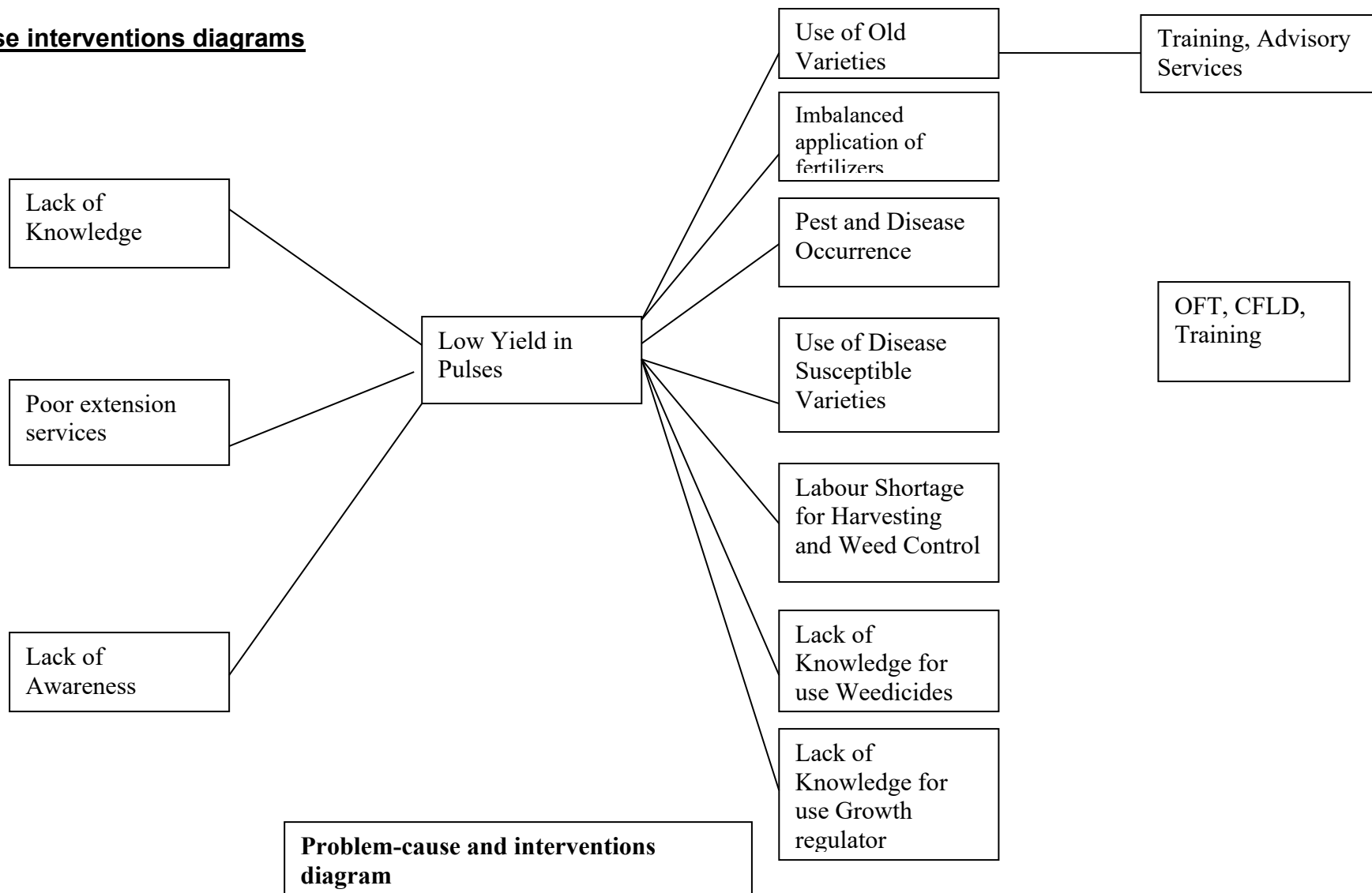
		Unaware about use of fungicides and insecticides Unaware about use of biofertilizers.			
6	Safflower	Less productivity due to incidence of pest and diseases Labour problem at the time of harvesting Imbalance use of fertilizers Unaware about use of fungicides and insecticides	25480	Ankoli, Gangapur Kharosa, Wanjarkheda	CFLD, Training
7	Mango	Unavailability of quality planting materials Impact of climate change on fruiting Unaware about use of fungicides and insecticides Unaware about use of PGR Fruit drop due to physiological changes in plants.	630	Babhalgaon Harangul Murud	Training
8	Custard Apple	Time & stage of training pruning Imbalance use of fertilizers Less aware about bahar treatment Heavy infestation of fruit fly in early bahar fruits specifically on NMK cultivar	45	Gangapur Renapur	FLD, Training
9	Onion	Low yield use of local varieties & wrong planting methods Unknow about right maturity indices Rotening in storage due to no pre cooling / curing Pest disease occurrence specially thrips & blight	95	Lodga Kharosa Bhoisumundra	OFT, Training
10	Tomato	Low yield due to occurrences of pest and disease Deficiencies of micro nutrients Fruit quality affected by physiological disorders Fruit and flower drop due to extreme climatic conditions Improper use of fertilizers leads to low quality fruit	105	Janval Wadval	OFT,FLD, Training

11	China aster	Low yield and quality due to use local/old varieties Infestation of pest and diseases Imbalance use of fertilizers	80 %	Pakharsangi	FLD, Training
12	Soybean	Heavy infestation of Snails, Stem fly and leaf eating caterpillars At flowering to pod formation stage sudden infection of anthracnose blight	259210	Kharosa, Gondegaon, Itty	OFT, FLD, FLD
13	Bengal gram	Plant population reduction due to wilt, heavy infestation of pod borer	112770	Harangul Kharosa	FLD, Training
14	Rabi Sorghum	Heavy infestation of fall army worm Less awareness about new pest fall army worm	7500	Wanjarkheda, Bhoisamudraga	OFT, Training
15	Pigeon pea	Heavy incidence phytophthora stem blight disease Indiscriminate use of pesticides	81900	Kharosa Itty	FLD, Training
16	Sugarcane	Heavy infestation of white grub and white fly Use of disease free planting material	1050	Bhoisamudraga, Kadgaon, Gondegaon	OFT, Training
17	Chili	Low yield due to leaf curl virus incidence	375	Wanjarkheda Lodaga	Training
18	Green gram	Heavy incidence pest and diseases Indiscriminate use of pesticides	7980	Akharwai, Harangul	FLD, Training
19	Black gram	Heavy incidence pest and diseases Indiscriminate use of pesticides	7420	Kharosa, Itty	FLD, Training
20	Onion	Less plant protection measures for management of blight and thrips	70 %	Kharosa Lodaga	FLD, Training
21	Sericulture	Uneven maturity of silkworm causes low yield and quality More labor required for cocoon harvesting, high labour cost and time required for harvesting and de flossing.	220	Chikurda, Almala	OFT, FLD, Training

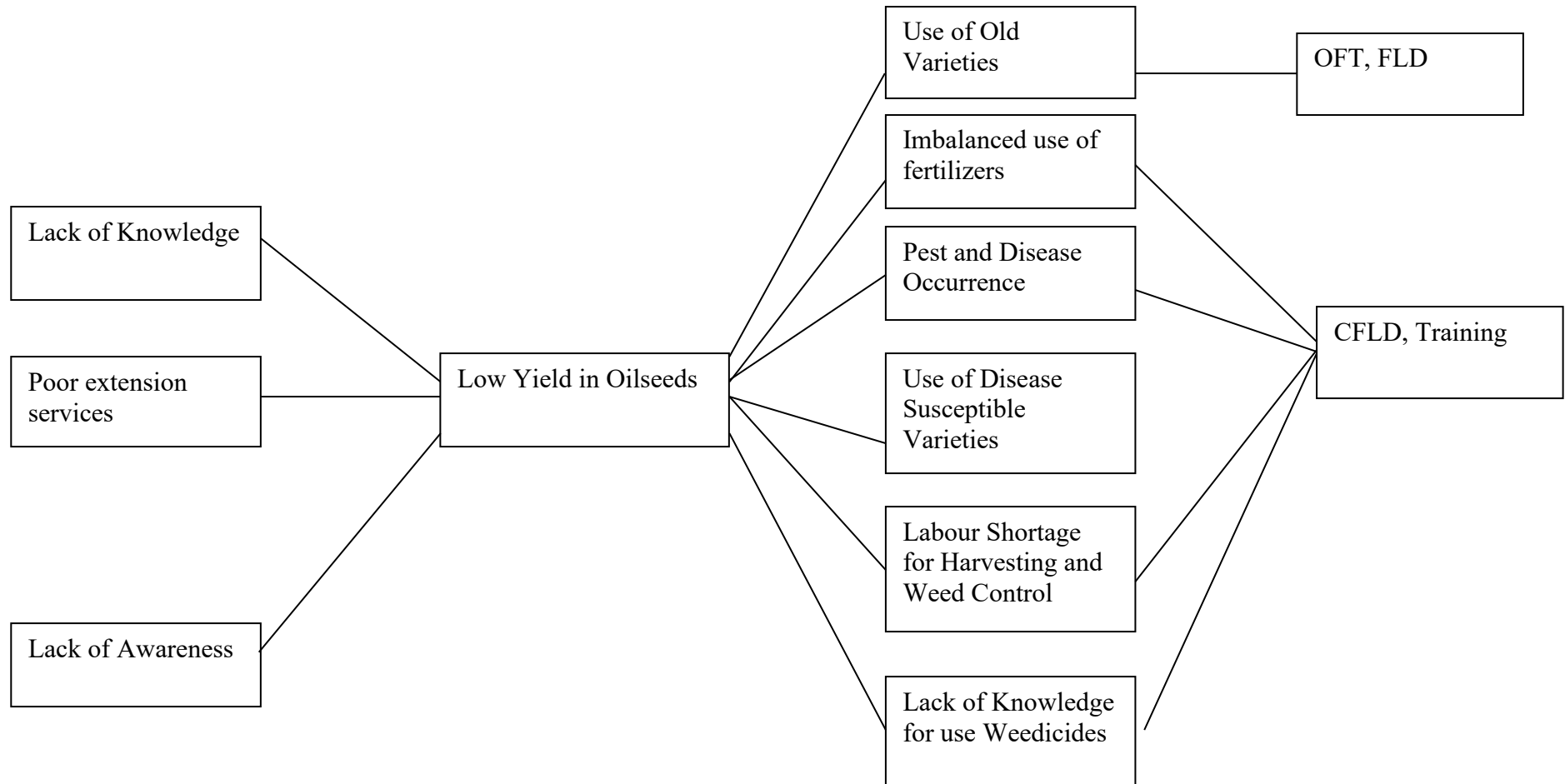
		Heavy infestation of Uzi fly on silkworm reduces more yield		Harangul Gondegaon	
22	Mango	Less plant protection measures for management of powdery mildew and hoppers	550	Babbhalgaon, Harangul	Training
23	Custard Apple	Heavy infestation of fruit fly in early bahar fruits specifically on NMK cultivar	242	Renapur Hrangul	Training, Demonstrations
24	Improved farm implements	Less productivity & Labour shortage, Poor germination/crop stand, Less area Coverage, Lack of Labour, High cost of Sowing.	70%	Itti	OFT, FLD, Training
25	Improved farm spraying equipment.	Lack of Labour, Less area Coverage, High cost of Spraying and Pesticide poisoning, Drudgery-prone activity.	85%	Lodga,	OFT, Training
26	Natural Resources Management	Depletion of ground water level, unavailability of irrigation to crop.	75%	Itti	FLD, Training
27	Post harvest techniques	Post harvest management for grain loss reduction	60%	Khandapur	FLD, Training
28	Post harvest losses. Absence of proper processing techniques	Post harvest management for loss reduction	50%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
29	Drudgery prone activities at farm. Unaware about improved tools & techniques	Drudgery reducing technologies for loss reduction	65%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
30	Malnutrition, deficiency of micronutrients. Unaware about nutritional	Family nutrition & livelihood security	50%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities

	requirement of family				
31	Post harvest management & value addition	Entrepreneurship development through Processing and value addition in farm produce	65%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
32	Dairy	Low milk yield. Scarcity of green fodder Poor body condition	65 % population	Gangapur Niwali Harangul B Khandapur Sugav Iti	OFT, FLD, trainings
33	Backyard poultry	Low egg production Low body weight High mortality Less returns	80 % population	Gangapur Shirala iti	OFT, FLD, trainings
34	Goat	Mineral deficiency Late maturity Poor weight gain, High mortality	90 % population	Iti Nagapur	FLD, training

Problem Cause interventions diagrams
Agronomy 1

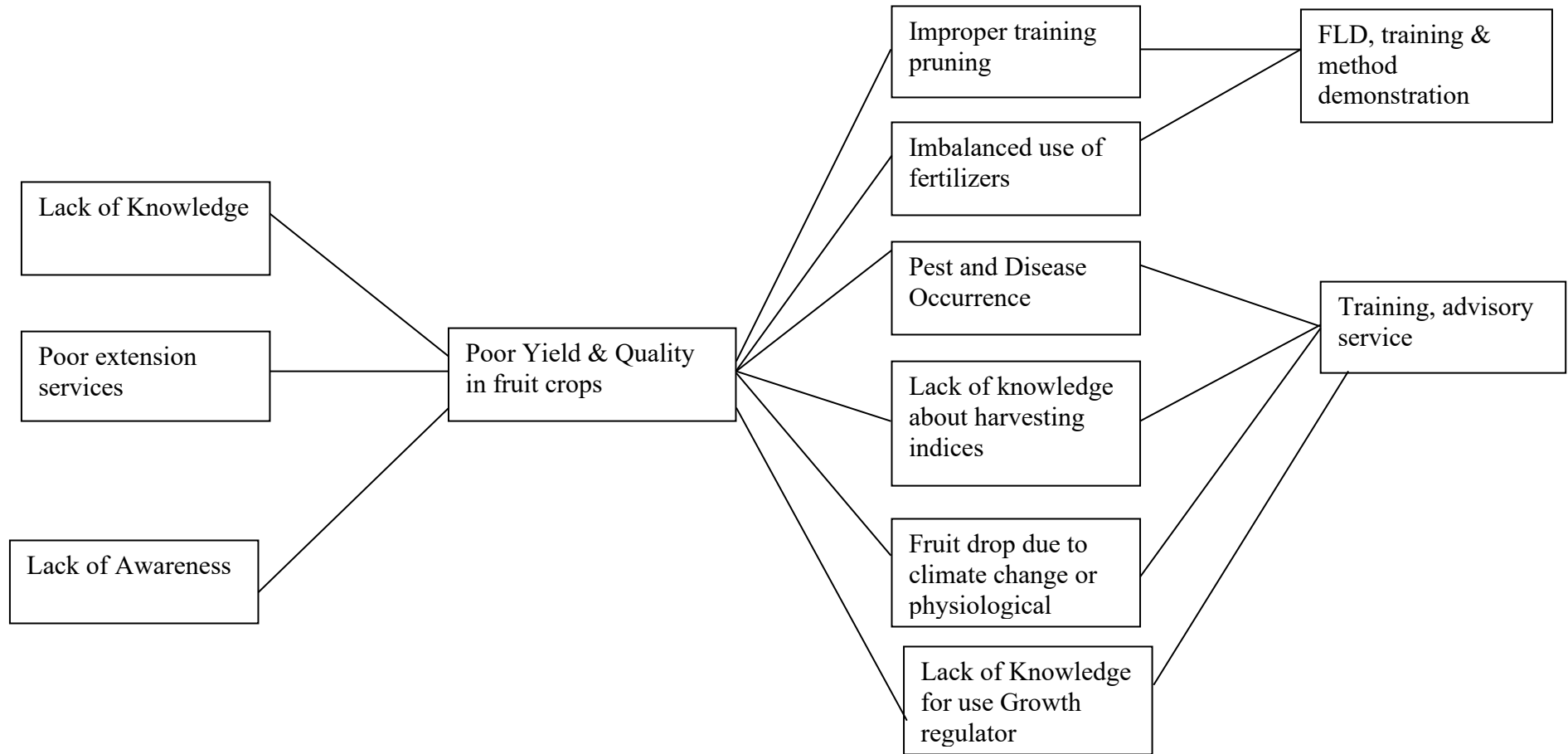


Agronomy 2



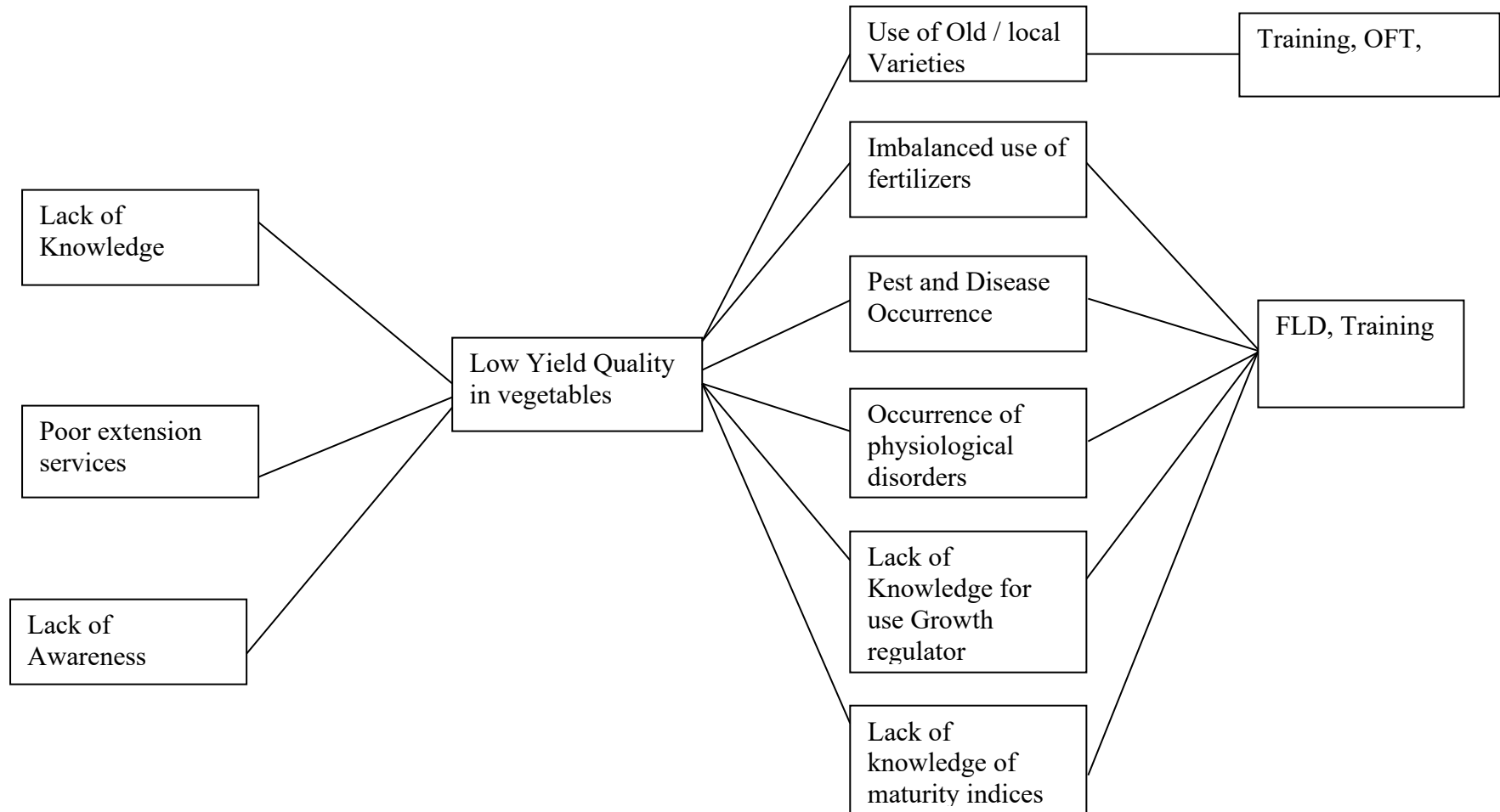
Problem-cause and interventions diagram

Horticulture-1



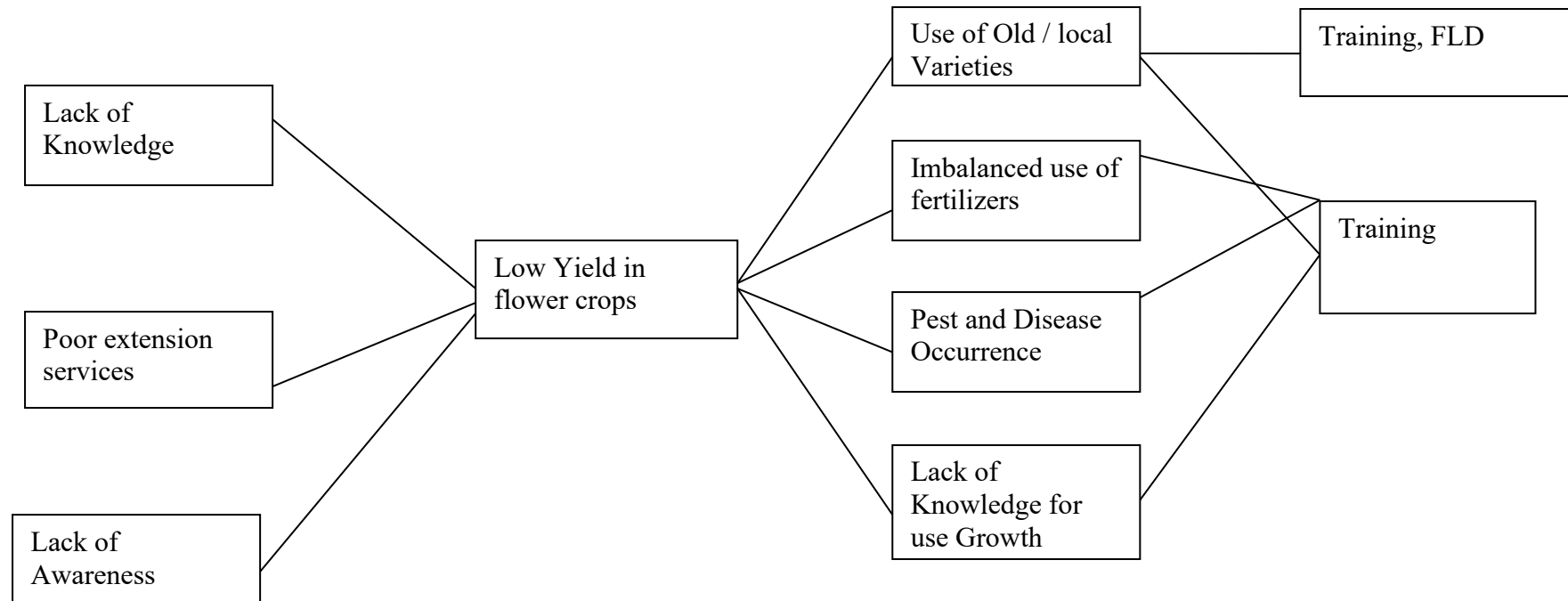
Problem-cause and interventions diagram

Horticulture-2



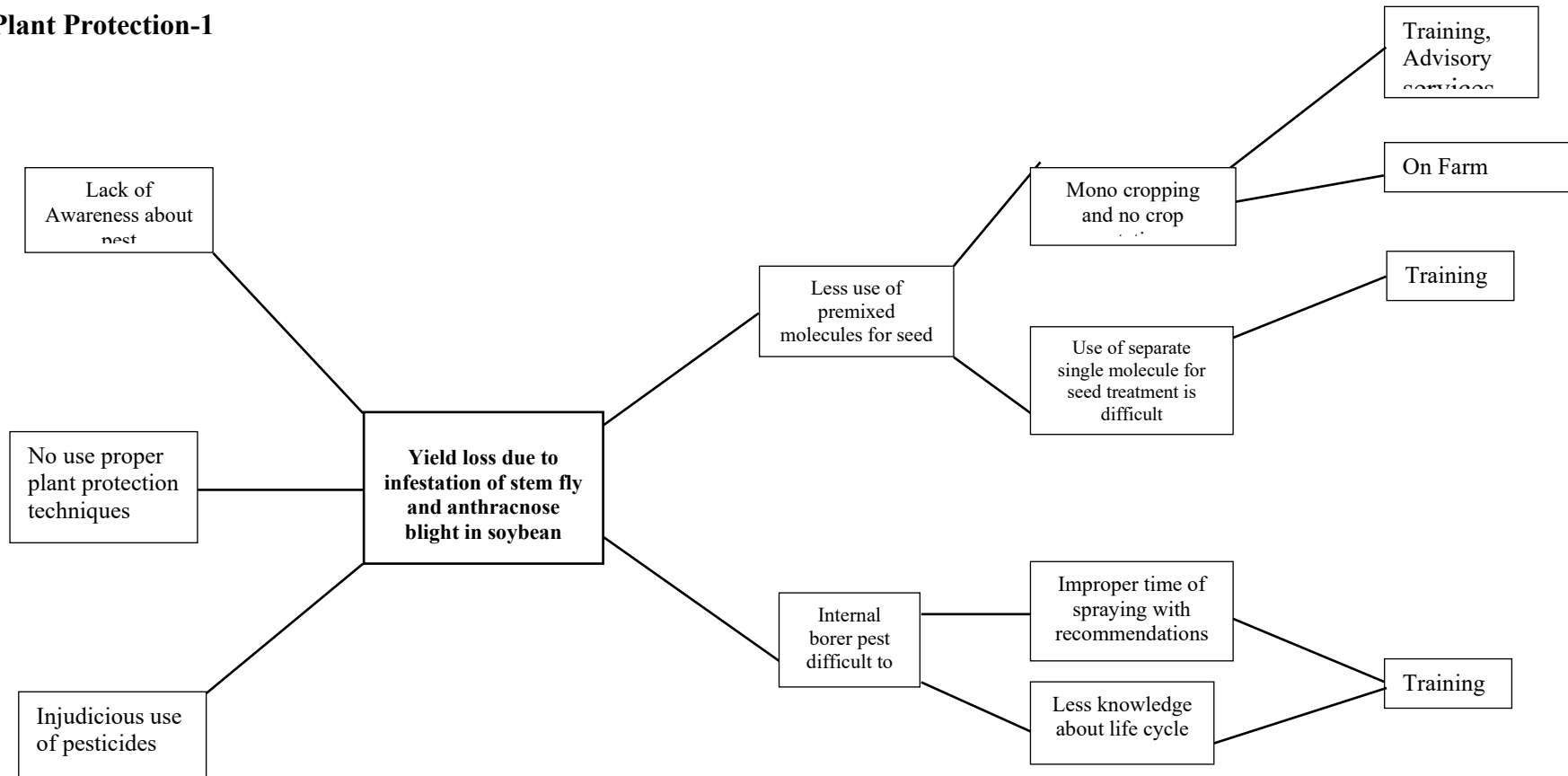
Problem-cause and interventions diagram

Horticulture-3

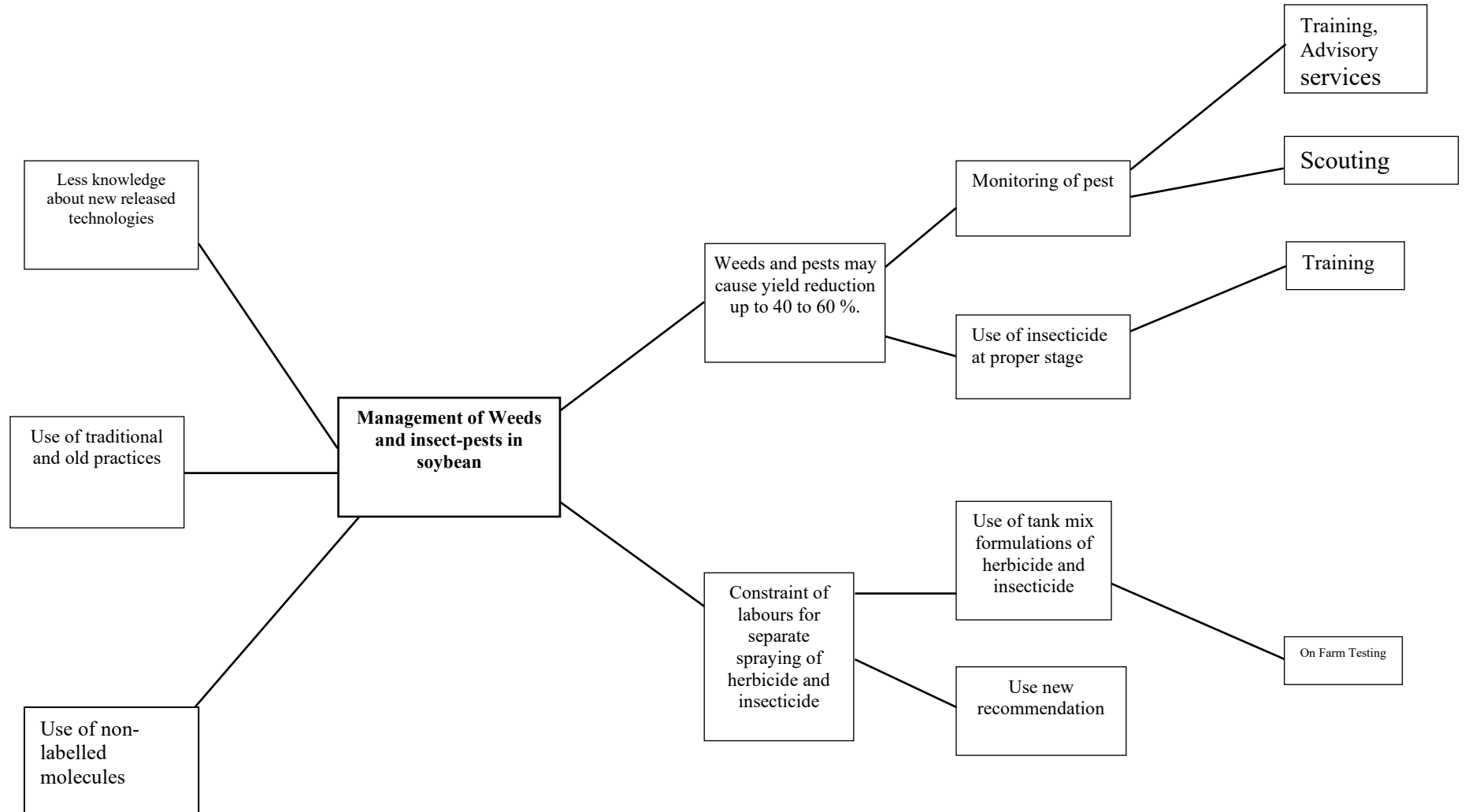


Problem-cause and interventions diagram

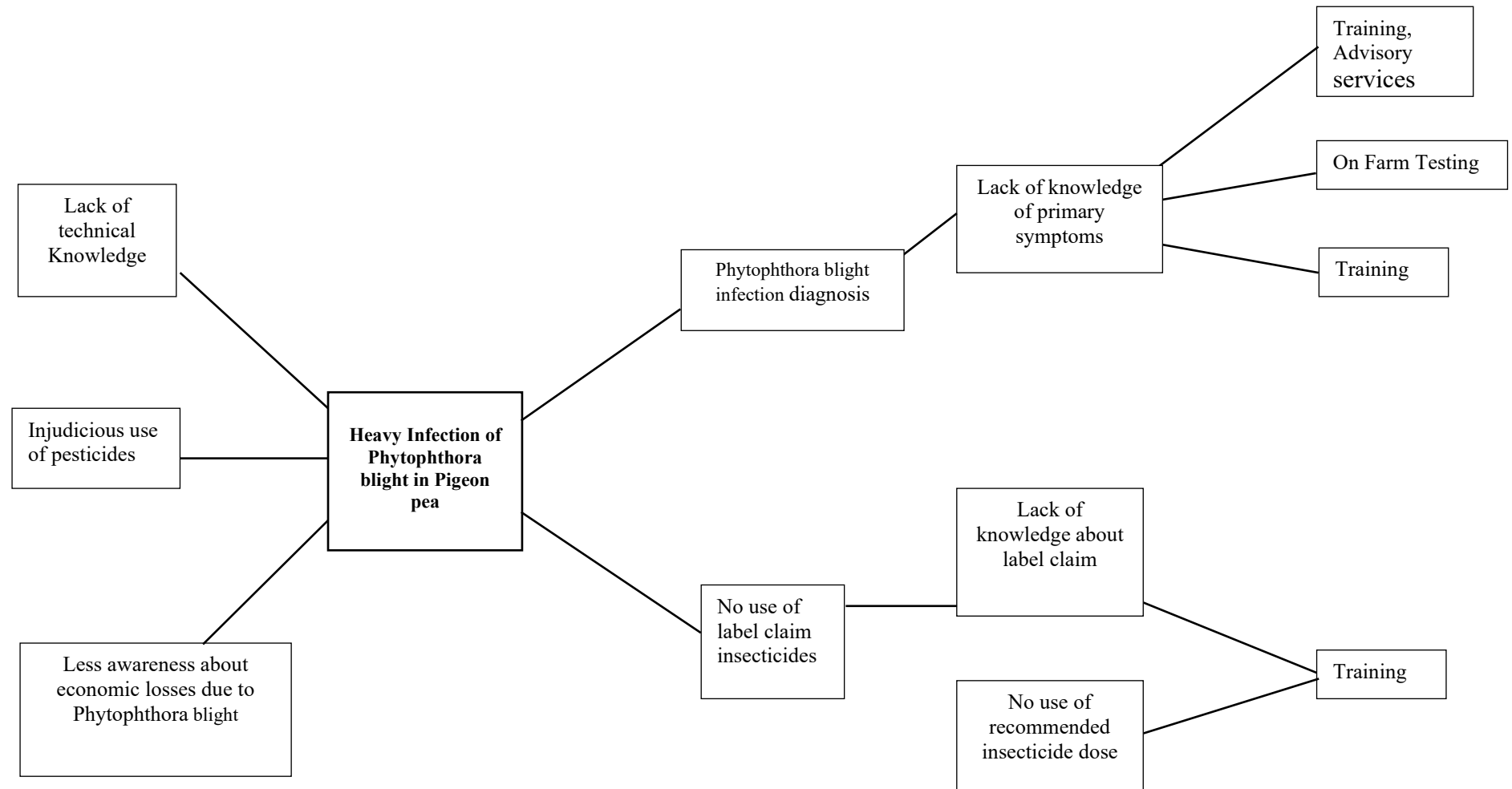
Plant Protection-1



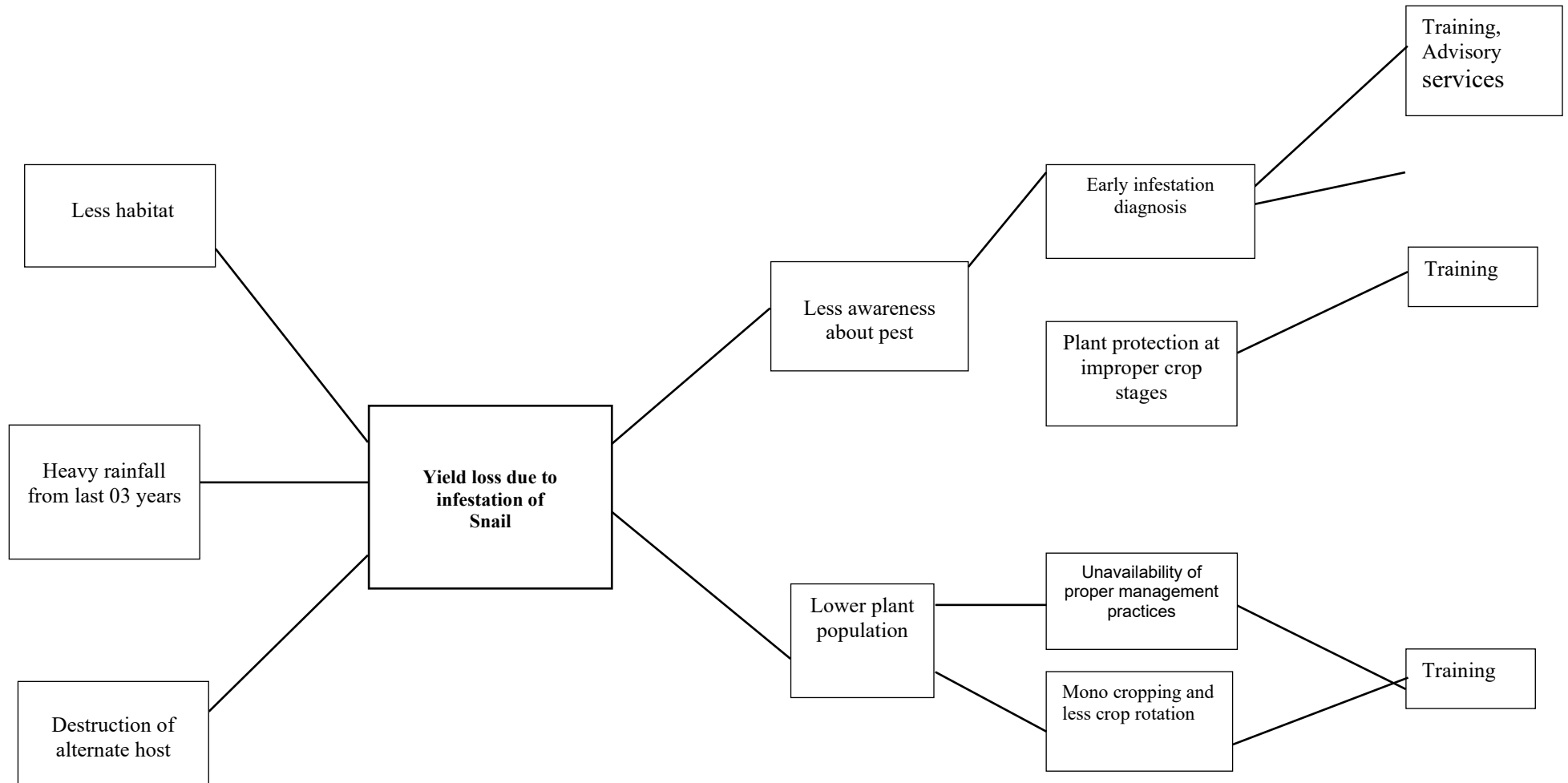
Plant Protection-2



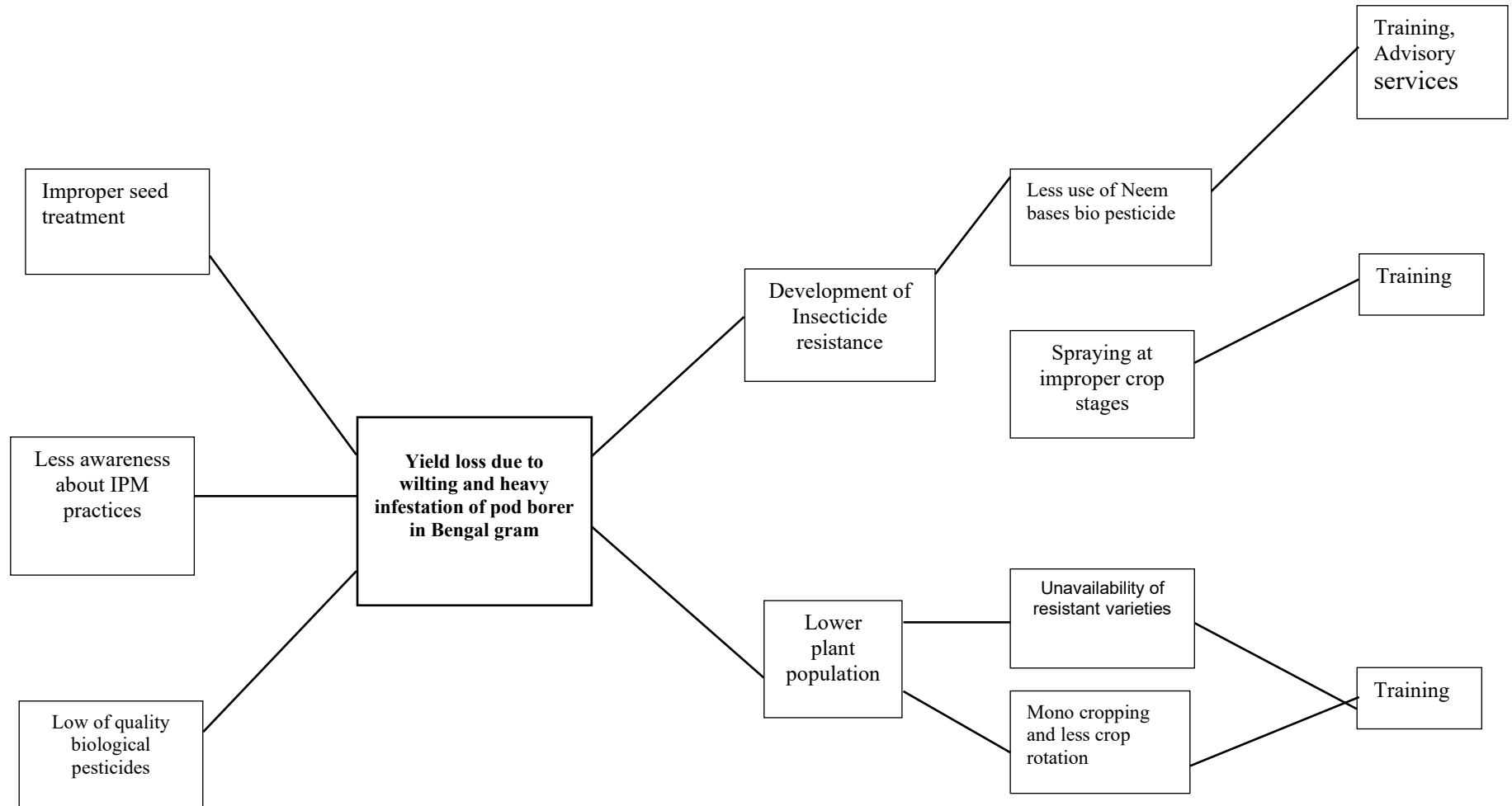
Plant Protection: 3



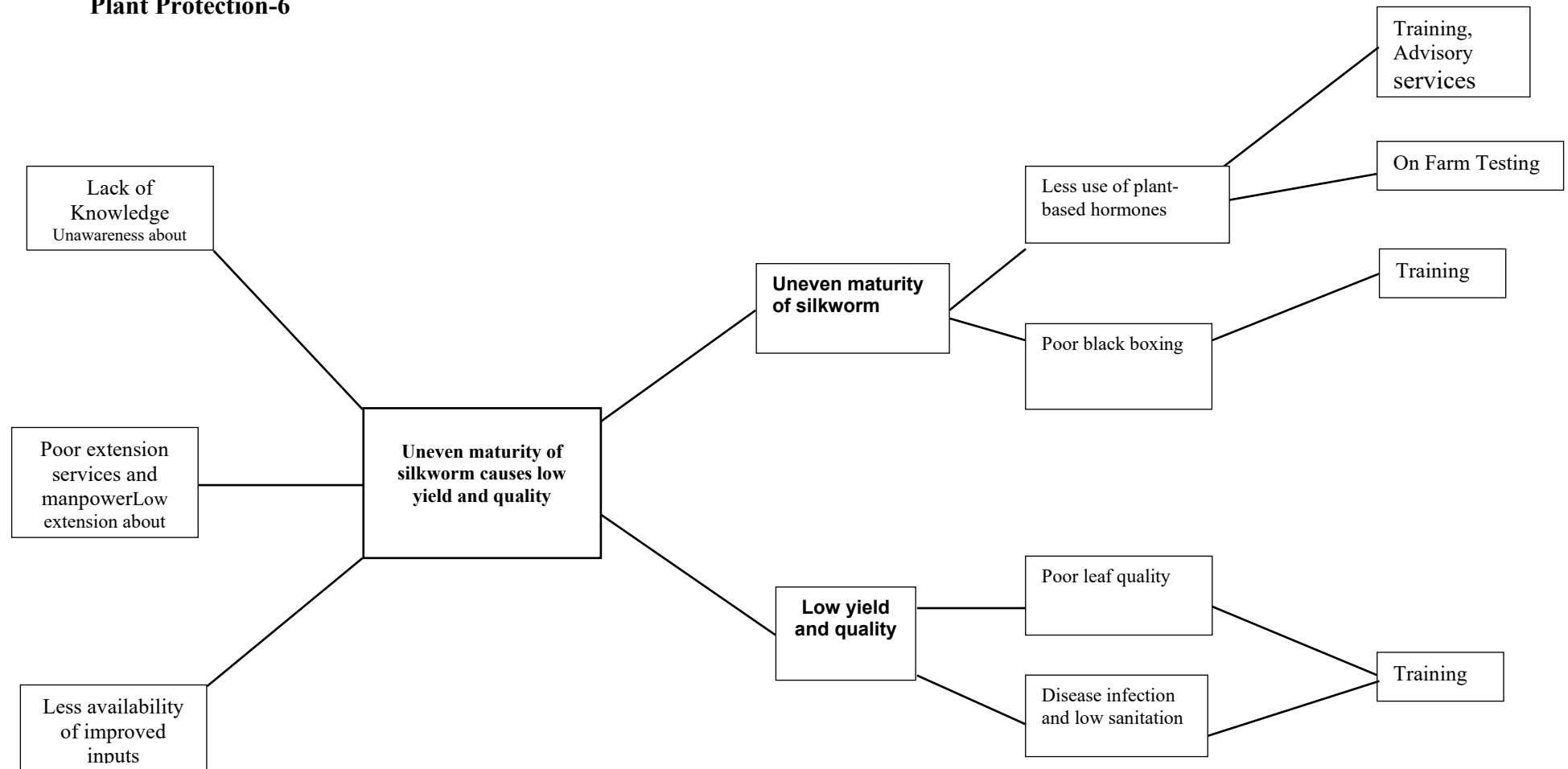
Plant Protection: 4



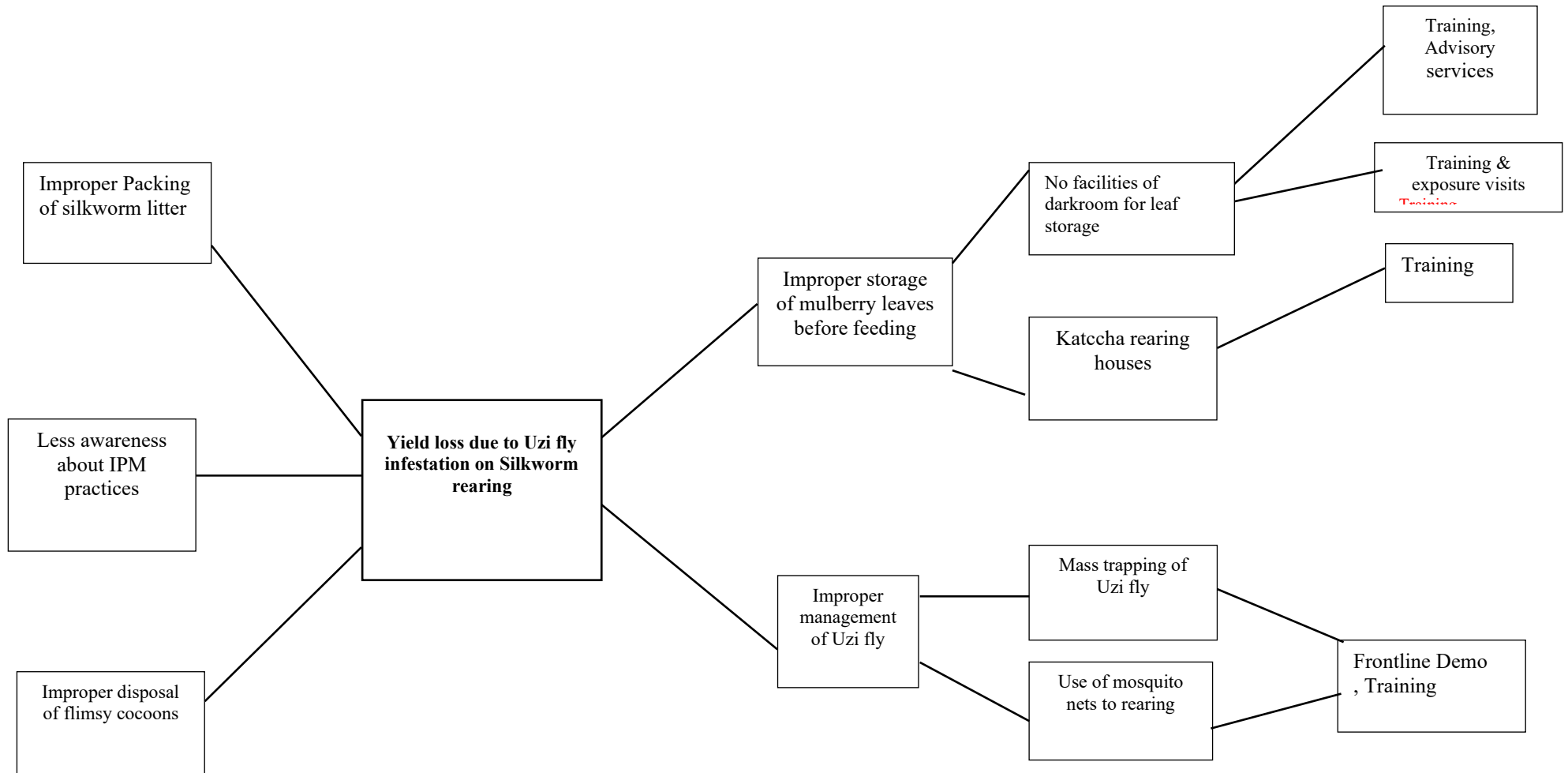
Plant Protection: 5

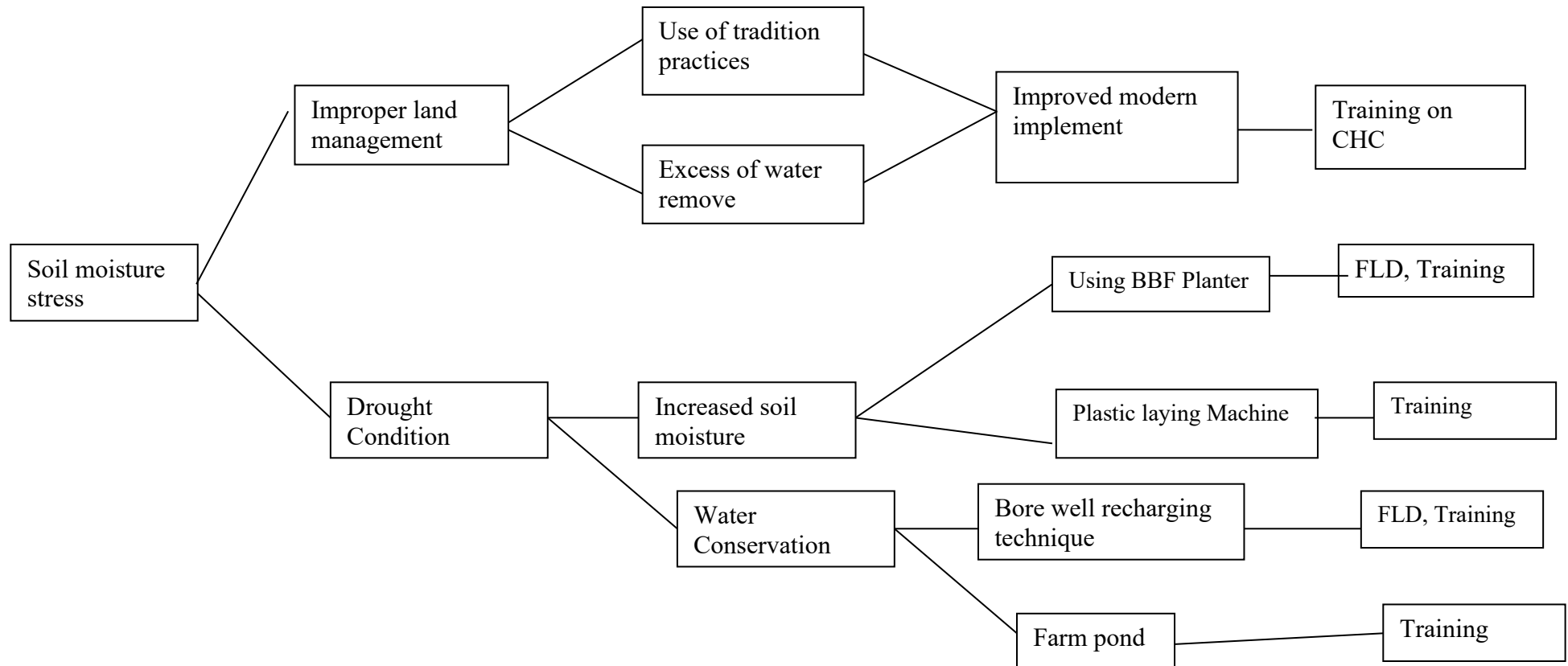


Plant Protection-6

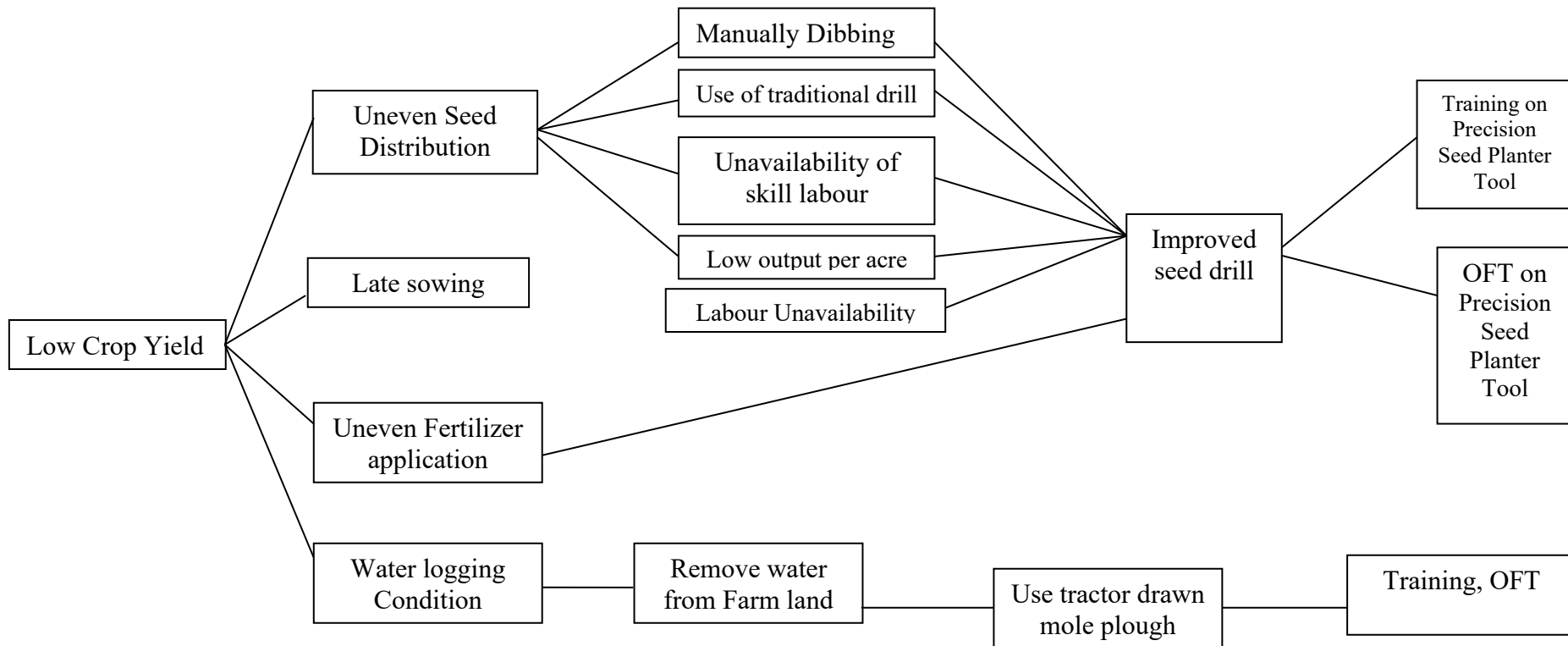


Discipline: Plant Protection - 7

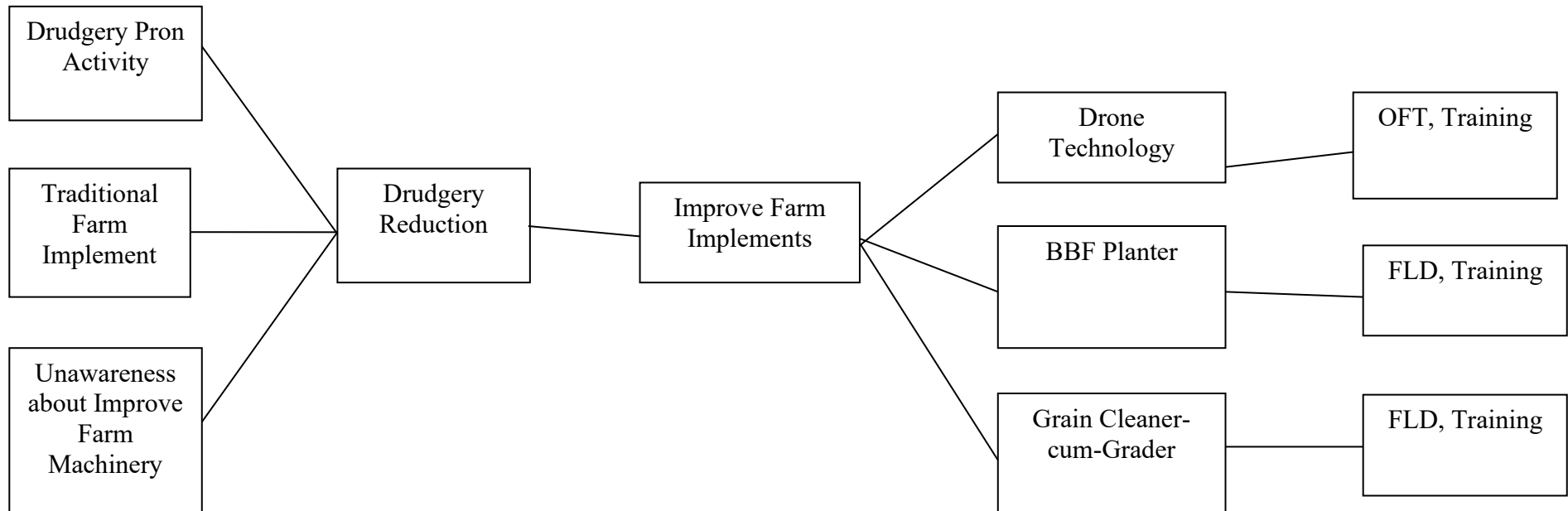




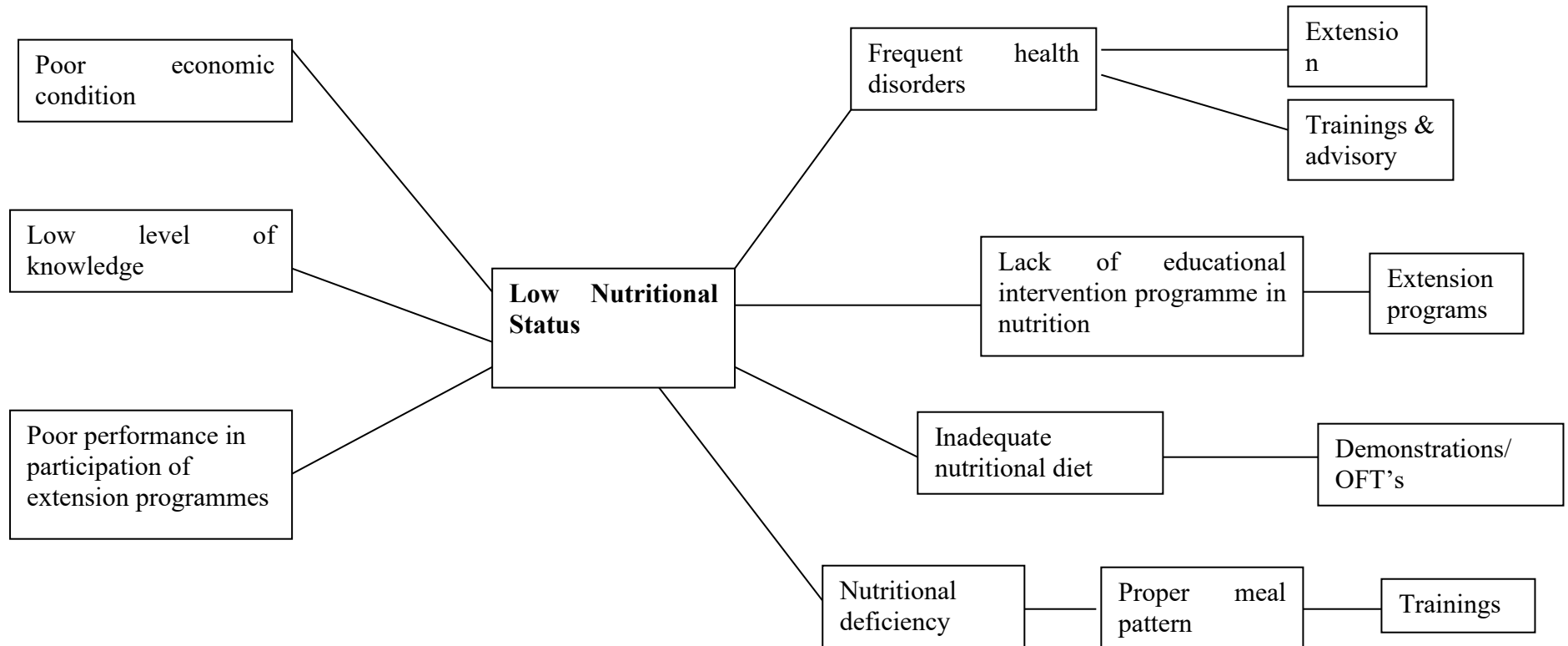
Problem-cause and interventions diagram

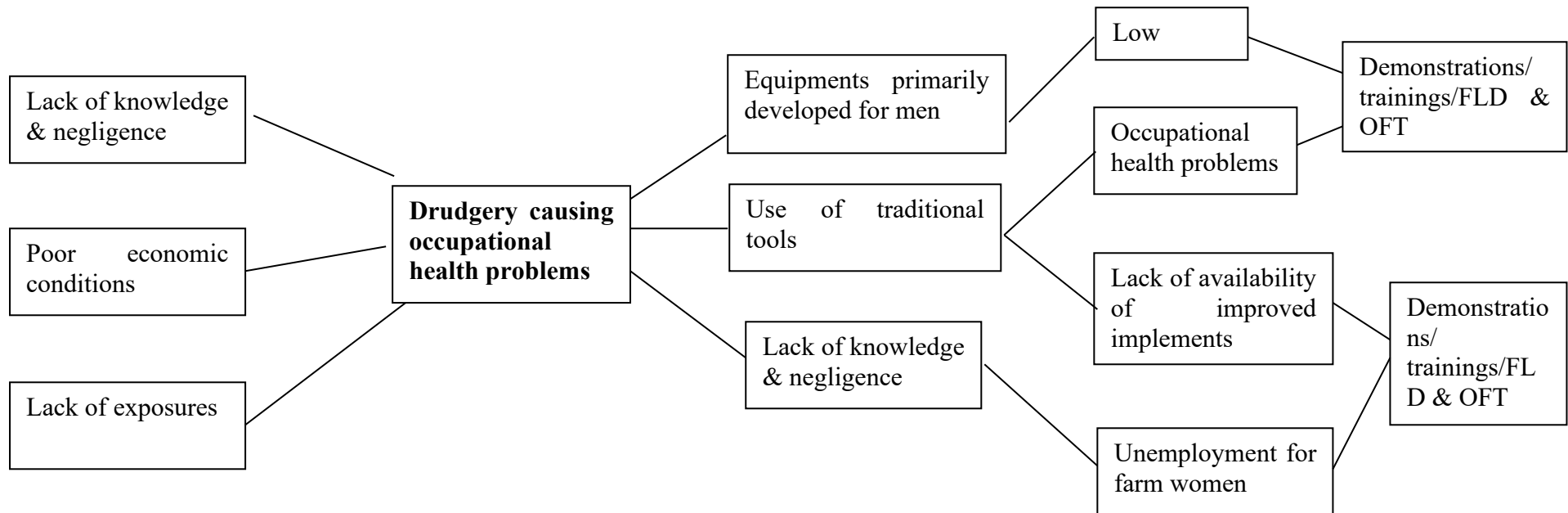


Problem-cause and interventions diagram

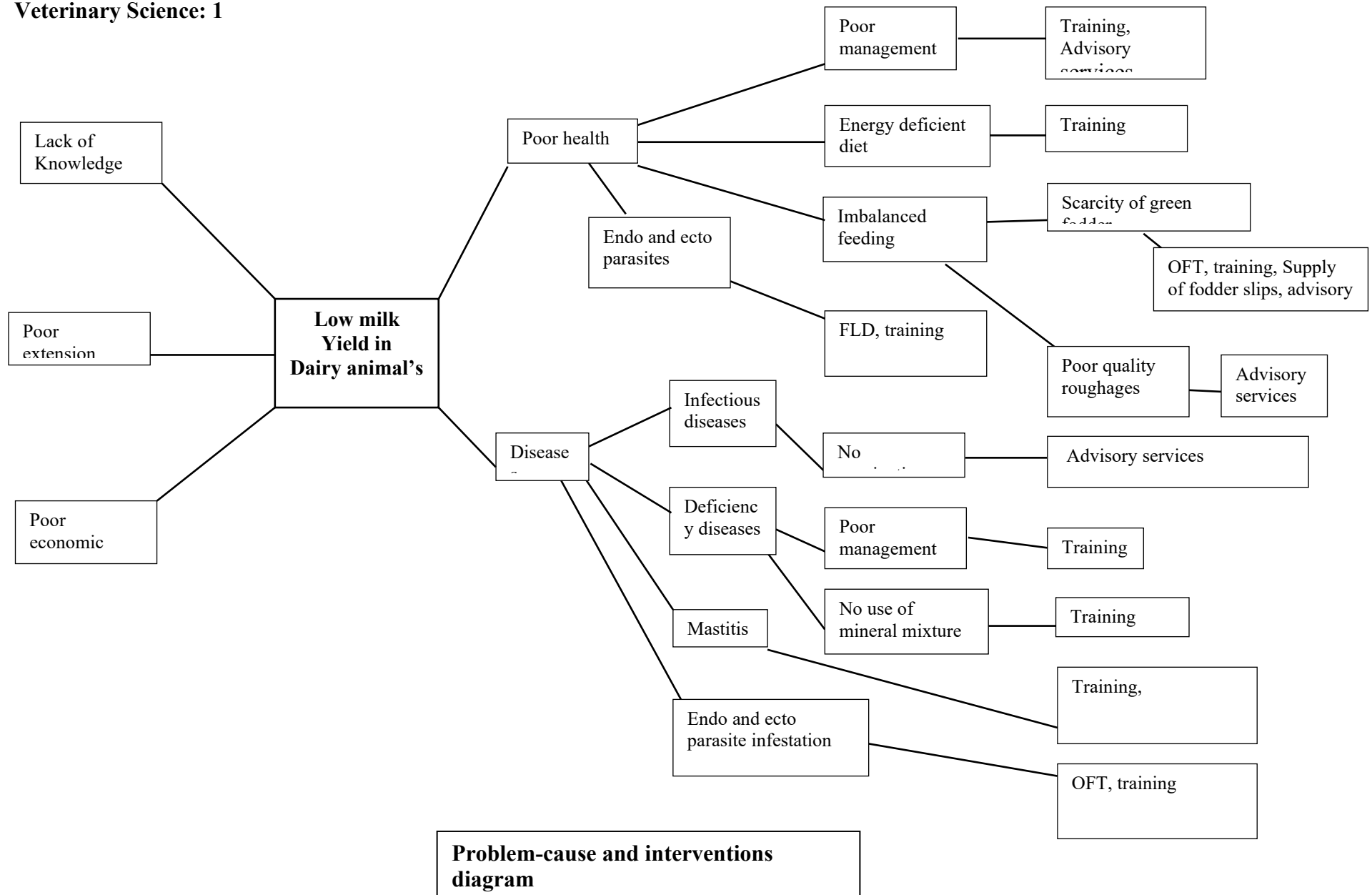


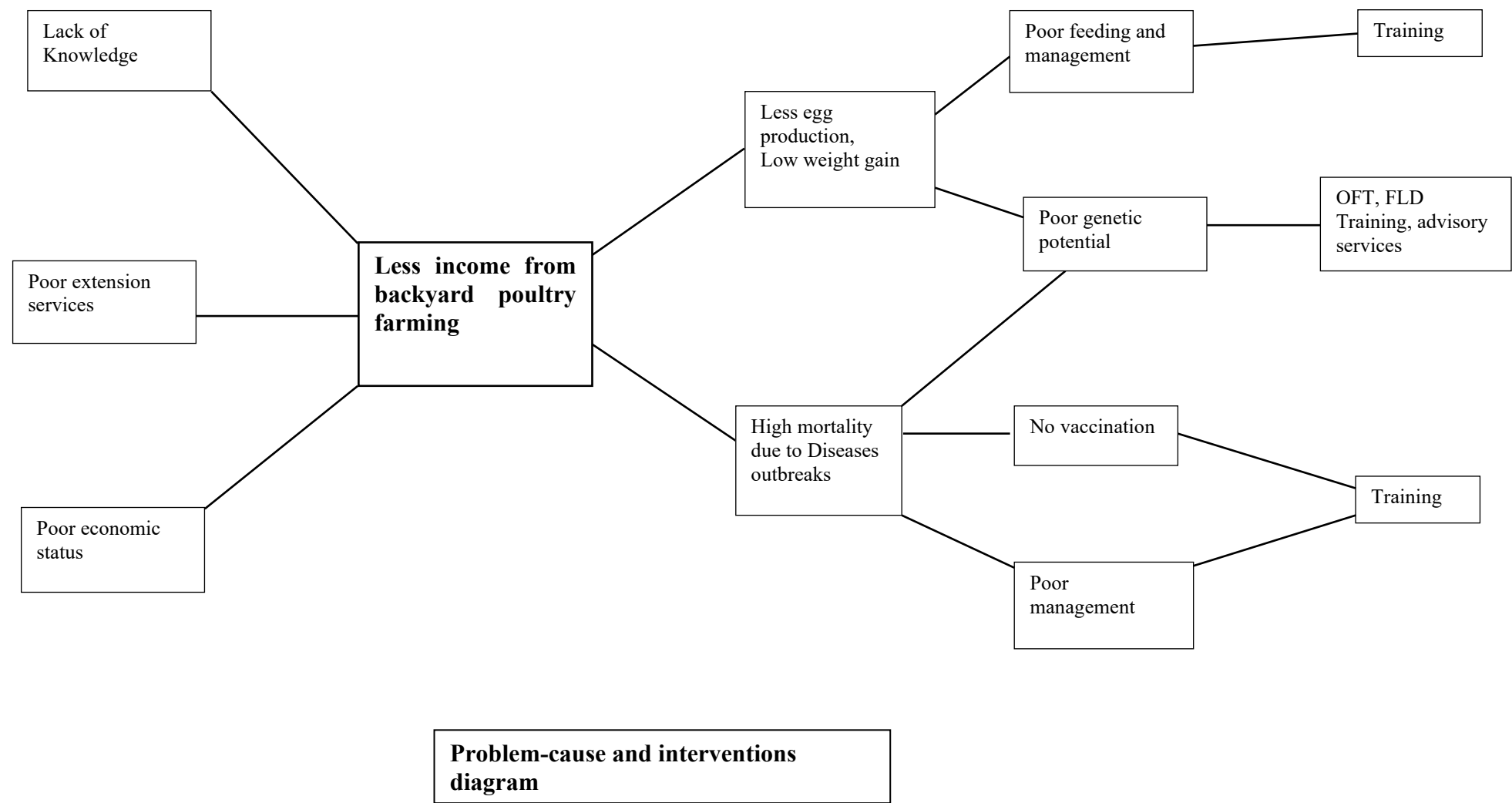
Problem-cause and interventions diagram



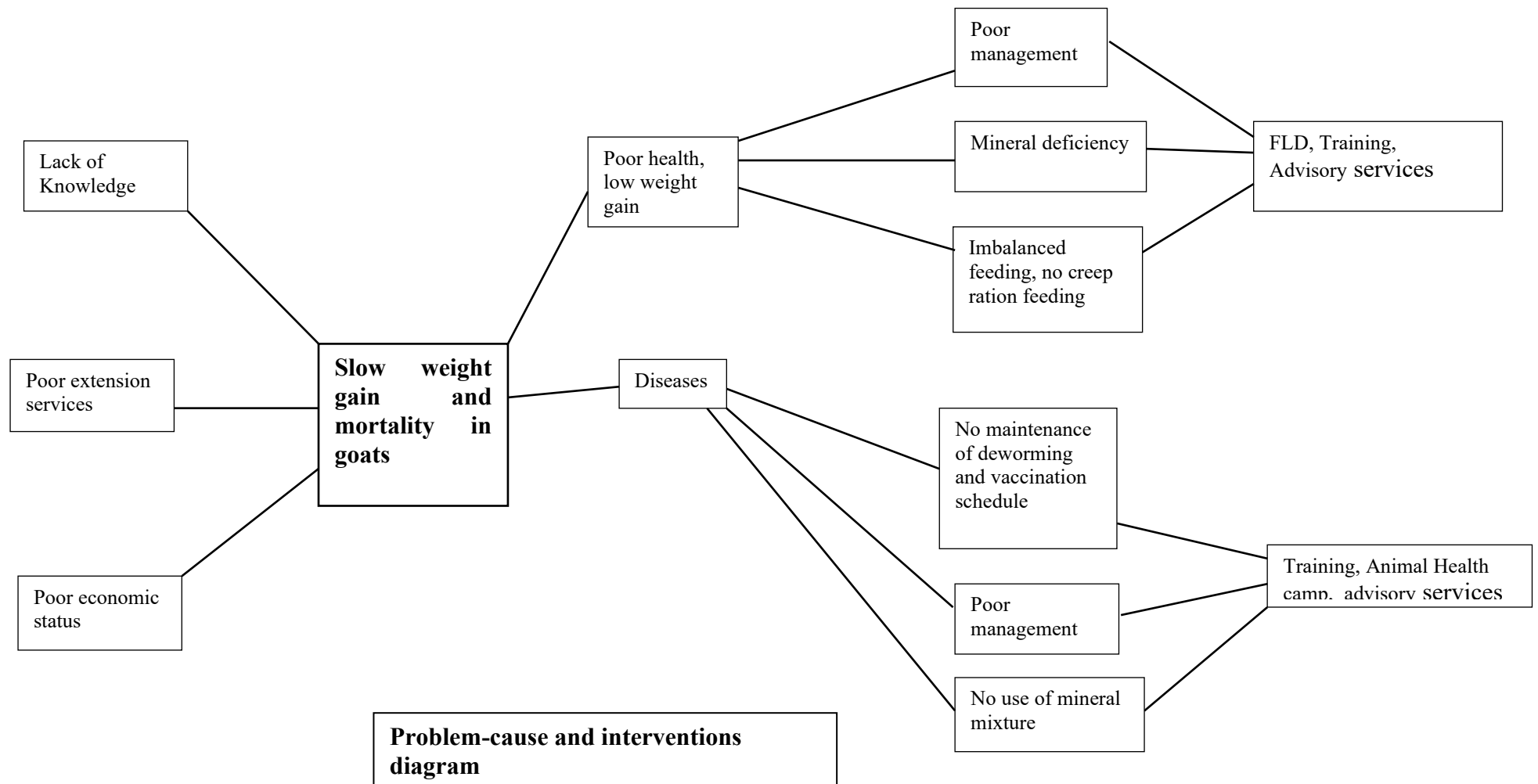


Veterinary Science: 1





Veterinary Science: 3



3.2. Technology Assessment (Kharif 2023, Rabi 2022-23, Summer 2023)

A1. Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	-	-	02	-	-	-	-	-	-	02
Varietal Evaluation	-	02	-	-	02	-	-	-	-	04
Integrated Pest Management	-	02	-	-	-	-	-	-	-	02
Integrated Disease Management	-	02	01	-	-	-	-	-	-	03
Weed Management	-	02	-	-	-	-	-	-	-	02
Farm Machineries	-	02	-	-	-	-	-	-	-	02
Total		10	03		02					15

A2. Abstract on the number of technologies assessed in respect of livestock enterprises

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds	-	02	-	-	-	02
Disease of Management	01	-	-	-	-	01
Feed and Fodder	01		-	-	-	01
TOTAL	02	02	-	-	-	04

B. Achievements on technologies Assessed

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha
Integrated Nutrient Management	Chickpea	Effect of soil test based fertilizer application with foliar feeding on Chickpea in rainfed condition	10	10	1.20
Varietal Evaluation	Soybean	Assessment of different varieties of Soybean	10	10	1.20
	Onion	Assessment of onion varieties- Bhima raj and Bhima shakti	10	10	1.00
Integrated Pest Management	Soybean	Assessment of compatible tank-mix formulations of post emergence herbicide and insecticides for combine management of weeds and insect-pests in soybean	10	10	1.20
Integrated Disease Management	Pigeon pea	Assessment of Integrated Management Stem Blight (Phytophthora drechsleri) Disease of Pigeon pea	10	10	1.0
	Soybean	Assessment of premixed fungicides and Insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS for management of disease and pest in soybean	10	10	1.20
Weed Management	Soybean	Assessment of Pre & Post emergence of Herbicide for Effective Weed Management in Sole Soybean	10	10	1.20
Farm Machineries	Soybean	Assessment of Kisan Drone for spraying crops	10	10	1.20
	Soybean	Assessment of Manual Operated Precision Rotary Dribbler (Token Yantra)	10	10	1.20
Total			90	90	10.4

B. 2. Technologies assessed under Livestock & fishery assessment

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds	Poultry	Vanashree and Nicobari Poultry birds	10	10
Disease management	Dairy	Herbal acaricide (Paraway)	10	10
Feed and fodder management	Dairy	Super Napier fodder crop	10	10
Total			30	30

B.3 Technologies assessed under other enterprises

Name of Enterprises	Name of the technology assessed	No. of trials	No. of farmers
Mushroom	-	-	-
Apiary	-	-	-
Vermicompost	-	-	-
Tailoring	-	-	-
Nutrition Garden	-	-	-
Nursery Management	-	-	-
Production and Management	-	-	-
Entrepreneurship development	-	-	-
Engagey conservation	-	-	-
storage techniques	-	-	-

Name of Enterprises	Name of the technology assessed	No. of trials	No. of farmers
House hold food security	-	-	-
organic farming	-	-	-
mechanization	-	-	-
Bee keeping	-	-	-
Seed production	-	-	-
post-harvest management	-	-	-
other	-	-	-

B 4. Technologies assessed under Women empowerment assessment

Name of Enterprises	Name of the technology assessed	No. of trials	No. of farmers
Drudgery Reduction	Assess the efficiency of drumstick harvester for harvesting drumstick pods	10	10
value addition	Heat treatment in improving the shelf life of pearl millet : Bajara	10	10
	Improve the hemoglobin level using drumstick powder on anemic women	10	10

C. 1. Results of Technologies Assessed
Results of On Farm Trial : 1

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Chickpea	Irrigated	Low yield due to uneven distribution of rainfall, long dry spell, Evapotranspiration losses due to low rainfall situation, Imbalanced application of fertilizers, Unaware about use of foliar fertilizers, Unaware about use of biofertilizers, .	Effect of soil test based fertilizer application with foliar feeding on Chickpea in rainfed condition	10	T1: RDF 25:50:00 (NPK Kg/ha)	No. of Branches/plant	T1	T2	T3	The result showed that Treatment T2 performed well and provided higher yield 16.62 q/ha which was about 32.11 % higher over farmer practice. Net income of Rs 53667/ha was realized by participating farmers which was 49.64% higher as compared to farmer practice.	Foliar application fertilizer at 30 & 45 DAS with basal dose helps to increase in branches and Flowering KNO ₃ Spraying during long dry spell helps to reduce Evapotranspiration losses upto onset of rainfall. Foliar application of Urea improves the branches and ultimately increases in yield.	-	-
					T2: RDF + 1% KNO ₃ (30 Days)+ 2% DAP (45 Days)	Yield (q/ha)	5.1	10.33	7.8				
					T3: RDF + 3% Urea @ Flowering and 10 Days after Flowering		12.58	16.62	14.35				

Contd..

Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
T1: RDF	Farmer's practice	12.58	Q/ha	35864	2.14
T2: RDF + 1% KNO ₃ (30 Days)+ 2% DAP (45 Days)	MPKV, Rahuri	16.62	Q/ha	53667	2.53
T3: RDF + 3% Urea @ Flowering and 10 Days after Flowering	VNMKV, Parbhani	14.35	Q/ha	42807	2.26

Results of On farm Trial : 2

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trial s	Technolog y Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refin emen t need ed	Justific ation for refine ment
1	2	3	4	5	6	7	8			9	10	11	12
Soybean	Rainfed with Protective Irrigation	Late onset of monsoon, Dry Spell during critical growth stages of crop, Less productivity & Labour shortage Use of old variety JS-335 which are susceptible to pest and diseases results to low yield. Imbalance use of fertilizers.	Assessment of improved varieties of soybean	10	T1: Variety -Js-335	No. of Pods/plant	T1	T2	T3	Result observed that T3 gave higher yield 21.7 q/ha which was about 34.62% higher over farmer practice. Increased no of pods/plant by 41.59% results to increase in yield by using improved high yielding variety of soybean.	MAUS-612 can perform better in low rainfall situation and long dry spell and variety having character of close bearing pods. Short durational variety as compared to KDS-753.	-	-
					T2: Variety - KDS- 753	Yield (q/ha)	28.4 7	37.4 4	40.3 1				
					T3: Variety - MAUS- 612		16.1 2	18.7 7	21.7				

Contd..

Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
T1: Variety -Js-335	JNKVV, Jabalpur	16.12	Q/ha	28100	1.53
T2: Variety- KDS-753	MPKV, Rahuri	18.77	Q/ha	41350	1.78
T3: Variety- MAUS-612	VNMKV, Parbhani	21.7	Q/ha	56000	2.06

Results of On farm Trial: 3

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Para mete rs of asses men t	Data on the parameter			Results of assessment	Feedback from the farmer	An y ref ine me nt nee ded	Justif ication for refine ment
1	2	3	4	5	6	7	8			9	10	11	12
Soybean	Rainfed with Protective Irrigation	Labour issue for hand weeding during Kharif Season. Yield losses upto 30% due to weeds in soybean crop. Unawareness about integrated weed management Practices.	Assessment of Pre & Post emergence of Herbicide for Effective Weed Management in Sole Soybean	10	T1: Control (Hand Weeding)	No. of Pods/plant	T1	T2	T3	Result observed that T2 gave higher yield 19.62 q/ha which was about 23.63% higher over farmer practice. Pre emergence application of herbicides helps to keep weed free during vegetative growth of crop.	Technology helps to overcome labour shortage problem. Application of Herbicide for soybean crop minimizes time and cost for weed management practices.	-	-
					T2: Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha)	Yield (q/ha)	26.9	48.6	32.00				
					T3: Post Emergence Herbicide (Propaquizafop @ 0.050 kg.a.i +Imazethapyr @0.075 kg.a.i/ha at 21 DAS)		15.87	19.62	17.23				

Contd..

Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
T1: Control (Hand Weeding)	PDKV, Akola (2020)	15.87	Q/ha	28850	1.57
T2: Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha)		19.62	Q/ha	45600	1.86
T3: Post Emergence Herbicide (Propaquizafop @0.050 kg.a.i +Imazethapyr @0.075 kg.a.i/ha at 21 DAS)		17.23	Q/ha	33650	1.64

Results of On farm Trial: 4

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technolog y Assessed	Parameter s of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refine ment need ed	Justifi cation for refine ment
1	2	3	4	5	6	7	8			9	10	11	12
Onion	Irrigate d	Low yield More infestation of pest and disease Keeping quality	Assessmen t of onion varieties- Bhima raj and Bhima shakti	1 0	T1- Local variety (commander)	Weight of bulb (g)	T1 62.43	T2 74.69	T3 82.02	The comparison data showed that the maximum yield (379.48q/ha) with marketable bulb yield 91.85 % was recorded in T3 (Bhima Shakti) which was increased (31.77%) and (28.91 %) respectively over check. While T3 (Bhima Shakti) was noted highest bulb weight (82.02g) which was (31.38%) increase over check	Bhima shakti having attractive colour With good keeping quality . And also obtained highest marketable yield. Both Bhima shakti and Bhima Raj are suitable for late kharif as well as rabi season	Nil	
					T2- Bhima raj	Yield (t/ha)	287.98	330.52	379.48				
					T3- Bhima shakti	Marketa ble bulb yield (%)	71.25	85.68	91.85				

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
T1- Farmer practice- Local variety commander	Local variety	62.43	gm/bulb	110232	2.20
T2-Bhima Raj	DOGR, Pune	74.69	gm/bulb	166838	2.70
T3- Bhima Shakti	DOGR, Pune	82.02	gm/bulb	206006	3.11

Results of On farm Trial: 5

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed
1	2	3	4	5	6	7	8			9	10	11
Soybean	Rainfed	Major constraints during seed treatment are both fungicide and insecticide use is very laborious and no uniform coating possible due to labors	Assessment of premixed fungicides and Insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS for management of disease and pest in soybean	10	T1: Seed treatment with Thirum @ 2 gm / kg f seed	1. % Seedling Mortality (20 DAG)	T1	T2	T3	This result showed that seedling mortality incidence was recorded in T2 and T3 is 80.39 % and 50 % percent. Percent incidence of anthracnose and stem tunneling due to stem fly is significantly decreased in both interventions as compare to farmer's practice. The increase in yield by 2.80 % and 9.37 % over farmers practice in T2 and T3 respectively	The Premixed solution of insecticide and fungicide is found very user friendly, which reduces efforts for bringing separate formulation for seed treatment for management of pest and diseases.	Nil
					T2: Treat the seeds with Thiram + Carboxin @ 3 g/kg of seed then it should be allowed to dry for some time and then treated with insecticide Thiamethoxam 30 FS @10 ml/kg	2. % Anthracnose (Pod blight) Incidence	18.4	12.4	8.2			
						3. % Stem tunneling due to stem fly	16.2	12.2	8.4			
						4. Grain yield (kg/ha)	72.6	62.2	40.4			
					T3: Seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS @ 10 ml/kg seed		2080	2140	2275			

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Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: Seed treatment with Thirum @ 2 gm / kg f seed	Farmers practice	2080	Kgs/ha	49900	1.92
T2: Treat the seeds with Thiram + Carboxin @ 3 g/kg of seed then it should be allowed to dry for some time and then treated with insecticide Thiamethoxam 30 FS @10 ml/kg	VNMKV, Parbhani	2140	Kgs/ha	51700	1.93
T3: Seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS @ 10 ml/kg seed	IISR, Indore	2275	Kgs/ha	57850	2.03

Results of On farm Trial: 6

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed
1	2	3	4	5	6	7	8			9	10	11
Soybean	Rainfed	Separate spraying of weedicide and insecticide at same period for control of weeds and pests is not possible on account of high spraying cost and shortage of labour	Assessment of compatible tank-mix formulations of post emergence herbicide and insecticides for combine management of weeds and insect-pests in soybean	10	T1: Hoeing, weeding and spray of Chlorantraniliprole 18.5% SC	Weed count at 45 DAS	T1 60.20	T2 56.80	T3 48.20	Result showed that compatible tank mix combinations of insecticides and POE herbicides can be effectively used to control both weeds and insect-pests in soybean. This will also reduce the cost of labor incurred in spraying insecticides and herbicides separately.	The mechanical weeding is partially ineffective because of shortage of labour, also weeds grow in intra row space. Manual weeding is difficult during incessant rains during critical period of crop-weed competition makes the situation worsens	Nil
					T2: Spraying tank-mix combinations of Quinalphos 25 % EC @ 600 ml /ha + Imazethapyr 10SL@ 1000 ml /ha (POE) 30 days after sowing	% Stem tunnelling due to stem fly at 45 DAS	22.40	20.20	14.80			
						Cost of Plant Protection for first spray/ha	4450	5850	6260			
					T3: Spraying tank-mix combinations of Chlorantraniliprole 18.5% SC @ 100 ml /ha + Imazethapyr 10 SL@ 1000 ml /ha (POE) 30 days after sowing	Yield Kg/ha	2270	2450	2540			

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Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: Hoeing, weeding and spray of Chlorantraniliprole 18.5% SC	Farmers practice	2270	Kgs/ha	58900	2.07
T2: Spraying tank-mix combinations of Quinalphos 25 % EC @ 600 ml /ha + Imazethapyr 10SL@ 1000 ml /ha (POE) 30 days after	ICAR -IISR, Indore	2450	Kgs/ha	66700	2.19
T3: Spraying tank-mix combinations of Chlorantraniliprole 18.5% SC @ 100 ml /ha + Imazethapyr 10 SL@ 1000 ml /ha (POE) 30 days after sowing	ICAR -IISR, Indore	2540	Kgs/ha	70500	2.24

Results of On farm Trial: 7

Crop/ enterprise	Farming situation	Problem definition	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
Pigeon pea	Irrigated	Phytophthora, blight of pigeon pea has been significantly increasing in Latur district from last three years especially when excessive rains fall within a short span of time and hot and humid weather persists during the crop season. It has been significantly reduced yield up to 30 to 70 percentages.	Assessment of Integrated Management Stem Blight (Phytophthora drechsleri) Disease of Pigeon pea	10	T1: Spraying or drenching the crop with Thiophanate Methyl or Metalaxyl fungicide at onset of major symptoms of disease		T1	T2	Results showed that, Combinations of the methods of seed-treatment + foliar spray of novel broad-spectrum anti-oomycetes combi-fungicides were found very effective in reducing the progression and symptoms associated with the Phytophthora blight disease at the seedling stage.	At flowering to maturity stage foliar-spray with fungicide had the significant effect in controlling Phytophthora seedling blights in pigeon pea plants.
						1. % disease incidence at seedling stage	2.6	1.2		
					T2: 1. Seed treatment with Trichoderma @ 5 gm per kg of seed 2. Two foliar sprays of Fungicide Metalaxyl 4% + Mancozeb 64% WP @ 1.5 gm per liter of water at 15 days interval from 15 days after germination	2. % disease incidences at maturity stage	14.8	8.10		
						3. % Reduction over control	-	13		
						4.Yield (kg/ha)	1320	1540		

Contd....

Technology Assessed	Source of Technology	Production	Unit.	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers practice	1320	Qtls /ha	72800	2.84
Technology option 2	ICAR-Indian Institute of Pulse Research, Kanpur	1540	Qtls /ha	90700	3.25

Results of On farm Trial: 8

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refine ment neede d	Justifi cation for refine ment
1	2	3	4	5	6	7	8			9	10	11	12
Drone Techn ology	Rainfe d with Protect ive Irrigati on	Lack of Labour, Less area Coverage , High cost of Spraying and Pesticide poisoning , Drudgery -prone activity.	Asses ment of Kisan Dron e for sprayi ng crops	10	T1: Battery operated Knapsack Sprayer	Field capacity (ha/h)	T1 0.29	T2 1.42	T3 1.71	The result showed that Treatment T2 drone sprayer performed well, the working efficiency of the drone sprayer was 1.42 ha/h, application rate of drone was found very low as 0.56 l/min and provided higher yield 22.1 q/ha. It's worth Net income of Rs 58509/ha with Drone Technology.	Drone spraying was suitable over all field conditions such as rainy, flood etc. It is also time saving method and solved the problems of Labour unavailability. It provides Protection from health hazards issues.	-	-
					T2: Drone Sprayer	Field Efficiency (%)	74	65	80				
					T3: Boom Sprayer	Application Rate (l/min)	1.5	0.56	0.97				
						Operating cost Rs/ha	223	991	450				

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmer's practice	16.6	Q/ha	31777	1.62
Technology option 2	SOP, Ministry of Agriculture & Farmers' Welfare, GOI.	22.1	Q/ha	58509	2.12
Technology option 3	MPKV, Rahuri	20.2	Q/ha	49550	1.96

Results of On farm Trial: 9

Crop/ enterprise	Farmin g situatio n	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refine ment neede d	Justifi cation for refine ment
1	2	3	4	5	6	7	8			9	10	11	12
Precision Rotary Dibbler (Token Yantra)	Rainfed with Protecti ve Irrigati on	Poor germination/c rop stand, Less area Coverage, Lack of Labour, High cost of Sowing.	Assessmen t of Manual Operated Precision Rotary Dibbler (Token Yantra)	1 0	T1: Bullock drawn <i>tifan</i>	Field capacity, ha/h	T1	T2	T3	The result showed that Treatment T2 performed well, field capacity of the planter was 0.062 ha/day with a highest field efficiency of 90 % and provided higher yield 21.7 q/ha. Its worth Net income of Rs 62828/ha with Precision Rotary Dibbler.	By using Precision Rotary Dibbler (Token Yantra) the yield of crop increased by 20-25% as compared to Bullock drawn tifa n. Also seed rate was reduced to 40-45% which intern helps to save amount of seed and hence reduced cost of cultivation.	-	-
					T2: Precision Rotary Dibbler (Token Yantra)	Field efficiency, %	0.20	0.062	0.62				
						Labour requiremen t, man-h/ha	82	90	85				
						Operating cost Rs/ha	4.94	16.20	1.61				
					T3: Tractor drawn BBF planter		1098	1172	1371				

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
T1: Bullock drawn <i>tifan</i>	Farmer's practice	15.3	Q/ha	26902	1.54
T2: Precision Rotary Dibbler	CIAE, Bhopal	21.7	Q/ha	62828	2.37
T3: Tractor drawn BBF planter	Dr. PDKV, Akola	19.6	Q/ha	48129	1.96

Results of On farm Trial: 10

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Nutrimillet: Bajara	Irrigated	Flour turns bitter & rancid during storage	Assessment of heat treatment in improving the shelf life of pearl millet: Bajara	10	T1 – Farmers practice- Milling of Bajara	Storage period in a days	7	Heat treatments to the grains before milling improve the storage period up to 29 to 32 days at ambient conditions. Which is commercial acceptable. While T1 flour had bitter taste at 8 th day of storage	These method to the grains before milling is increasing the shelf life of bajara flour which is commercially adaptable.		
						organoleptic Acceptability	8				
					T2 – Technology Assessed- Blanching of seeds at 98 C, 30-120secs before milling of Bajara	Storage period in a days	29				
						organoleptic Acceptability	30				
					T3 - Technology Assessed Dry heat treatment for 120 minutes	Storage period in a days	32				
						organoleptic Acceptability	33				

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers practice	865	Gms/kg	-	-
Technology option 2	MPKV,Rahuri	810	Gms/kg	-	-
Technology option 3	CCS, Haryana, Agriculture University, Hisar	815	Gms/kg	-	-

Results of On Farm Trial: 11

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justi ficate ion for refin ement
1	2	3	4	5	6	7	8	9	10	11	12
Drumstick leaves powder	Irrigated	1. An iron poor diet 2. Low level of hemoglobi n content in blood of women	To improve the hemoglobi n level using drumstick powder by anemic women	10	T1: Regular diet	Hemoglobin gms/dl	9.7	After intervention of 25gm dry drumstick leaves powder for three months, the mean hemoglobin level of the women farmers had increased from the average increase in hemoglobin and was observed 1.5 g/dl.	It is a low cost, locally available which is efficient substitute as Supplementation to treat anemia.		
						Deficiency signs	Feeling weak & tired Irritability				
					T2: Regular diet + 25gms drumstick leaves powder	Hemoglobin gms/dl	11.2				
						Deficiency signs	-				

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers Practice : Regular diet				
Technology option 2	Regular diet + 25gms drumsticks leave powder.				
Technology option 3					

Results of On Farm Trial: 12

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refi nem ent nee ded	Justifi cation for refine ment
1	2	3	4	5	6	7	8	9	10	11	12
Drumsticks vegetables	Irrigated	Difficult task & time consuming activity	Assess the efficiency of Drumstick harvester for harvesting drumstick pods	10	Use of hook & bamboo	Harvesting capacity Kg/hr	16.51	The harvester is most efficient & comfortable during harvesting. The harvesting capacity is 21.41% more & damage percentage decreased by 63.85% than traditional method.	The harvester was most efficient and comfortable during the harvesting. It is light weight and therefore, can easily be carried from one place to another.		
						Damage drumstick pod percentage (%)	4.15				
					Use of manual drumstick harvester	Harvesting capacity Kg/hr	21.01				
						Damage drumstick pod percentage (%)	1.50				

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers Practice	132.08	Kgs/day		
Technology option 2	MPKV,Rahuri	168.08	Kgs/day		

Results of On Farm Trial: 13

Crop/ enterprise	Farming situation	Problem definition	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
Fodder crop	Irrigated	Low fodder yield	Assessment of New Napier fodder varieties for green fodder production	10	T1 – Farmers practice – Phule Yashwant	Green fodder yield, q/ha	970	Super Napier fodder crop recorded 30.9 % more yield than the farmers practice.	Yield of super Napier fodder crop is more than the Phule Yashwant and having profuse growth after cutting Animals like the fodder of the super Napier. No hairs on leafs so easy for cutting and handling.
						Tillers/clump, No.	14		
						Leaves/stem, No.	15		
						No. of cuttings/reporting period	03		
					T2 – Technology Assessed- Super Napier (Pakchong 1)	Green fodder yield, q/ha	1270		
						Tillers/clump, No.	17		
						Leaves/stem, No.	18		
						No. of cuttings/reporting period	03		

Contd....

Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
T1 – Farmers practice – Phule Yashwant	MPKV, Rahuri	97	t/ha	46100	1.90
T2 – Technology Assessed- Super Napier (Pakchong 1)	Department of Livestock, Thailand.	127	t/ha	72260	2.32

Results of On Farm Trial: 14

Crop/ enterprise	Farmin g situatio n	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the paramet er	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Dairy	-	- Ecto parasite infestation - Poor body condition - Resistance to chemical acaricides	Assessment of An Eco-friendly Herbal Acaricide to Control ecto parasite Infesting Livestock	10	T1 – Farmers practice – Use of chemical acaricides	Milk yield, L/animal/Day	12.3	The efficacy of the eco-friendly herbal acaricide (Paraway) was observed to be 19.4% higher than the farmers' conventional practices. This resulted in a significant reduction in tick infestation on the animals' bodies, leading to a 4% increase in milk production. Additionally, there was notable improvement in the overall body condition of the animals	Reduced tick infestation, increased milk production. Animal body condition improved. Easy for application .
						Fat %	3.7		
						Efficacy of drug, %	67		
						Body condition improvement, %	80		
					T2 – Technology Assessed- Use of herbal acaricides (Paraway)	Milk yield, L/animal/Day	12.8		
						Fat %	3.8		
						Efficacy of drug, %	80		
						Body condition improvement, %	93		

Contd....

Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
T1 – Farmers practice – Use of chemical acaricides	-	3813	Milk yield, liter/animal/year	39600	1.66
T2 – Technology Assessed- Use of herbal acaricides (Paraway)	Indian Veterinary Research Institute, Izzatnagar	3968	Milk yield, liter/animal/year	46500	1.78

Results of On Farm Trial: 15

Crop/ enterprise	Farming situation	Problem definition	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
Poultry	-	- Low egg production and Low body weight, High mortality - Less returns	Assessment of Vanashree and Nicobari Purebred Native chicken for free range or backyard farming	10	T1 – Farmers practice – Rearing of Indigenous poultry birds T2 – Technology Assessed- Rearing of Vanashree poultry birds T3 – Technology Assessed- Rearing of Nicobari poultry birds	Egg production (72 week), Nos Avg body weight at maturity, kg Survivability % Age at first egg, days. Egg production (72 week), Nos Avg body weight at maturity, kg Survivability % Age at first egg, days. Egg production (72 week), Nos Avg body weight at maturity, kg Survivability % Age at first egg, days.	Results awaited	Results awaited	.

Contd....

Technology Assessed	Source of Technology	Production	unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
T1 – Farmers practice – Rearing of Indigenous poultry birds Use of chemical acaricides					
T2 – Technology Assessed- Rearing of Vanashree poultry birds	Project Directorate on Poultry, Hyderabad	Results awaited			
T3 – Technology Assessed- Rearing of Nicobari poultry birds	Project Directorate on Poultry, Hyderabad				

C. 2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details:

On Farm Trial (OFT)-1

- 1. Title of Technology Assessed:** Effect of soil test based fertilizer application with foliar feeding on chickpea in rainfed condition
- 2. Problem Definition:** Same cropping pattern year by year i.e. Soybean followed by Chickpea, Low yield due wilt disease, Unawareness about resistant varieties to pest and diseases, Non adoption of Integrated management practices.

3. Details of technologies selected for assessment:

T1: RDF

T2: RDF + 1% KNO₃(30 Days)+ 2% DAP (45 Days)

T3: RDF + 3% Urea @ Flowering and 10 Days after Flowering

4 Source of technology: VNMKV,Parbhani ,MPKV Rahuri

5 Production system and thematic area: Integrated Nutrient Management (INM)

6 Performance of the Technology with performance indicators:

The results showed that treatment T2 gives (16.62 q/ha) 32.11% higher yield over T1 (12.58 q/ha). Application of foliar fertilizers with RDF @ branching stage results to increased no. of branches and ultimately in yield. Foliar spray at 30 and 45 DAS performed better results in crop luster and yield as compared to local practice.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:

S.N.	Perticular	T1	T2	T3
1.	Vegetative Growth of Plant	III	I	II
2.	No. of Branches/plant	III	I	II
3.	Cost of Cultivation/ha	I	III	II
4.	Protective Irrigation at Critical Growth stages	I	II	III

- Increase in yield by 32.11% compared to local practice.
- Increase in No. of branches due to foliar spray at 30 and 45 DAS

8. Final recommendation for micro level situation:

- Need of soil test based fertilizer application
- Use of improved pest and disease resistant varieties.
- Use of foliar fertilizers on right time right method and right quantity
- Protective irrigation at critical growth stages

9. Constraints identified and feedback for research:

- Farmers Unaware about use of foliar fertilizers.
- Blankly use of chemical fertilizers
- Unawareness about use of right time, right method and right quantity for application of foliar fertilizers.

10. Process of farmers participation and their reaction:

- Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc. Farmers realized and given positive reaction about importance of new technologies and adoption of technologies to increase yield.

11. Photographs:



Effect of soil test based fertilizer application with foliar feeding on Chickpea in rainfed condition

On Farm Trial (OFT)-2

1. **Title of Technology Assessed:** Assessment of different varieties of Soybean
2. **Problem Definition:** Low yield due to use of old varieties, High cost of Cultivation, Labour Shortage, Same cropping pattern year by year i.e. Soybean followed by Chickpea, , Unawareness about use of improved varieties, High infestation of stem fly and girdle beetle
3. **Details of technologies selected for assessment:**
T1: Cultivation of Soybean Variety JS-335
T2: Cultivation of Soybean Variety KDS-753
T3: Cultivation of Soybean Variety MAUS-612
4. **Source of technology:** VNMKV,Parbhani & MPKV Rahuri
5. **Production system and thematic area:** Varietal Evaluation
6. **Performance of the Technology with performance indicators:**
 - MAUS-612 gives 34.62% (21.7 q/ha) higher yield over farmers practice (16.12 q/ha).
 - MAUS-612 shows early maturity compared to T2 KDS-753. Close bearing of pods is special characters observed in variety.
 - MAUS-612 Shows significant results to drought situation and gives good yield. Variety can tolerate to water stress during dry spell only 1-2 protective irrigations are sufficient to increase productivity
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

S.N.	Perticular	T1	T2	T3
1.	Resistant to Pest and diseases	III	II	I
2.	No. of Branches/plant	III	II	I
3.	No. of Maturity Days	I	III	II
4.	% Increase in Yield	III	II	I

- MAUS-612 variety can sustain in heavy and low rainfall situation.
- Increase in yield by 34.62% as compared to farmers practice.
- Resistant to pest and diseases as compared to farmers practice.

8 Final recommendations for micro level situation:

- Adoption of improved soybean varieties resistant to pest and disease incidence.
- Integrated crop and nutrient management to improve productivity.
- Use of BBF technology to do intercultural operations easily.
- Irrigations at critical growth stages.

9 Constraints identified and feedback for research:

- Availability of good quality seeds of improved varieties.
- Unawareness among farmers about newly released varieties.
- Need to available improved variety seeds in bulk by University, KVK and research institute

10 Process of farmers participation and their reaction:

Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc. Due to demonstrations farmers realized about use improved varieties and new technologies to improve productivity.

11. Photographs:



Assessment of improved varieties of soybean

On Farm Trial (OFT): 3

1. **Title of Technology Assessed:** Assessment of Pre & Post emergence of Herbicide for Effective Weed Management in Sole Soybean
2. **Problem Definition:** Labour Shortage, High cost of Cultivation for weed management, Unawareness about Integrated weed management practices and uneven distribution of rainfall creates obstacles in weed management.

- 3 **Details of technologies selected for assessment:**

T1: Control (Hand Weeding)

T2: Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha)

T3: Post Emergence Herbicide (Propaquizafop @0.050 kg.a.i +Imazethapyr @0.075 kg.a.i/ha at 21 DAS)

- 4 **Source of technology:** PDKV,Akola
- 5 **Production system and thematic area:** Weed Management
- 6 **Performance of the Technology with performance indicators:**

Treatment T2-Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha) gives 23.63% (19.62 q/ha) higher yield over farmers practice (15.87 q/ha).

Pre Emergence Herbicide helps to minimize weeds before germination of soybean crop which results to better vegetative growth of crop.

Field level results of Pre Emergence Herbicide performed well for dicot and monocot weeds as compared to post emergence of herbicide.

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

S.N.	Perticular	T1	T2	T3
1.	Weed Density (No/m ²)	III	I	II
2.	Weed Dry Matter 60 DAS	III	I	II
3.	No. of Branches/Plant	III	I	II
4.	Labour Shortage Problem	I	II	III

Pre Emergence Herbicide suitable to spray within 72 hours after sowing of crop.

Increase in yield by 23.63% as compared to farmers practice.

Saves time and cost as compared to hand weeding or manual weeding.

8 Final **recommendation for micro level situation:**

Use of herbicide according to type of weeds is most important.

Need to use integrated weed management practices to improve productivity.

Knowledge about herbicide molecules should be required.

9 **Constraints identified and feedback for research:**

Unavailability of labours for weed management

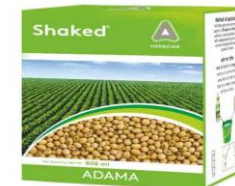
Unawareness among farmers about use of herbicides and dose of herbicides.

Uneven distribution of rainfall creates obstacles during vegetative growth of soybean so difficult task to weed management.

10 **Process of farmers participation and their reaction:**

Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc. On Farm testing of herbicides at farmers field gives better knowledge for use of herbicides through farmer participatory approach.

11. **Photographs:**



Assessment of Pre & Post emergence of Herbicide for Effective Weed Management in Sole Soybean

On Farm Trial (OFT): 4

1. **Title of Technology Assessed-** Assessment of onion varieties- Bhima raj and Bhima shakti

2. **Problem Definition** - Low yield, more infestation of pest and disease

3. **Details of technologies selected for assessment**

T1- Local variety (Commander)

T2- Bhima Raj

T3- Bhima Shakti

4. **Source of technology-** DOGR, Pune

5. **Production system and thematic area-** Varietal Evaluation

6. **Performance of the Technology with performance indicators-**

The present finding indicated that the Bhima shakti was noted highest yield (379.48q/ha) which was (31.77%) increased over check

The highest bulb weight (82.02g) with good keeping quality recorded in Bhima Shakti which was (31.38%) increase over check

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**

Parameter	Local	Bhima Raj	Bhima Shakti
Yield	III	II	I
Weight of bulb	III	I	II
Colour	III	I	II
Keeping Quality	III	II	I
B:C ratio	III	II	I

Matrix Scoring: - As per matrix scoring Bhima Shakti variety was preferred by farmers for yield and quality attribute with Good keeping quality of bulb as compared to other varieties

8. Final recommendation for micro level situation-

- Application of Soil test based fertilizer application with foliar fertilizers
- Onion should harvest carefully when two-third of top have fallen (neck fallow)
- After harvest, onion must be cured for long storage

9. Constraints identified and feedback for research

Constraints: Unavailability of good quality seed

Unavailability of source seed for multiplication of varieties

Feedback: Variety should have been good keeping quality

10. Process of farmers participation and their reaction

Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc.

11. Photographs:



Assessment of different varieties of onion

On Farm Trial (OFT): 5

1. Title of Technology Assessed:

Assessment of premixed fungicides and Insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS for management of disease and pest in soybean

2. Problem Definition:

In Latur district major constraints in the endeavor of increasing productivity in soybean is it suffers from several pests and fungal, bacterial, viral diseases of economic significance. Major constraints during seed treatment are separate treatment of fungicide and insecticide use is very laborious and no uniform coating possible due to unskilled labors. That affects the germination and increase the seedling emergence at changing soil moisture and weather conditions.

3. Details of technologies selected for assessment

T1: Farmer's practice: Seed treatment with Thiram @ 2 gm / kg of seed

T2: Treat the seeds with Thiram + Carboxin @ 3 g/kg of seed then it should be allowed to dry for some time and then treated with insecticide

Thiamethoxam 30 FS @10 ml/kg

T3: Seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS @ 10 ml/kg seed

4. Source of technology: ICAR-Indian Institute of Soybean Research, Indore and VNMKV, Parbhani

5. Production system and thematic area: Integrated Pest Management

6. Performance of the Technology with performance indicators:

The results of assessment showed that the percent seedling mortality after 20 DAG was 18.4 % in farmers practice, 12.4 %, 8.2 % in T1 and T2 respectively. After 75 DAG percent Anthracnose (Pod blight) incidence was 16.2, 12.2, 8.40 % in T1, T2 and T3 respectively and % Stem tunneling due to stem fly was 72.6, 62.2, 40.4 % in T1, T2 and T3 respectively. These figures indicate that percent seedling mortality, percent incidence of

anthracnose and stem tunneling due to stem fly is significantly decreased in both interventions as compare to farmer's practice. The increase in yield by 2.80 % and 9.37 %. over farmers practice in T2 and T3 respectively

Parameters of assessment	Data on the parameter		
	T1	T2	T3
1. % Seedling Mortality (20 DAG)	18.4	12.4	8.2
2. % Anthracnose (Pod blight) Incidence	16.2	12.2	8.4
3. % Stem tunneling due to stem fly	72.6	62.2	40.4
4. Grain yield (kg/ha)	2080	2140	2275
Parameters of assessment	Data on the parameter		
	T1	T2	T3
1. % Seedling Mortality (20 DAG)	18.4	12.4	8.2
2. % Anthracnose (Pod blight) Incidence	16.2	12.2	8.4
3. % Stem tunneling due to stem fly	72.6	62.2	40.4
4. Grain yield (kg/ha)	2080	2140	2275

7. Feedback, matrix scoring of various technology parameters done through farmer's participation:

The Premixed solution of insecticide and fungicide is found very user friendly, which reduces efforts for bringing separate formulation for seed treatment for management of pest and diseases. As farm labour is not so skilled the seed treatment with separate formulation is quit time consuming and uniform coating of seed is not possible.

Matrix ranking of various technology parameters

Parameters	T1	T2	T3
1. % Seedling Mortality (20 DAG)	III	II	I
2. % Anthracnose (Pod blight) Incidence	III	II	I
3. % Stem tunneling due to stem fly	III	II	I
4. Grain yield (kg/ha)	III	II	I

As per matrix ranking soybean seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS @ 10 ml/kg seed was preferred due to seedling mortality, incidence of anthracnose and stem tunneling due to stem fly is significantly decreased and higher profit margin as compared to the other two treatments.

8. Final recommendation for micro level situation:

The premixed combination of systemic fungicide and systemic insecticide provides effective for seed treatment and found preventing early infestation of pest stem fly and anthracnose blight fungal disease infection up to very long if treated properly. It gives optimum germination and provides an early and healthy start to seedlings.

9. Constraints identified and feedback for research and developmental departments:

The recommendations as per label claim given by CIB and RC for premixed fungicides and insecticide (Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS) for seed treatment to manage disease and pest in soybean is 10 ml for per one kilogram of seed, but practically 10 ml of solution for per kilogram of seed is found very excess quantity and it is not possible to coat such quantity due to very thin seed coat. In some cases, the seed coat of soybean getting damaged due to excess moisture.

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like group discussions, trainings, literature, agro advisories etc.

11. Photographs:

Assessment of premixed fungicides and Insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS for management of disease and pest in soybean



Seed treatment with Thiram + Carboxin @ 3 g/kg of seed and then treated with insecticide Thiamethoxam 30 FS @10 ml/kg



Seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS

On Farm Trial (OFT): 6

1. Title of Technology Assessed:

Assessment of compatible tank-mix formulations of post emergence herbicide and insecticides for combine management of weeds and insect-pests in soybean

2. Problem Definition:

The incessant rains during the kharif season do not permit timely inter-cultivation operations and manual control is not possible due to shortage of labour during weeding peaks. Effectively weed control through use of post-emergence application of the chemicals herbicides is the only alternative to solve this problem. Also, at the same time the incidence of insect-pests also increases, severe incidence of pests may cause yield loss up to 40-50%. For management of weeds and insect pests separate spraying of weedicide and insecticide at same period is not possible on account of high spraying cost and shortage of labour.

Hence, there is need to assess bio-efficacy of compatible tank mix combinations of insecticides and herbicides to reduce the infestation of weed and insect pests, to reduce labour cost and to increase the yield of soybean.

3. Details of technologies selected for assessment

T1: Hoeing, weeding and spray of any systemic insecticide after 30 days of sowing

T2: Spraying tank-mix combinations of Quinalphos 25 % EC Insecticide @ 600 ml /ha + Imazethapyr 10SL Herbicide @ 1000 ml /ha (POE) 30 days after sowing

T3: Spraying tank-mix combinations of Chlorantraniliprole 18.5% SC Insecticide @ 100 ml /ha + Imazethapyr 10 SL Herbicide @ 1000 ml /ha (POE) 30 days after sowing

4. Source of technology: ICAR-Indian Institute of Soybean Research, Indore and VNMKV, Parbhani

5. Production system and thematic area: Integrated Pest Management

6. Performance of the Technology with performance indicators:

The results of assessment showed that the weed count at 45 days of sowing was 48.20 in farmers practice 60.20, 56.80 in T1 and T2 respectively. After 45 days of sowing percent stem tunnelling due to stem fly was 22.40, 20.20, 14.80 % in T1, T2 and T3 respectively.

Parameters of assessment	Data on the parameter		
	T1	T2	T3
Weed count at 45 DAS	60.2	56.8	48.2
% Stem tunnelling due to stem fly at 45 DAS	22.4	20.2	14.8
Cost of Plant Protection for first spray/ha	4450	5850	6260
Yield Kg/ha	2270	2450	2540

Cost of Plant Protection per ha was Rs.4450, Rs.5850 and Rs.6260 in T1, T2 and T3 respectively. These figures indicate that the inhibitory effect of herbicides in combination with insecticide reduced the weed population and stem fly infestation during the important growth stages of soybean resulting in the minimal crop-weed and early control of pest population led to increase in soybean yield. The grain yield of soybean was significantly higher in T3 as compare to T2 and T1. The compatible tank mix combinations of insecticides and POE herbicides can be effectively used to control both weeds and insect-pests in soybean. This will also reduce the cost of labor incurred in spraying insecticides and herbicides separately.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation:

The mechanical weeding is partially ineffective because of shortage of labour, also weeds grow in intra row space. Manual weeding is difficult during incessant rains during critical period of crop-weed competition makes the situation worsens.

Matrix ranking of various technology parameters:

Parameters	T1	T2	T3
Weed count at 45 DAS	III	II	I
% Stem tunnelling due to stem fly at 45 DAS	III	II	I
Cost of Plant Protection for first spray/ha	I	II	III
Yield Kg/ha	III	II	I

As per matrix ranking spraying tank-mix combinations of Chlorantraniliprole 18.5% SC Insecticide @ 100 ml /ha + Imazethapyr 10 SL Herbicide @ 1000 ml /ha (POE) 30 days after sowing was preferred due to effectively used to control both weeds and insect-pests in soybean. This will also reduce the cost of labor incurred in spraying insecticides and herbicides separately as compared to the other two treatments.

8. Final recommendation for micro level situation:

The compatible tank mix combinations of insecticides and POE herbicides can be effectively used to control both weeds and insect-pests in soybean. This will also reduce the cost of labor incurred in spraying insecticides and herbicides separately.

9. Constraints identified and feedback for research and developmental departments:

The recommendation of compatible tank mix combinations of insecticides and POE herbicide during prolonged dry spell of rains is not possible because crop already is in stress condition and it shows adverse effect on plant height and branches per plant. So, need to recommend spraying of compatible tank mix combinations of insecticides and POE herbicide in soybean during normal rainfall conditions in which ample amount of soil moisture in the soil.

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like group discussions, trainings, literature, agro advisories etc.

11. Photographs



Assessment of compatible tank-mix formulations of post emergence herbicide and insecticides for combine management of weeds and insect-pests in soybean

On Farm Trial (OFT): 7

1. Title of Technology Assessed:

Assessment of Integrated Management Stem Blight (*Phytophthora drechsleri*) Disease of Pigeon pea

2. Problem Definition:

The *Phytophthora*, blight of pigeon pea has been significantly increasing in Latur district from last three years especially when excessive rains fall within a short span of time and hot and humid weather persists during the crop season. It has been significantly reduced yield up to 30 to 70 percentage.

3. Details of technologies selected for assessment

T1: Spraying or drenching the crop with Thiophanate Methyl or Metalaxyl fungicide at onset of major symptoms of disease

T2: 1. Seed treatment with Trichoderma @5 gm per kg of seed

2. Drain the excess water from field and uproot early disease infected seedlings

3. Two foliar sprays of Fungicide Metalaxyl 4% + Mancozeb 64% WP @ 1.5 gm per liter of water at 15 days interval from 15 days after

Germination

4. Source of technology: ICAR-Indian Institute of Pulse Research, Kanpur

5. Production system and thematic area: Integrated Pest Management

6. Performance of the Technology with performance indicators:

The results of assessment showed that the % disease incidence at seedling stage was 2.6 in farmers practice, 1.2 in T2. After maturity stage % disease incidences at was 14.8, 8.10 in T1 and T2 respectively.

Parameters of assessment	Data on the parameter	
	T1	T2
% disease incidence at seedling stage	2.6	1.2
% disease incidences at maturity stage	14.8	8.10
% Reduction over control	-	13
Yield (kg/ha)	1320	1540

These figures indicate that the infection of phytophthora blight is lesser in early seedling stage and gradually progress during maturity stage. Seed treatment with Trichoderma and two recommended sprays reduces infection at maturity stage. More infection levels were observed in poor the drainage fields, and having water stagnation due to heavy rains in last phase of return monsoon, especially when excessive rains fall within a short span of time and hot and humid weather persists during the crop season. The increase in yield by 16.67 % and infection percentage by 13 % over farmers practice.

7. Feedback, matrix scoring of various technology parameters done through farmer's participation:

The mechanical weeding is partially ineffective because of shortage of labour, also weeds grow in intra row space. Manual weeding is difficult during incessant rains during critical period of crop-weed competition makes the situation worsens.

Matrix ranking of various technology parameters:

Parameters	T1	T2
% disease incidence at seedling stage	II	I
% disease incidences at maturity stage	II	I
% Reduction over control	I	II
Yield (kg/ha)	II	II

As per matrix ranking Seed treatment with Trichoderma and Two foliar sprays of Fungicide Metalaxyl 4% + Mancozeb 64% WP @ 1.5 gm per liter of water at 15 days interval from 15 days after germination was preferred due to effectively used to control Stem Blight (Phytophthora drechsleri) Disease of Pigeon pea.

8. Final recommendation for micro level situation:

The Phytophthora blight incidence was higher in the low-lying fields than well drained fields and be due to low level of field topography and poor soil surface drainage which favored the multiplication and spread of inoculum. So, recommendation of pigeon pea cultivation should be on well drained and high laying fields.

9. Constraints identified and feedback for research and developmental departments:

The Phytophthora blight management should not be completely relying on the use of fungicides, as the development of fungicide resistance in Phytophthora spp. has been observed. Hence, IDM programs suitable for adoption by resource poor farmers should be emphasized. It is advised that the PB management in pigeon pea should be based on the location specific disease predictive models.

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like group discussions, trainings, literature, agro advisories etc.

11. Photographs:

Assessment of Integrated Management Stem Blight (Phytophthora drechsleri) Disease of Pigeon pea



On Farm Trial (OFT): 8

1. **Title of Technology Assessed:** Assessment of Kisan Drone for spraying crops
2. **Problem Definition:** Lack of Labour, less area Coverage, High cost of Spraying and Pesticide poisoning.
3. **Details of technologies selected for assessment:**
 - T1: Battery operated Knapsack Sprayer
 - T2: Drone Sprayer
 - T3: Boom Sprayer
4. **Source of technology:** SOP, Ministry of Agriculture & Farmers' Welfare, GOI.
5. **Production system and thematic area:** Improved farm implements, protecting crops from various biotic stress by efficient spraying of formulations simultaneously avoiding excess use of pesticides along with priorities safety of labour by avoiding hazardous effect of manual spraying and Drudgery reducing technology.
6. **Performance of the Technology with performance indicators:**

The findings the drone sprayer's superiority in terms of time efficiency, reducing the time required for insecticide application by up to 99% compared to traditional methods.

The result showed that Treatment T2 drone sprayer performed well and provided higher yield 22.1 q/ha. It's worth Net income of Rs 58509/ha with Drone Technology.

The working efficiency of the drone sprayer was 1.42 ha/h, which was 1.71, and 0.29 those of Boom Sprayer and Battery-operated Knapsack Sprayer, respectively. The drone sprayer also demonstrated substantial reductions in water and labor requirements.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

Parameter	Battery operated Knapsack Sprayer	Drone	Boom Sprayer
Field capacity, ha/h	III	II	I
Field efficiency, %	II	III	I
Application Rate (l/min)	III	I	II
Operating cost Rs/ha	I	III	II
Yield, q/ha	III	I	II

Matrix Scoring: As per Matrix ranking drone sprayer was preferred by farmers for its Yield, application rate and higher net profit was more as compared to other sprayers.

8 **Final recommendation for micro level situation:**

This technology is very useful where human interventions are not possible for spraying of chemicals on crops including sugarcane fields and orchard crops as well as crops under terrain lands.

The drone technology effectively reduced droplet losses to the ground with those of the conventional method.

9 **Constraints identified and feedback for research:**

Constraints:

- High initial cost of Drone sprayer.
- Not suitable for multiple and inter cropping systems.
- Require special knowledge and skills.
- Drones are weather sensitive, don't use at flowering stage.

Feedback:

- Drone spraying was suitable over all field conditions such as rainy, flood etc.
- It is also time saving method and solved the problems of labour unavailability.
- It provides Protection from health hazards issues.
- Highly efficient, Accurate and consistent application.

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like field demonstration, group discussions, trainings, literature, field visit etc. Farmers understand importance of demonstrations regarding increase in yield by using these new technologies.

11. Photographs:



Photographs of Assessment of Kisan Drone for spraying crops

On Farm Trial (OFT): 9

- 1. Title of Technology Assessed:** Assessment of Manual Operated Precision Rotary Dibbler (Token Yantra)
- 2. Problem Definition:** Poor germination/crop stand, less area Coverage, Lack of Labour, High cost of Sowing, Plant to plant distance not maintained.
- 3. Details of technologies selected for assessment:**
 - T1: Bullock drawn tifean
 - T2: Manual Operated Precision Rotary Dibbler
 - T3: Tractor drawn BBF planter
- 4 Source of technology:** CIAE, Bhopal
- 5 Production system and thematic area:** Improved small equipment and Precise sowing of small as well as bold seeded crop with proper maintenance of plant population in given area and balancing yield level.
- 6 Performance of the Technology with performance indicators:**

The results showed that the Manual Operated Precision Rotary Dibbler planter performed very well in sowing soybean major crops in the district. The field capacity of the Precision Rotary Dibbler planter was 0.062 ha/day with a field efficiency of 90 %. The planter saves 40-45% seed, and increased crop yield by 15-20% as compared to conventional sowing by tractor drawn BBF planter and bullock drawn tifean. As a result of on-field demonstration, 10 farmers have adopted Manual Operated Precision Rotary Dibbler in the village.
- 7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

Parameter	Bullock drawn tifan	Precision Rotary Dibbler	BBF planter
Field capacity, ha/h	II	III	I
Field efficiency, %	III	I	II
Labour requirement, man-h/ha	II	III	I
Operating cost Rs/ha	I	II	III
Yield, q/ha	III	I	II

Matrix Scoring : As per Matrix ranking Treatment T2: Soyabean sowing through Precision Rotary Dibbler was preferred by farmers for its Yield, Field efficiency and higher net profit was more as compared to other treatments.

8. **Final recommendation for micro level situation:**

Precision Rotary Dibbler planter was useful for small and marginal farmers who cannot afford large machinery and for fields where large machinery is not suitable.

The cost of sowing was less with the planter when compared to traditional methods of sowing.

Seed, time and labour can be saved with the planter compared to manual methods of sowing.

9. **Constraints identified and feedback for research:**

Constraints:

Required more operating time and laborious method.

Unawareness about new released technologies among farmers.

Feedback:

By using Precision Rotary Dibbler (Token Yantra) the yield of crop increased by 20-25% as compared to Bullock drawn tiffan.

Also seed rate was reduced to 40-45% which intern helps to save amount of seed and hence reduced cost of cultivation.

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like field demonstration, group discussions, trainings, literature, field visit etc. Farmers understands importance of demonstrations regarding increase in yield by using these new technologies.

11. Photographs:



Photographs of Assessment of Manual Operated Precision Rotary Dibbler (Token Yantra)

On Farm Trial (OFT): 10

1. **Title of Technology Assessed:** Heat treatment in improving the shelf life of pearl millet flour: Bajara
2. **Problem Definition:** Though bajara has nutritional & nutraceutical values the development of bitter & rancid odor after 4/5 days of milling limits the utilization in consumption.
3. **Details of technologies selected for assessment**
T1: Farmers Practice: Milling of Bajara grains
T2: MPKV,Rahuri : Blanching of seeds at 98 C, 30-120secs before milling of Bajara
T3: CCS, Haryana, Agriculture University, Hisar : Dry heat treatment to the grains for 120 minutes
4. **Source of technology:** MPKV,Rahuri & Agriculture University, Hisar
5. **Production system and thematic area:** Design & development of high nutrient efficient diet
6. **Performance of the Technology with performance indicators:**
Heat treatments to the grains before milling improve the storage period up to 29 & 32 days by blanching of seeds at 98 C, 30-120 secs &
heat treatments for 120 minutes before milling of seeds respectively which is commercially acceptable. While T1 flour had bitter taste at 8th day of storage.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**

Sr no	Particulars	T1	T2	T3
1	Storage period in a days	III	II	I
2	Organoleptic Acceptability	III	II	I

As per matrix ranking dry heat treatment for 120 minutes was performed for its storage period in a days and organoleptic acceptability is a more in a day's compared to other blanching seed treatment to the grains.

8. Final recommendation for micro level situation

Use the treated grains for milling which will increase the frequency of millet consumption.

9. Constraints identified and feedback for research

Lack of a reliable supply of high quality flours. Technology is unavailable for processing of grains before milling.

10. Process of farmers participation and their reaction

Farmers were participated through group discussions, trainings, FLD & OFT. The farm women are well aware about this technology & ready to start this technology.

11. Photographs:



Blanching treatment to Bajara grains



Bajara flour

On Farm Trial (OFT): 11

1. **Title of Technology Assessed:** To improve the hemoglobin level using drumstick powder by anemic women
2. **Problem Definition:** An iron poor diet & Low level of hemoglobin content in blood of women & adolescent girls
3. **Details of technologies selected for assessment**

T1: Farmers Practice: Regular diet

T2: VNMKV Parbhani : Regular diet + 25gms of drumstick leaves powder

4. **Source of technology:** VNMKV,Parbhani
5. **Production system and thematic area:** Design & development of high nutrient efficient diet
6. **Performance of the Technology with performance indicators:**

Assessment shows that drumstick leaves powder is helpful in improvement in Hb level. Extra nutrients such as calcium also consumed from this powder.

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**

Sr no	Particulars	T1	T2
1	Hemoglobin (gms/dl)	II	I
2	Deficiency signs	II	I

It is a low cost, locally available which is effective in combat the iron deficiency anemia..

8. **Final recommendation for micro level situation:** It is a low cost, locally available which is effective in combat the iron deficiency anemia.

9. **Constraints identified and feedback for research .**

Unawareness of women farmers regarding locally & homestead availability of iron & calcium rich drumsticks leaves

10. **Process of farmers participation and their reaction**

Farmers were participated through group discussions, trainings, FLD & OFT. The farm women are well aware about this technology & ready to start this technology.

11. **Photographs:**



Drumstick leaves powder to anemic women

On Farm Trial (OFT): 12

1. **Title of Technology Assessed:** Assess the efficiency of Drumstick harvester for harvesting drumstick pods

2. **Problem Definition:**

Picking manually the drumstick get damaged whenever it falls down which is a permanent damage or the labour can fell down because of the trees height from the ground. Drumstick pod damage during harvesting is the vital problem facing by farmers

3. **Details of technologies selected for assessment**

T1: Farmers Practice: Use of hook & bamboo for harvesting the pods

T2: MPKV,Rahuri : Use of drumstick harvester

4. **Source of technology:** MPKV,Rahuri

5. **Production system and thematic area:** Drudgery reducing technologies for women farmers

6. **Performance of the Technology with performance indicators:**

The harvester is most efficient & comfortable during harvesting. The harvesting capacity is 21.41% more & damage percentage decreased by 63.85% than traditional method..

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**

Sr no	Particulars	T1	T2
1	Harvesting capacity, Kg/hr	II	I
2	Damage drumstick pod percentage, (%)	II	I

It is a lightweight device & can and therefore can be easily carried from one place to another.

8. Final recommendation for micro level situation:

The harvester is most efficient & comfortable during harvesting. damage percentage is less than traditional method..

9. Constraints identified and feedback for research

Unawareness of drumstick grower farmers.

10. Process of farmers participation and their reaction

Farmers were participated through group discussions, trainings, FLD & OFT. The farm women are well aware about this technology & ready to start this technology.

11. Photographs:



Harvesting drumstick pods with drumstick harvester



On Farm Trial (OFT): 13

- 1. Title of Technology Assessed: Assessment of new improved hybrid Napier fodder variety for round the year green fodder production**
- 2. Problem Definition:**

Livestock owners in the Latur district cultivate an old variety of Napier fodder crop, namely Phule Yashwant, for year-round fodder production. This variety exhibits low fodder yield, has hairs on its leaves, and is high in oxalic acid content. So, there is a need for viable alternatives. Therefore, this assessment aims to identify and promote alternative varieties that can enhance green fodder yield and provide high-quality fodder throughout the year for the benefit of livestock
- 3. Details of technologies selected for assessment:**

Farmers Practice (T1) Phule yashwant
Assessed Practice (T2) Super Napier (Pakchong-1)
- 4. Source of technology:** MPKV, Rahuri and Department of Livestock, Thailand.
- 5. Production system and thematic area: Irrigated perennial crop and Varietal evaluation**
- 6. Performance of the Technology with performance indicators:**

Super Napier fodder crop yielded 1270 q/ha of green fodder in three cuttings up to the reporting period. It is having 17 tillers per clump and 18 leaves per stem. High green fodder yield resulted in a net income of Rs. 72,260 with a benefit-cost ratio (BCR) of 2.32.
- 7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques:**

Parameters/Variety	Phule Yashwant		Super Napier (Pakchong-1)	
	Rank	Rank	Points	Rank
Fodder yield	II	3	I	4
No. of Tillers	II	3	I	4
Leaves per stem	II	3	I	4
Juiciness of stem	I	4	I	4
Fodder liking by animals	I	4	I	4
Net profit	II	3	I	4
Final score		20		24
Final Rank		II		I

As per matrix ranking Super Napier (Pakchong-1) was preferred for fodder yield, no. of tillers, no. of leaves and net profit.

Whereas, both the varieties were preferred for juiciness of stem and fodder liking by animals.

8. **Final recommendation for micro level situation:** Looking to the results Super Napier fodder variety performance was superior than the farmers practice. Hence, may be cultivated for round the year green fodder production in the district.
9. **Constraints identified and feedback for research:** Nil
10. **Process of farmer's participation and their reaction:** Farmers are participated through Group discussion, training and demonstration

11. Photographs:



Super Napier crop stand



Super Napier (Pakchong 1) tillers

On Farm Trial (OFT): 14

1. **Title of Technology Assessed: Assessment of An Eco-friendly Herbal Acaricide to Control ecto parasite Infesting Livestock**
2. **Problem Definition:** Tick Infestation poses a severe problem for animals in the district. These are harmful blood-sucking parasites causing significant disruptions in the productivity of dairy animals. This leads to economic losses for livestock owners. Tick bites result in reduced feed intake, skin irritation, blood loss, and deterioration in the body condition of animals, ultimately leading to low milk yield. Additionally, ticks can transmit certain diseases. Farmers typically resort to chemical acaricides to control tick infestation, but the frequent recurrence of these parasites suggests a potential resistance to these chemicals. Consequently, farmers struggle to eliminate ticks effectively through the use of available chemical compounds. In such a scenario, it becomes imperative to explore new alternatives for tick control in the district. These alternatives should be not only cost-effective but also sustainable in the long run.
3. **Details of technologies selected for assessment:**
Farmers Practice (T1) Use of chemical acaricides
Assessed Practice (T2) Use of herbal acaricides (Paraway)
4. **Source of technology:** Indian Veterinary Research Institute, Izzatnagar
5. **Production system and thematic area: Dairy farming. Disease managment**
6. **Performance of the Technology with performance indicators:** Use of eco-friendly herbal acaricide (Paraway) increased reduced tick infestation with efficacy of 80 %. This resulted in a significant reduction in tick infestation on the animals' bodies, leading to a 4% increase in milk production. Animals in trial have given average 12.8 liter of milk per day with 46500 Rs. / animal net returns and 1.78 BCR.

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques:**

Parameters/Variety	Use of chemical acaricides		Use of herbal acaricides (Paraway)	
	Rank	Points	Points	Points
Milk yield	II	3	I	4
Fat %	II	3	I	4
Efficacy of drug	II	3	I	4
Body condition improvement	II	3	I	4
Safety in use	II	3	I	4
Net profit	II	3	I	4
Final score		18		24
Final Rank		II		I

As per matrix ranking eco-friendly herbal acaricide (Paraway) was preferred for milk yield, fat %, Efficacy of drug, animal's body condition improvement, net profit and safety in use.

8. **Final recommendation for micro level situation:** Looking to the results eco-friendly herbal acaricide (Paraway) performance was superior to the farmers practice. Hence, may be used for tick control on animals in the district.

9. **Constraints identified and feedback for research:** Nil

10. **Process of farmer's participation and their reaction:** Farmers are participated through Group discussion, training and demonstration

11. **Photographs:**



Distribution of inputs for OFT



Spraying of eco friendly herbal acaricide on animals



On Farm Trial (OFT): 15

1 Title of Technology Assessed: Assessment of Improved Poultry breeds Vanashree and Nicobari for backyard poultry farming

2 Problem Definition:

The farmers of Latur district keeps local desi chickens in backyard system along with livestock of different species as a supplementary source of income. The egg and meat production potential of these desi chickens is very low (annual 60-70 eggs). Mortality % is also very high. Hence, farmers get very less returns by rearing deshi birds. To increase farmers income through backyard poultry farming this assessment is conducted.

3 Details of technologies selected for assessment:

T1- Rearing of deshi poultry birds

T2-rearing of Vanashree Poultry birds

T3- Rearing of Nicobari poultry birds

4. Source of technology: Directorate of poultry research, Hyderabad

5. Production system and thematic area: Backyard poultry farming/ Breed evaluation

6. Performance of the Technology with performance indicators: Results awaited

7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring

Techniques: Results Awaited

8. Final recommendations for micro level situation: Results Awaited

9. Constraints identified and feedback for research: Nil

10. Process of farmer's participation and their reaction: Farmers are participated through Group discussion, training and demonstration

11. Photographs:



Distribution of birds under OFT

3.3. FRONTLINE DEMONSTRATION

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

List of technologies demonstrated during previous year and popularized during 2023 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	Wheat	Variety Introduction	Introduction of wheat Variety DBW-168	Training, Group Discussion, Field day and Demonstration	04	186	36
2	Pigeon pea	Variety Introduction	Introduction of Newly Released Improved Variety of Pigeon pea	Training, Group Discussion, Field day and Demonstration	07	349	139
3	Soybean	Integrated Pest Management	Integrated Management of Snail in Soybean	Farmers rally, group discussion, agro advisory,	65	600	1500
4	Chickpea	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Chick pea	Popular article, SMS, pamphlet, Group discussion, training, field day and demonstration	15	28	35
5	Sericulture	Integrated Pest Management	Integrated Management of Uzi fly of Mulberry Silkworm	Popular article, SMS, pamphlet, Group discussion, training, field day and demonstration	12	55	30
6	Sericulture	Farm Machinery	Harvesting of cocoons using CSRTI Cocoon Harvester	Popular article, SMS, pamphlet, Group discussion, training, field day and demonstration	15	65	40

B. Details of FLDs implemented during 2023 **(Kharif 2023, Rabi 2022-23, Summer 2023)**

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement
					Proposed	Actual	SC/ST	Others	Total	
1	Wheat	Variety Introduction	Introduction of wheat Variety DBW-168	Rabi 2022-23	10	10	06	19	25	-
2	Pigeonpea	Variety Introduction	Introduction of Newly Released Improved Variety of Pigeonpea	Kharif 2023	10	10	04	21	25	-
3	Custard apple	Integrated crop management	Integrated nutrient management and pruning technique in custard apple	Kharif 2023	10	10	04	16	20	-
4	Tomato	Integrated Nutrient Management	Introduction of arka special vegetable micronutrients to improve yield and quality of tomato	Kharif 2023	08	08	07	13	20	-
5	China Aster	Variety introduction	Introduction of new china aster varieties: arka poornima and arka kamini	Kharif 2023	04	04	0	13	13	-
6	Soybean	IPM	Integrated Pest and Disease Management in Pigeon pea	Kharif 2023	10	10	0	25	25	-
7	Chickpea	IPDM	Integrated Pest and Disease Management in Chickpea	Rabi 2022-23	08	08	0	20	20	-
8	Sericulture	IPDM	Integrated Management of Uzi fly of Mulberry Silkworm	Kharif 2023	08	08	0	20	20	-
9	Sericulture	Farm Machinery	Harvesting of cocoons using CSRTI Cocoon Harvester	Rabi 2022-23	08	08	0	20	20	-

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					
Wheat	Rabi	Irrigated	Black Soil	Low	Low	High	Soybean	15-30 June	1-10 October	124	-
Pigeon pea	Kharif	Irrigated	Black Soil	Medium	Low	High	Chickpea	15-30 June	10-20 January	705	-
Custard apple	Kharif	Irrigated	Medium	Medium	Low	Medium	Custard apple	July 2018	05November-20 December 2023	-	-
Tomato	Kharif	Irrigated	Medium	Medium	Low	Medium	Bengal gram	5-20 July 2023	November 2023	-	-
China Aster	Kharif	Irrigated	Medium	Medium	Low	Medium	Chrysanthemu m	1-15 August 2023	December 2023	-	-
Soybean	Kharif 2023	Partial Irrigation	Medium	Medium	Low	Medium	Bengal gram	15-30 June 2023	15 – 30 Dec 2023		
Chickpea	Rabi 2022-23	Partial Irrigation	Medium	Medium	Low	Medium	Soybean	15-30 Nov 2022	15 -30 Feb 2023	-	
Sericulture	Kharif 2023	Irrigated	Medium	Medium	Low	Medium	-	-	August 2023	-	
Sericulture	Rabi 2022-23	Irrigated	Medium	Medium	Low	Medium	-	-	March 2023		

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Wheat – Newly released improved high yielding variety DBW-168 performed better as compared to local varieties. Grain quality and flour for chapatti making is better taste as compared to other varieties.
2	Pigeon pea – BDN 2013-41 newly released improved variety resistant to pest and diseases as compared to local varieties. Variety is also suitable for dal making. Prominently resistant to dieback disease.
3	Custard apple Application of INM with pruning techniques help to increase fruit yield in custard apple The adaptation of technology helps to increase productivity of orchard
4	Tomato The foliar application of arka special vegetable micronutrients not only increase yield (11.58%) over check Improve quality of fruit in respect of weight and size of fruit by this technology
5	The variety arka kamini is high yielding variety while both varieties arka kamini and arka poornima having long vase life as compared to local aster variety
6	The first spraying at flowering to bud initiation found very effective to manage pod borer and pod fly infestation. Also, Neem seed kernel extract preparation is easy and cost effective.
7	Phytophthora wilt was not managed effectively. Need to develop wilt disease resistant variety in Bengal gram.
8	Planting of one outer row of maize and one inner row of wheat as a barrier crop surrounding onion crop at least 30 days prior to transplanting found effective for block the movement of adult thrips
9.	Uzi fly damages 25% crop loss in the 4th to 5th instar and 20% at harvesting stage of cocoons during July to September.

Farmers' reactions on specific technologies

S. No	Feed Back
1	Wheat – Demonstration on variety introduction suitable for farmers to adopt new varieties. Increase in yield as compared to local varieties and resistant to pest and diseases.
2	Pigeonpea – Adoption of newly released improved variety helped to increase in yield as compared to other variety. Cost of cultivation reduced due to variety is resistant to pest and diseases.
3	To carry out intercultural operation in custard apple by adopting technology Increased in yield and quality of fruit
4	Improve yield and quality of fruit due to foliar application of micronutrient in tomato Technology is easy and suitable to adopt as well helps to increase in yield and economic returns
5	The variety arka kamini is more duration of flowering than check resulting higher yield over check variety.
6	The availability of pheromone traps is major constraint. By applying fungicides for seed treatment and using good seed problem of witting is not effectively managed
7	IPDM technology in Bengal gram is effective but wilting disease problem is not effectively managed. Seed soaking with tebuconazole 6% FS. for 6 hrs before sowing found effective to manage wilt in Bengal gram.
8	IPM component viz., seed treatment with Pseudomonas fluorescens and Trichoderma sp., soil application of Pseudomonas and Trichoderma along with neem cake and spray application of azadirachtin are adopted by most of the farmers. But the other components like growing of maize as border crop and installation of traps are being adopted on a smaller scale
9	Mass holding rearing of silkworms at village level is very difficult

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	-	-	-	-
2	Farmers Training	-	-	-	-
3	Media coverage	-	-	-	-
4	Training for extension functionaries	-	-	-	-

C. Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)			% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)				
						Demo				Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Safflower																		
	Varietal with INM	Introduction of improved variety ISF-764 with INM aspect	ISF-764	125	50	17.7	12.9	15.3	11.7	30.77	22400	62730	40330	2.80	18900	47970	29070	2.53
Soybean																		
	Variety Introduction	Cultivation of Newly Released Improved variety of Soybean	KDS-726	125	50	21.6	15.2	18.4	15.1	21.85	50000	84640	34640	1.69	46500	69460	22960	1.49
	IPM	Integrated Snail Management in Kharif Soybean	MAUS-158	25	10	26.8	20.0	24.2	22.4	8.03	37750	84700	46950	2.24	35750	78400	42650	2.19



Cluster Frontline Demonstration (CFLD) on Safflower



Cluster Frontline Demonstration (CFLD) on Soybean

Frontline demonstration on pulse crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)			% Increase in yield	Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)				
						Demo				Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Pigeonpea																		
	Variety Introduction	Introduction of Newly Released Improved Variety of Pigeonpea	BDN 2013-41	25	10	13.90	10	11.95	8.75	36.57	26250	101575	75325	3.86	26250	74375	48125	2.83
	Varietal With INM	Cultivation of Wilt and S.M. Resistant variety of Pigeonpea with INM aspect	BDN-716	125	50	12.7	7.95	10.3	7.72	33.42	26250	87550	61300	3.33	25250	65620	40370	2.59
Chickpea																		
	Varietal With INM	Introduction of improved variety of Chickpea Phule Vikram with INM aspect.	Phule Vikram	100	40	16.4	13.8	15.12	11.5	31.48	29600	72576	42976	2.45	28500	55200	26700	1.93
	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Chickpea	Jacky-9218	20	8	13.5	9.5	13.1	11.2	16.96	24500	62880	38380	2.56	23700	53760	30060	2.26



Cluster Frontline Demonstration (FLD) on Pigeonpea



Cluster Frontline Demonstration (CFLD) on Chickpea



FLD on Integrated Management of Snail in Soybean



FLD on Integrated Pest and Disease management of Chickpea

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Wheat																			
	Variety Introduction	Introduction of wheat Variety DBW-168	25	10	33.70	23.80	28.75	22.6	27.21	41.67	36.4	31000	60375	29375	1.94	30000	47460	17460	1.58
Tomato																			
	Integrated Nutrient Management	Introduction of Arka special vegetable micronutrients	20	8	645.00	466.60	555.80	498.10	11.58	No of fruit/plant -36.84	No of fruit/plant -30.42	160125	277900	117775	1.73	158252	249050	90798	1.57
China Aster	Variety Introduction	Introduction of china aster varieties :Arka poornima and kamini	13	4	143.21	134.23	138.72	125.44	10.59	No. of flower/plant-28.89	No. of flower/plant-39.86	171252	554880	383628	3.24	160951	376320	215369	2.33
Custard apple	Integrated Crop Management	Introduction of INM and Pruning Technique	20	10	55.68	42.98	49.33	39.74	24.13	No of fruit/plant -43.35	No of fruit/plant -39.34	75525	197320	121795	2.61	62150	119220	57070	1.91



Frontline Demonstration on Wheat



Front Line Demonstration (FLD) on Tomato



Front Line Demonstration (FLD) on China Aster



Front Line Demonstration (FLD) on Custard apple

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cattle																	
	Disease Management	Integrated control of ticks on animal body	10	30	12.51 Milk yield L/anim./day	11.82 Milk yield L/anim./day	5.84	Drug Efficacy, %-87	Drug Efficacy, %-70	75718	106640	30922	1.40	75947	98270	22323	1.29
								Body condition improvement, %-97	Body condition improvement, %-73								
Poultry																	
	Poultry management	Rearing of Shrinidhi improved poultry birds for backyard poultry farming	10	200	Egg production per bird/Year			Results waited. Birds are in growing stage									

Sheep & Goat																	
	Nutrient management	Feeding of mineral lick bricks to goat	15	75	20.44 kg/animal	18.42 kg/animal	10.96	1. Birth weight of kids,Kg-2.01	1. Birth weight of kids,Kg-1.93	2860	11760	8900	4.11	2720	8670	5950	3.18
								2.Twinning %-68	2. Twinning %-58								
								3. kids mortality %-11.51	3. Kids mortality %-18.64								



FLD on integrated control of ticks on animal body



FLD on Mineral lick brick Feeding



FLD on Shrinidhi Improved poultry birds

FLD on Other enterprises

Category	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.) or Rs./unit				Economics of check (Rs.) or Rs./unit			
				Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Sericulture	Integrated Management of Uzi fly of Mulberry Silkworm	25	25	% Silkworm Larvae Infested by Uzi at 5th Instar		24.50	Avg No. of Uzi fly trapped / trap		14250	37700	23450	2.64	12750	32100	19350	2.51
							24	0								
				2.50 10.2			Cocoon Yield (Kg) / 100 dfls									
							75.4	64.2								
Sericulture	Use of ecdysteriod growth hormone Sampooma for uniform maturity of silkworm	25	25	% maturity 18 hrs after application		41.20	Cocoon Yield (Kg) / 100 dfls		14000	39200	25200	2.80	13500	35300	21800	2.61
				41.2 84.00			78.4 70.6									



FLD on Integrated Management of Uzi fly in Silkworm rearing



FLD on Use of Sampoorana Hormone for Uniform maturity of silkworms

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Nutri cereals	Demonstration of nutrient rich millet flour	10	Production of flour Grams/kg	880	875

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total
BBF Planter	Soybean	BBF Planter	20	8.0	Yield. q/ha	21.2	14.8	43.24	49871	106000	56129	2.12	42000	74000	32000	1.76



Frontline Demonstration (FLD) on BBF Planter

FLD on Other Enterprise: Kitchen Gardening

Nutrition garden components	Thematic area	Area (sq mt)	No. of Farmer	No. of Units	Yield (Kg)- supply of vegetables, fruits, etc from KG in the year		% change in yield	Household size (number)		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demonstration	Check*		Demo	Check	Gross Cost	Gross Return/ Savings *	Net Return	BCR (R/C)	Gross Cost	Gross Return/ Savings *	Net Return	BCR (R/C)
Nutritional garden	Nutritional Security	Establishment of Nutritional Gardens for Enhancing Nutritional Security	50	50	589.70	160	72.86	4	4	15,700	35,340	19,640	2.25	4,300	9600	5,300	1.23
Nutritional farming	Nutritional food security	Demonstration on Farming System for Nutrition	50	50	1059	800	24.45	4	4	25,400	69,240	43,840	2.72	29,345	56,000	26,655	1.90



FLD on Nutrition Garden



FLD on Farming System for Nutrition

FLD on Other enterprises

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Processing Technologies	Spiral Grader-Cleaner	25	Capacity, q/h	3.0	0.25
			Labour requirement, man-h/q	0.67	4
			Impurities removed, kg/q	3.2	4.1
			Cost of operation, Rs. /q	37.5	75
			Net benefit at market, Rs. /q	122	50
Natural Resource Management	Borewell Recharge	10	Ground Water Depth, Meters	37.8	41.1



Frontline Demonstration (FLD) on Spiral Grader-Cleaner



Frontline Demonstration (FLD) on Borewell Recharge

3.4. Training Programmes (Online programmes if any should be included under On Campus category)

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems	1	246	84	330	64	49	113	310	133	443
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	1	486	128	614	56	29	85	542	157	699
Soil & water conservation	1	24	4	28	2	0	2	26	4	30
Integrated nutrient management										
Production of organic inputs										
Others (pl. specify)										
Total	3	756	216	972	122	78	200	878	294	1172
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	1	122	15	137	28	5	33	150	20	170
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)	1	122	15	137	28	5	33	150	20	170
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)										
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (pl specify)										
Total (c)										
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										

Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
Grand Total (a to g)	1	122	15	137	28	5	33	150	20	170
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management										
Poultry Management	2	39	2	41	0	0	0	39	2	41
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management										
Feed & fodder technology	1	9	1	10	0	0	0	9	1	10
Production of quality animal products										
Others (pl specify)	1	0	16	16	0	14	14	0	30	30
Total	4	48	19	67	0	14	14	48	33	81
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										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	6	26	83	109	1	40	41	27	123	150
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)	4	152	24	176	23	8	31	175	32	207
Total	10	178	107	285	24	48	72	202	155	357
VI Agril. Engineering										
Farm Machinery and its maintenance	01	38	4	42	2	1	3	40	5	45
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	01	27	0	27	6	0	6	33	0	33
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	02	65	4	69	8	1	9	73	5	78
VII Plant Protection										
Integrated Pest Management	1	49	6	55	5	0	5	54	6	60
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (Natural Farming)	3	265	4	269	36	0	36	301	4	305
Total	4	314	10	324	41	0	41	355	10	365
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										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	1	0	0	0	12	14	26	12	14	26
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total	1	0	0	0	12	14	26	12	14	26
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	25	1483	371	1854	235	160	395	1718	531	2249

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems	1	10	6	16	14	8	22	24	14	38
Crop Diversification	1	14	4	18	2	0	2	16	4	20
Integrated Farming	1	55	0	55	3	0	3	58	0	58
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	1	82	0	82	6	0	6	88	0	88
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)	1	110	0	110	14	0	14	124	0	124
Total	5	271	10	281	39	8	47	310	18	328

II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	2	14	96	110				14	96	110
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables	1	12		12				12		12
Grading and standardization	1	68	42	110	42	18	60	110	60	170
Protective cultivation										
Others (pl specify)	1	7		7	3		3	10		10
Total (a)	5	101	138	239	45	18	63	146	156	302
b) Fruits										
Training and Pruning	1	11		11	4			15		15
Layout and Management of Orchards										
Cultivation of Fruit	1	78	8	86	22		22	100	8	108
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)	2	89	8	97	26		22	115	8	123
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (Cultivation of china aster)	1	5	6	11		4	4	5	10	15
Total (c)	1	5	6	11		4	4	5	10	15
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
Grand Total (a to g)	8	195	152	347	71	22	89	266	174	440
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management	1	29	0	29	3	0	3	32	0	32
Poultry Management										
Piggery Management										
Rabbit Management										

Animal Nutrition Management	2	38	0	38	0	0	0	38	0	38
Disease Management										
Feed & fodder technology	2	50	0	50	2	0	2	52	0	52
Production of quality animal products										
Others (pl specify)										
Total	5	117	0	117	5	0	5	122	0	122
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	0	48	48	0	17	17	0	65	65
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	1	0	17	17	0	1	1	0	18	18
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	3	0	65	65	0	18	18	0	83	83
VI Agril. Engineering										
Farm Machinery and its maintenance	1	28	3	31	2	1	3	30	4	34
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	69	10	79	18	0	18	87	10	97
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	2	97	13	110	20	1	21	117	14	131
VII Plant Protection										
Integrated Pest Management	2	36	0	36	0	0	0	36	0	36
Integrated Disease Management	2	38	0	38	0	0	0	38	0	38
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	4	74	0	74	0	0	0	74	0	74
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										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	2	0	37	37	0	19	19	0	56	56
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										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total	2	0	37	37	0	19	19	0	56	56
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	29	754	277	1031	135	68	199	889	345	1234

Farmers' Training including sponsored training programmes – CONSOLIDATED (On + Off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems	2	256	90	346	78	57	135	334	147	481
Crop Diversification	1	14	4	18	2	0	2	16	4	20
Integrated Farming	1	55	0	55	3	0	3	58	0	58
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	2	568	128	696	62	29	91	630	157	787
Soil & water conservation	1	24	4	28	2	0	2	26	4	30
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)	1	110	0	110	14	0	14	124	0	124
Total	8	1027	226	1253	161	86	247	1188	312	1500
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	3	136	111	237	28	5	33	164	116	280
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables	1	12		12				12		12
Grading and standardization	1	68	42	110	42	18	60	110	60	170
Protective cultivation										
Others (pl specify)	1	7		7	3		3	10		10
Total (a)	6	223	153	376	73	23	96	296	176	472
b) Fruits										
Training and Pruning	1	11		11	4		4	15		15
Layout and Management of Orchards										
Cultivation of Fruit	1	78	8	86	22		22	100	8	108
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)										
Total (b)	2	89	8	97	26		26	115	8	123

c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (China Aster)	1	5	6	11		4	4	5	10	15
Total (c)	1	5	6	11		4	4	5	10	15
d) Plantation crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (d)										
e) Tuber crops										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (e)										
f) Spices										
Production and Management technology										
Processing and value addition										
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
Grand Total (a to g)	9	317	167	484	99	27	126	416	194	610
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management	1	29	0	29	3	0	3	32	0	32
Poultry Management	2	39	2	41	0	0	0	39	2	41
Piggery Management										
Rabbit Management										
Animal Nutrition Management	2	38	0	38	0	0	0	38	0	38
Disease Management										
Feed & fodder technology	3	59	1	60	2	0	2	61	1	62
Production of quality animal products										
Others (pl specify)	1	0	16	16	0	14	14	0	30	30
Total	9	165	19	184	5	14	19	170	33	203
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	2	0	48	48	0	17	17	0	65	65
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	1	0	17	17	0	1	1	0	18	18
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	6	26	83	109	1	40	41	27	123	150
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										

Others (pl specify) Organic Farming	4	152	24	176	23	8	31	175	32	207
Total	13	178	172	350	24	66	90	202	238	440
VI Agril. Engineering										
Farm Machinery and its maintenance	02	66	7	73	4	2	6	70	9	79
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	02	96	10	106	24	0	24	120	10	130
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	4	162	17	179	28	2	30	190	19	209
VII Plant Protection										
Integrated Pest Management	3	85	6	91	5	0	5	90	6	96
Integrated Disease Management	2	38	0	38	0	0	0	38	0	38
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (Natural Farming)	3	265	4	269	36	0	36	301	4	305
Total	8	388	10	398	41	0	41	429	10	439
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										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production	2	0	37	37	0	19	19	0	56	56
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										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total	2	0	37	37	0	19	19	0	56	56
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs	1	0	0	0	12	14	26	12	14	26
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total	1	0	0	0	12	14	26	12	14	26
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										

Others (pl specify)										
Total										
GRAND TOTAL	54	2237	648	2885	370	228	598	2607	876	3483

Training for Rural Youths including sponsored training programmes (On campus)

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs	01	22	0	22	03	0	03	25	0	25
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production										
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	01	22	0	22	03	0	03	25	0	25

Training for Rural Youths including sponsored training programmes (Off campus)

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										

Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production	1	24	1	25	0	0	0	24	1	25
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										
Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	1	24	1	25	0	0	0	24	1	25

Training for Rural Youths including sponsored training programmes – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs	01	22	0	22	03	0	03	25	0	25
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements										
Value addition										
Small scale processing										
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying										
Sheep and goat rearing										
Quail farming										
Piggery										
Rabbit farming										
Poultry production	1	24	1	25	0	0	0	24	1	25
Ornamental fisheries										
Composite fish culture										
Freshwater prawn culture										

Shrimp farming										
Pearl culture										
Cold water fisheries										
Fish harvest and processing technology										
Fry and fingerling rearing										
Any other (pl. specify)										
TOTAL	2	46	1	47	3	0	3	49	1	50

Training programmes for Extension Personnel including sponsored training (on campus)

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	55	2	57	0	0	0	55	2	57
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	1	30	0	30	2	2	4	32	2	34
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	1	17	2	19	10	1	11	27	3	30
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (RGSA Scheme)	25	476	294	770	18	16	34	494	310	804
TOTAL	29	578	298	876	30	19	49	608	317	925

Training programmes for Extension Personnel including sponsored training (off campus)

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	1	130	19	149	41	11	52	171	30	201
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	1	130	19	149	41	11	52	171	30	201

Training programmes for Extension Personnel including sponsored training – CONSOLIDATED (On + Off campus)

Area of training	No. of	No. of Participants
------------------	--------	---------------------

	Course s	General/ Others			SC/ST			Grand Total		
		Mal e	Femal e	Tota l	Mal e	Femal e	Tota l	Mal e	Femal e	Tota l
Productivity enhancement in field crops	2	55	2	57	-	-	-	55	2	57
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs	1	30	0	30	2	2	4	32	2	34
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	2	147	21	168	51	12	63	198	33	231
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (RGSA Scheme)	25	476	294	770	18	16	34	494	310	804
TOTAL	30	708	317	1025	71	30	101	779	347	1126

Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops	2	55	2	57	0	0	0	55	2	57
Commercial production of vegetables	2	190	57	247	70	23	93	260	80	340
Production and value addition										
Fruit Plants	1	78	8	86	22		22	100	8	108
Ornamental plants										
Spices crops										
Soil health and fertility management										
Production of Inputs at site										
Methods of protective cultivation										
Others (pl. specify)										
Total	5	323	67	390	92	23	115	415	90	505
Post harvest technology and value addition										
Processing and value addition										
Others (pl. specify)										
Total										
Farm machinery										
Farm machinery, tools and implements										
Others (pl. specify)										
Total										
Livestock and fisheries										
Livestock production and management										
Animal Nutrition Management	02	27	1	28	0	0	0	27	1	28
Animal Disease Management										
Fisheries Nutrition										
Fisheries Management										
Others (Backyard poultry farmer)	1	24	1	25	0	0	0	24	1	25
Total	03	51	2	53	0	0	0	51	2	53
Home Science										
Household nutritional security										
Economic empowerment of women										
Drudgery reduction of women										
Others (Processing & value Addition)			83	109	1	40	41	27	123	150

	6	26								
Organic Farming	4	152	24	176	23	8	31	175	32	207
Total	10	178	107	285	24	48	72	202	155	357
Agricultural Extension										
Capacity Building and Group Dynamics										
Others (Natural Farming)	3	265	4	269	36	0	36	301	4	305
RGSA Scheme	25	476	294	770	18	16	34	494	310	804
Total	28	741	298	1039	54	16	70	795	314	1109
GRAND TOTAL	46	1293	474	1767	170	87	257	1463	561	2024

Details of vocational training programmes carried out by KVKs for rural youth (4 or more days)

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture										
Commercial fruit production										
Commercial vegetable production										
Integrated crop management										
Organic farming	01	22	0	22	03	0	03	25	0	25
Others (pl. specify)										
Total	01	22	0	22	03	0	03	25	0	25
Post harvest technology and value addition										
Value addition										
Others (pl. specify)										
Total										
Livestock and fisheries										
Dairy farming										
Composite fish culture										
Sheep and goat rearing										
Piggery										
Poultry farming	1	24	1	25	0	0	0	24	1	25
Others (pl. specify)										
Total	1	24	1	25	0	0	0	24	1	25
Income generation activities										
Vermicomposting										
Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
Repair and maintenance of farm machinery and implements										
Rural Crafts										
Seed production										
Sericulture										
Mushroom cultivation										
Nursery, grafting etc.										
Tailoring, stitching, embroidery, dying etc.										
Agril. para-workers, para-vet training										
Others (pl. specify)										
Total										
Agricultural Extension										
Capacity building and group dynamics										
Others (pl. specify)										
Total										
Grand Total	2	46	1	47	3	0	3	49	1	50

Photographs of training Programme





3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services (Other than KMAS)	32	15235	0	15235
Diagnostic visits	8	78	11	89
Field Day	4	154	2	156
Group discussions	17	367	24	391
Kisan Ghosthi	0	0	0	0
Film Show	4	238	80	318
Self -help groups	3	35	1	36
Kisan Mela	1	125	3	128
Exhibition	2	799	25	824
Scientists' visit to farmers field	36	154	20	174
Plant/animal health camps	2	36	0	36
Farm Science Club	0	0	0	0
Ex-trainees Sammelan	0	0	0	0
Farmers' seminar/workshop	2	20	110	130
Method Demonstrations	16	985	20	1005
Celebration of important days	5	466	5	471
Special day celebration	1	0	37	37
Exposure visits	4	42	13	55
Others				
Lecture delivered	32	1877	731	2608
Web casting PM kisan Samman Nidhi	1	60	5	65
Viksit Bharat Sankalp Yatra	2	275	25	300
Farmers visit to KVK	8	275	0	275
Total	180	21221	1112	22333

Photographs of Extension Programmes



Field Day on Pigeonpea BDN-711 under CFLD at village Murdhav 18.12.2023



Field day on Bengalgram Phule Vikram under CFLD village Kharosa 17.02.2023



Mr BP Prithviraj ,Collector Latur visit to KVK Latur



Participation in Vikshit Bharat Sankalp Yatra



Webcasting programme PM Kisan Sanman yojana



Celebration of World Environment Day



Lecture delivered on BBF planter



Participation in Krishi Mahotsav 2023



Demonstration on Drone Technology



Dignostic Visit to soybean field



Lecture delivered on GAP in horticulture crops



Method demonstration on token planter



Vaccination camp on goat at village Itti

Details of other extension programmes:

Particulars	Number
Electronic Media (CD./DVD)	-
Extension Literature	5
Newspaper coverage	8
Popular articles	8
Radio Talks	-
TV Talks	-
Animal health camps (Number of animals treated)	200
Social Media (No. of platforms Used)	4
Others (Abstract)	6
Total	231

3.6 Online activities during year 2023

S. No.	Activity Type	Mode of implementation (Video conferencing / Audio Conferencing / Facebook Live / YouTube Live/ Zoom/ Google meet/ Webex etc.)	Title of Program	No. of Programmes	No. of Participants/ Views
A	Farmers training				
1		-	-	-	-
	Total				
B	Farmers scientist's interaction programme	-			
1		-	-	-	-
	Total				
C	Farmers seminars	-	-	-	-
1					
	Total				
D	Expert lectures	-	-	-	-
1					
	Total				
E	Any other (Pl. specify)	-	-	-	-
1					
	Total				
	Grand Total (A+B+C+D+E)	-	-	-	-

3.7. PRODUCTION OF SEED/PLANTING MATERIAL AND BIO-PRODUCTS

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed (q)	Value (Rs)	Number of farmers
Cereals						
	-	-	-	-	-	-
Oilseeds						
	Soybean	DS-228,KDS-726,KDS-753,MAUS-158,MAUS-162,MAUS-612	-	381.16	4596789	980
Pulses						
	-	-	-	-	-	-
Commercial crops						
	-	-	-	-	-	-
Vegetables						
	-	-	-	-	-	-
Flower crops						
	-	-	-	-	-	-
Spices						
	-	-	-	-	-	-
Fodder crop seeds	Lucerne	RL -8	-	0.625	5000	03
Fiber crops						
	-	-	-	-	-	-
Forest Species	-	-	-	-	-	-
Others	-	-	-	-	-	-
Total				381.785	4601789	983

Production of planting materials by the KVK

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Commercial						
Vegetable seedlings						
Fruits	Mango	Kesar	-	4018	321440	111
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings	Napier	Super Napier (Pakchong-1)	Hybrid Napier-	8400	6300	12
Forest Species						
Others						
Total				12418	327740	123

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg/Lit		
Bio Fertilizers	Rhizobium	455.75	182300	161
	PSB	444.75	177900	158
Bio-fungicide	Trichoderma viridae	526	105200	102
Total		1426.5	465400	421

Production of livestock materials

Particulars of Live stock	Name of the animal / bird / aquatics	Name of the breed	Type of Produce	unit (no./ lit/kg)	Quantity	Value (Rs.)	No. of Farmers
Dairy animals							
Cows							
Buffaloes							
Calves							
Others (Goat)	Goat	Osmanabadi	kids	Number	15	80265	7
Poultry							
Broilers							
Layers							
Duals (broiler and layer)	Improved poultry birds	Vanaraja, Shrinidhi, Vanashree, Nicobari	4-8 wks birds	Number	1975	255250	56
Japanese Quail							
Turkey							
Emu							
Ducks							
Others (Pl. specify)							
Piggery							
Piglet							
Others (Pl.specify)							
Fisheries							
Indian carp							
Exotic carp							
Others (Pl. specify)							
Total					1990	335515	63

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

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

B. Literature developed/published

Item	Citation/ Title	Authors name	Number
Research papers (Give Citation)	-	-	-
Technical reports	-	-	-
News letters	-	-	-
Technical bulletins	-	-	-
Popular articles	Niyojan sitaphal lagvadiche	Dr. P.H. Ulemale and Dr. S.S. Digrase	1
	Planning of soil, water conservation works	Dr.S.P.Shinde, Mr.P.D.Matai	1
	Soil, loose stone embankment, gabion embankment for water retention	Dr.S.P.Shinde, Mr.P.D.Matai	1
	Percolation ponds for water conservation	Dr.S.P.Shinde, Mr.P.D.Matai	1
	study of the catchment area	Dr.S.P.Shinde, Mr.P.D.Matai	1
	Land wise watershed planning	Dr.S.P.Shinde, Mr.P.D.Matai	1
	Planning of well, tube well refilling	Dr.S.P.Shinde, Mr.P.D.Matai	1
	Watershed Study and Planning	Dr.S.P.Shinde, Mr.P.D.Matai	1
	BBF techniques for soybean yield enhancement	Dr.S.P.Shinde, Mr.P.D.Matai	1
Extension literature	Drone Technology	Dr.S.P.Shinde, Mr.P.D.Matai, Dr.S.S.Digrase	500
	Openwell and Borewell Recharge	Dr.S.P.Shinde, Mr.P.D.Matai, Dr.S.S.Digrase	500
	Different Varieties of Soybean	Mr.P.D.Matai, Dr.S.S.Digrase	500
	Village level climate risk management committee	Mr.P.D.Matai, Dr. S P Shinde and Dr.S.S.Digrase	500
	Farm management in climate change	Mr.P.D.Matai, Dr. S P Shinde and Dr.S.S.Digrase	500
Others (Abstract)	Effect of different bio-organics on growth and yield of acid lime	Dr. P.H. Ulemale, Dr. S.S. Digrase and Dr. S.G. Bharad	1
	Effect of different source of nutrients on biological properties of soil in acid lime orchard	Dr. P.H. Ulemale, Dr. S.G. Bharad and Dr. S.S. Digrase	1
	Role of nutritional gardens on food security & economic upliftment	Anjali Gunjal, Dr. S.S. Digrase and Dr. P.H. Ulemale	1
	Promotion of millet production and consumption in draught prone Latur district	Gunjal A. A., S. S. Digrase and P. D.Matai	1
	Productivity improvement of backyard poultry farming in Latur district through improved poultry birds	Dr. Sharad Bhagwat Salunke and Dr. Sachin Swarooprao Digrase	1
TOTAL			2514

C. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
	-	-	-

D. Details of Social Media Platforms Created / Used

S. No.	Type of social media platform	No of events (uploaded video/post/story etc.	Title of social media	Number of Followers/ Subscribers
1	YouTube Channel (no of video uploaded)	4	Youtube	33
2	Facebook page/ Account (no of Post)	7	Facebook	1960
3	Mobile Apps			
4	WhatsApp groups	28	WhatsApp	3235
5	Twitter Account			
6	Any other (Pl. Specify)			

1. Tirupati Chawki Silkworm Rearing Centre - Role Model for Young Rural Entrepreneur

Brief introduction:

The Agri-entrepreneur, Mr. Akash Arun Jadhav, is a 27 year old young educated farmer, Bachelor of Engineering Mechanical by qualification from village Gadhwad of Latur Taluka. He started with mulberry plantation and silkworm rearing in his land with family support in year 2020. Success came his way and he turned to supply the chawki silkworms on commercial scale. He was motivated while working at Chawki Rearing Centre at Hindapur State Telanganathat gave him confidence to set up his ownchawki centre with support



From State Sericulture department. In 2019, After 90 Days training at APSSRDI, Hindupur, he is a registered/ licensed Commercial Sericulture Rearer and has set up well-equipped TirupatiChawki Rearing Centre at Village Gadhwad, Tq. & Dist. Latur with using all advanced mechanized technologies in his farm and got encouraging results from the first crop.

Interventions:

Besides his interest, dedication and technical guidance from the Scientists and experts from KVK, Latur and Department of Sericulture motivated him and led to success. Before adopting sericulture, He participated 10 days training at Central Sericulture Research and Training Institute, Mysore and 90 days training at Andhra Pradesh State Sericulture Research and Development Institute, Hindupur and learned the techniques of silkworm rearing. He has adopted good quality and high yielding mulberry variety, V-1 with all latest equipment viz., humidifiers, heaters, leaf chopping machines, silkworm egg incubation room, leaf preservation chambers and rearing technology of young silkworms.

He was the first entrepreneur to utilize Artificial Diet for rearing of chawki silkworms. He has set up a mulberry garden of 2.5 acres with latest variety of V-1. He has adopted shoot rearing of silkworm rearing, latest models of humidifiers having minimum consumption of water, heaters, tractor, drip irrigation, power sprayers. He has also set up a mulberry garden with wider spacing 3' x 8' to harvest better quality of mulberry leaves. He has gone an extra mile in making the silkworm rearing house of the size, 30' x 100' x 18' (width x length x height) whereas most of the sericulture farmers go for the rearing house of size 22'x50' x 12' to 14' only. Though, the construction of such rearing house costs more but it has been a major factor in maintaining the proper temperature, good ventilation inside the rearing house, fully mechanization for reducing labour dependency and ultimately in harvesting good cocoon crop.

Output:

Latur taluka is remote drought prone area, he emerged as a successful entrepreneur by adopting innovative ideas and new techniques of sericulture. Since beginning (2018), the Jadhav CRC has become trusted brand name and a synonym of good silkworm cocoon crop with higher productivity among the sericulture farmers. He started with the rearing of 22000 bivoltine laying's during 2020-21 and now rearing in 40000 of bivoltine laying's to supply the young silkworms to sericulturist of the Latur, Beed, Osmanabad and Bidar district of Karanataka State.

Outcomes:

The TirupatiChawki Rearing Centre distributes around bivoltine hybrids chawki worms of 74thousanddfls to farmers across Latur, Beed, Osmanabad and Bidar district of Karnataka Statecovering about 143 sericulture farmers. The farmers rearing chawki worms supplied by the Chawki Rearing Centre have recorded an average cocoon yield of 65-75kg/100 dfls. The Chawki Rearing Centre also supports farmers with technical assistance through consistent crop monitoring at farmers' level. The CRC operations during 2023 have an annual turnover of Rs.7.05 lakhs with net profits of about Rs. 5.20 lakhs and from rearing of 850dfls total 738 kg cocoon produced gaining 3.30 Lakh gross profit.

Tirupati Chawki Rearing Centre –Young Silkworm Statistics

Year	Distribution of Chawki Larvae (dfls)	Farmers Covered	Cocoon Yield/100 dfls (kg)	Annual turnover (Rs.)	Net profits (Rs.)
2020-21	11000	32	66.3	3,30000.00	16,5,000.00
2021-22	28000	46	69.8	8,40,000.00	5,80,000.00
2022-23	35000	102	66.7	10,50,000.00	7,05,000.00
Total	74,000	180	-	22,20,000.00	12,85,000.00

Detail crop wise Cocoon Production 2023

Crop No.	No. of Dfls Brushed	Cocoons harvested (Kg.)	Rate (Rs. /kg)	Amount realized (Rs.)
1	200 (B.V)	168	410	68,880.00
2	200 (B.V)	155	450	69,750.00
3	250 (B.V)	225	420	94,500.00
4	200 (B.V)	190	510	96,900.00
Total	850	738	-	3,30,030.00

Impact: Social economic

Also, a result of his involvement and adoption of latest technologies, he has recorded high cocoon productivity of more than 100 kg of cocoons per 100 DFLs, as against an average yield of 75 kg cocoon per 100 DFLs. It is a great achievement of a new entrepreneur when a few traditional sericulture farmers harvest such a good cocoon crop. The difference is due to quality chawki, better mulberry leaf quality and rearing management.

Thus, he has been very helpful and successful in transfer of latest technology to farmers. The income and social standard of living of his customer farmers has greatly improved

Horizontal spread:

He not only supplies the young silk worm through Chawki Rearing Centre to sericulture farmers but also visits their rearing house to monitor and provide technical guidance for improvement in cocoon productivity. He also participates in various farmers' meets in Latur, Beed

and Osmanabad districts to address and guide the sericulture farmers to adopt new technologies to harvest higher yield.

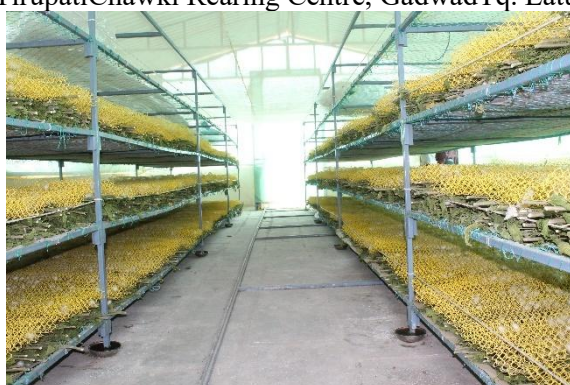
Good Action Photographs



TirupatiChawki Rearing Centre, GadwadTq. Latur



Chawki Silkorm rearing racks at CRS



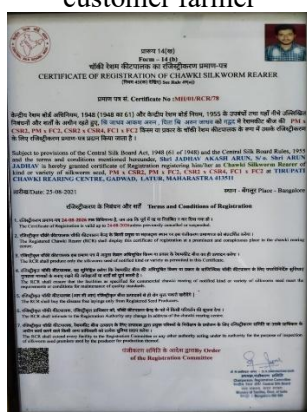
Bivoltine Silkorm Rearing Shade



Chawki silkworm larvae ready to supply for customer farmer



V-1 Mulberry crop stand at CRS



Certificate of Registration of Chawki Silkorm Rearer

2. Vermicomposting: A Sustainable Successful Agro-enterprise established by Women_Farmers

Situation analysis/Problem statement:

Krishi vigyan Kendra,Latur working in the Latur district. During working in this area it was observed that due to small landholding & less production many of the farm families faces financial problems for meeting the daily requirements. In recent years, demand of organic inputs for crop production has increased due to the growing concern on negative impact of chemical fertilizers on soil health & human health. With the motive to train the women farmers on vermicomposting and vermiculture production for providing organic manure for own farm and providing a source of income.

Plan, Implement and Support:

KVK, Latur, since its establishment organized self-employment activities for upliftment of socio-economic standard of the farm families. One of the initiatives is promotion of low cost vermicomposting unit to be established at women farmers' field. In convergence with ATMA demonstrations on Integrated Farming System were conducted through which farm women motivated & supported by Vermicompost Unit. At the same time renowned NGO Swayam Shikshan Prayog is working in the district for livelihood improvement of the farm families. KVK conducted several training programmes for the field facilitators of same NGO. Women farmers and farmers from the operational villages under Paramparagat Krishi Vikas Yojana, Organic Farming System, STRY (Skill Training programmes for Rural Youths), Integrated Farming System, and Farming System for Nutrition were trained on vermicomposting & vermiculture production.

Table no 1: No of trainings conducted on vermicompost & Vermiculture production

Sr no	Year	No of training	No of Client	No of extension activities	No of Client
1.	Year 2017-18	04	PF:102	01	77
2.	Year 2018-19	02	EF: 63	03	189
3.	Year 2019-20	03	PF:78	02	143
4.	Year 2020-21	03	PF : 81	02	49
5.	Year 2021-22	02	PF: 32	03	121
6.	Year 2022-23	06	PF: 263	02	145

Outcome:

The technology was adopted among the farm women of 10 villages and was found suitable and very much accepted by the women farmers. These women farmers utilized produced vermicompost in their own farm which in turn reduces the cost of purchasing chemical fertilizers for crop production. The excess production produced by the women farmers sold to other villager farmers.

Table no 2: No of Vermicompost units established at different villages

Sr no	Name of the village Tq Latur	Name of the tehsil	No of units established
1	Bhoisamudraga	Latur	93
2	Gangapur	Latur	31
3	Akarwai	Latur	50
4	Mahapur	Latur	50
5	Borwati	Latur	8
6	Fattepur	Ausa	45
7	Talani	Ausa	14
8	Nagarsoga	Ausa	12
9	Yakatpur	Ausa	09
10	Wanwada	Ausa	05
11	Borfal	Ausa	25
12	Korangala	Ausa	12
13	Jawalga	Renapur	42
14	Korangala	Renapur	35
Total:			431

Output:

At present a total 431 women farmers & farmers are involved in vermicompost production as below mentioned table. A woman farmers from different villages are well acquainted with this low cost vermicompost technology and created an enterprise. They are now able to harvest 9 to 10 quintals of vermicompost from each vermibeds in a batch. The each woman farmer sold average 90 to 100 quintols of vermicompost costing Rs 1500/- per quintal while 15 to 20 kg vermiculture costing Rs 500/- from last 3 to 4 years.

Table no 3:

Cost: benefit ratio of vermicompost (Unit size: vermibeds of size 12’x4’x2’)

Cost of vermicompost production (Rs) per annum	Gross Income(Rs) Per annum	Net Income(Rs) Per annum	B.C. Ratio	Minimum 2 vermibeds are working & 10 q/unit are producing total compost produced 100 qtl per annum.
55,000/-	1,50,000/-	95,000/-	2.81	

Impact:

- These women farmers adopted vermicompost production, enhanced their income & livelihood status, improved soil health.

- These women earning Rs 95,000/- as an additional income from two vermibeds unit only. At the same time women farmers started cultivation of vegetables in a organic way for family purpose & for sale. This also generates regular revenue for them.
- Vermicompost production with locally available material provides an opportunity of self employment for the women farmers through direct marketing of vermicompost from producer to consumer.

Photographs



Training on Vermicompost & vermiculture production



Training on Vermicompost & vermiculture production



Training on Vermicompost & vermiculture production





Vermicompost Units at farmers field

3. Economic stability through goat farming



Situation Analysis/Problem Statement:

Mr. Sharad Ramrao Salunke, a young farmer from Khandapur, Taluka district Latur, aged 34, discontinued his education after completing 10th grade due to lack of interest in studies. He started farming with his father and elder brother. With a family of 10 members, they own 25 acres of land where they cultivate various crops including sugarcane, vegetables, soybean, pigeon pea, etc. They decided to venture into animal husbandry alongside farming to utilize the available resources more effectively. Initially, they bought 10 goats and 1 buck to start their goat farming business. However, managing the growing number of goats became challenging as they faced issues like low expected growth in goat numbers, increased mortality rates of kids, prolonged time taken for kids to become saleable, and various diseases affecting both goats and kids, leading to losses in the business.

Plan, Implement and Support:

Seeking guidance, he contacted the Krishi Vigyan Kendra Latur where he received training in goat farming in 2017-18. With the knowledge gained and advice from experts, he made changes in his goat farming practices. He introduced mixed fodder cultivation such as Napier grass, sorghum, and maize for goat feed. Additionally, he used crop residues of soybean and pigeon pea as dry fodder. He incorporated grains produced from his farm into the diet. To optimize time and resources, he adopted semi-intensive farming practices, allowing goats 2-3 hrs grazing. To combat mineral deficiency, he installed mineral lick blocks in the goat enclosure. Vaccination was implemented regularly to prevent contagious diseases among goats and kids. These changes improved the overall health and growth of goats, resulting in increased productivity.

Activities Implemented by KVK to Increase Knowledge about Technologies:

Trainings: Mr. Salunke participated in vocational training sessions on goat farming organized by KVK. Additionally, he regularly attends training programs conducted by KVK to enhance his knowledge and skills in goat farming.

Demonstrations: KVK organized various demonstrations on his farm, showcasing the importance and effectiveness of different technologies. Through these demonstrations, Mr. Salunkhe gained practical insights into the implementation of modern farming techniques.

Based on recommendations from KVK, he introduced improved fodder crops such as hybrid Napier varieties to enhance the nutritional quality of feed for his goats. He also adopted the use of mineral lick bricks to supplement the mineral requirements of his goats. Additionally, KVK's guidance led him to implement kid starter ration and silage making practices for better goat nutrition.

Field Visits: KVK staff conducted regular visits to his farm, addressing his queries and providing solutions to various challenges encountered in goat farming. These field visits facilitated practical problem-solving and ensured effective implementation of recommended technologies.

Output:

As a result of implementing the suggested changes, he witnessed significant improvements in his goat farming business. He now manages a herd of 80 goats, with an average sale of 35-40 kids every six months. The average selling price of kids ranges from Rs. 6000 to Rs. 8000 per kid. The annual expenditure for goat farming amounts to Rs. 1.5 lakhs, while the annual income from kid sales ranges from Rs. 4.2 to 4.8 lakhs. This has led to a surplus income of Rs. 2.7 to 3.3 lakhs annually.

SN	Parameters	Goat farming before KVK interventions	Goat farming After KVK interventions
1	Kids growth rate	70 gms per day	95 gms day
2	kids mortality	28 %	12 %
3	Kids available for sale per six months	30-35	35-40
4	Annual Expenditure	1.75 lakh	1.5 lakh
5	Annual gross income	3.8	4.5 lakh

Outcome:

Through his efforts in goat farming, Mr. Salunkhe has not only stabilized his farm income but also created a successful business model that has inspired other farmers in his village and neighboring areas. By utilizing scientific methods and modern practices, he has improved the productivity and profitability of his farm, contributing to his socio-economic status and garnering respect in the community.

Impact:

Improved Livelihood: Mr. Salunkhe's successful goat farming venture has significantly improved his livelihood and financial stability.

Knowledge Transfer: His success has inspired other farmers to adopt modern farming practices, leading to knowledge transfer and adoption of innovative techniques in the community.

Economic Empowerment: The surplus income generated from goat farming has empowered him economically, allowing him to invest in his family's education and farm infrastructure.

Sustainable Agriculture: By integrating goat farming with crop cultivation, he has embraced a sustainable farming model that maximizes resource utilization and minimizes environmental impact.

Social Recognition: Mr. Salunke's achievements in goat farming have earned him recognition and respect within the community, elevating his social status and influence among his peers.

Photographs



FLD on kid starter ration and mineral lick bricks on his farm



Field visits to his farm



Planting of improve hybrid Napier fodder crops



Mr. Salunke with goats



Visit of Then Director, ATARI, Pune Dr. Lakhan Sing sir to his goat farm

4.Mechanized harvesting in Sugarcane

Name of the Enterprise / Crop: Farm mechanization (Sugarcane Harvester)

Name of the Farmer: Mr. Santosh Pralhad Katare

Address: At Post. Borgaon Tq. Ausa, Dist. Latur

Situation Analysis/Problem Statement:

The farmer, initially a resourceful individual with a Sugarcane Harvester, faced challenges in manual harvesting due to labour shortages. This led to non-availability at the Sugar factory, causing significant losses to the cooperative sugar factory and its farmers. The farmer struggled to optimize income from the harvester due to a lack of knowledge on operation, maintenance, and sugarcane farming. Insufficient linkage with other farmers, private agencies, and the Sugar Factory further hindered the smooth operation of the machine.

Plan, Implement, and Support:

Plan: The farmer, a member of Manjara Shetkari Co-Operative Sugar Factory, Latur, recognized the need for harvesting mechanization. The Chairman initiated the project, addressing the acute scarcity of manual labour. In 2022-23, with support from the sugar factory, the farmer decided to adopt the Case New Holland A 4000 Sugar cane Harvesters.

Implement: Krishi Vigyan Kendra (KVK) and Case New Holland collaborated to offer sugarcane harvesters after thorough analysis of local conditions. The focus was on educating farmers, entrepreneurs, and sugar factories on systematic plantation, proper unloading systems, and transportation methods. The sugar factory provided a work agreement and financial assistance, facilitating the implementation of the mechanical sugarcane harvester project.

Support: The project received support through skill-oriented training, field demonstrations, linkage with farmers and stakeholders, follow-ups, and the supply of extension literature.

Output and Outcome:

Output:

- Adoption of Case New Holland A 4000 Sugar cane Harvesters.
- Work agreement and financial assistance from the sugar factory.
- Skill-oriented training, field demonstrations, and education on mechanized harvesting.

Outcome:

Challenges Addressed:

- High profits from sugarcane.
- Acute shortage of labor.
- Continuous challenges to the sugar industry's survival due to labor scarcity.
- Increasing harvesting costs.

- Declining sugarcane yield from delayed harvesting.
- Cumbersome and time-consuming manual processes.

Benefits Realized:

- Consistent cane supply.
- Supply of more bottom nodes.
- 2-3 hours cut-to-crush time.
- Timely and economical harvesting.
- Reduced unloading time.
- Decreased load on crushing units.
- Improved sugar recovery levels.
- Expansion of cane acreage.

Harvesting Data Year-wise:

- 2022-23 – 12000
- 2023-24 – 12500

Financial Overview:

- Total Tonnage: 24,500 T in four working seasons.
- Harvesting Rate per Ton: Rs. 475/-
- Total Harvesting Business Turnover: Rs. 11,637,500/-
- Total Loan Component: Rs. 92 Lac.

Important Aspects:

- The harvester requires above 4 ft. row-to-row plantation
- Special unloading at Sugar factory through Tipper
- Improvement in exiting harvesting vehicle
- Direct through pass for harvester

How we effectively managed this

- The company team jointly with sugar factories, educated farmers & implemented 4-6 ft. plantation.
- This resulted in 80% plantation with increased per acre yield by 25%, benefitting the farmers.
- Sugar factories developed desired unloading system i.e. Tipper
- We also modified the transportation trailer with increased height by 5 ft.
- Sugar factory unloading billet cane without waiting or halting, which results in more harvesting

Impact

- Sugar factories & farmers are moving towards mechanization.
- Labour dependency of Sugar factory has come down.

- Total 24.70 MT cane harvesting has done with Case New Holland A4000 Sugar cane harvesters in Latur Area.
- Employment generated for more than 16 peoples.

Impact on other farmers

Now he has become a successful entrepreneur and become a role module for other farmers in the district and they are interested to purchase it as it saves time, labour and cost of harvesting.

Follow up action

Diagnostic field visit by Scientist and linkage with other farmers in and outside district.

Photographs



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

F. 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
-	-	-	-

5.1. Indicate the specific training need analysis tools/methodology followed for

A. Practicing Farmers

- a) Group discussion
- b) Field level observations

B. Rural Youth

- a) Group discussion
- b) Field level observations

C. In-service personnel

- a) as per demand

5.2. Indicate the methodology for identifying OFTs/FLDs

For OFT:

- i. Problem identified from Matrix
- ii. Field level observations
- iii. Farmer group discussions

For FLD:

- i. New variety/technology
- ii. Poor yield at farmers level
- iii. Existing cropping system
- iv. Farmers group discussions

5.3. Field activities

- i. Name of villages identified/adopted with block name (from which year) -
 - 1. Bhoisamdraga Tq. Latur – 2018-19
 - 2. Akharwai Tq. Latur- 2018-19
 - 3. Kadgaon Tq. Latur- 2018-19
- ii. No. of farm families selected per village : 150
- iii. No. of survey/PRA conducted : No
- iv. No. of technologies taken to the adopted villages : 22
- v. Name of the technologies found suitable by the farmers of the adopted villages: 12
- vi. Impact (production, income, employment, area/technological– horizontal/vertical)
- vii. Constraints if any in the continued application of these improved technologies

6. LINKAGES

A. Functional linkage with different organizations

Sl.No.	Name of organization	Nature of Linkage
1.	Maharashtra Cooperative Development Cooperation,Pune	Trainings on farmers organizations.
2	State Department of Agriculture, Latur	Conducting training programs, Joint field visit, Diagnostic team visit, Training Programs, Monthly district workshop, Field Visit.
3	VNMKV, Parbhani, College of Agri., Latur.	Joint diagnostic team visit, Supply of seed material
4	Dept. of Animal husbandry , Latur	Joint Implementation of vaccination camp, Conducting training programs and source for data regarding animals
5	MPKV, Rahuri	Source for seeds and new varieties seed materials
6	Mahabeej	Supply of seed material
7	CRIDA, Hyderabad	Source of improved technology in farm implements and machinery's & NICRA project
8	Oilseeds Research Station, Latur	Weather data collection, Seed source
9	BAIF, Pune	Source of fodder seeds
10	PD,ATMA,Latur	Conducting researchable activities, demonstrations, Participation in extension programs
11	PCI , Pune	As a source of pest monitoring devices
12	Project Directorate on poultry , Hyderabad	As a source of poultry breeds
13	YCMOU, Nashik	Agri. Study Center
14	MANAGE, Hyderabad	AC&ABC,AND Daesi course Nodal training institute
15	DOGR, Rajgurunagar, Pune	Demonstrations on newly released onion seeds
16	District Industrial Centre(DIC)	Technical advisor
17	Sericulture Development Officer,Latur	For conducting training programs
18	National Centre For Organic Farming,Gaziabad	Waste decomposing culture
19	SSP,Latur	Conduct trainings and extension activities
20	District Central Cooperative Bank,Latur	Scheme for entrepreneurial development and meetings
21	NHRDF,Nasik	As a source of onion seeds
22	DR PDKV,Akola	Source of mini dal mill
23	NIPHM,Hyderabad	Source of biofertilizer mother culture
24	DFR,Pune	Source of seeds
25	CIAE,Bhopal	Source of improved implements
26	District Innovative Council,Latur	Source of Agril.Technology Park
27	MCAER	Source of FSN programme
28	Dept. of Animal husbandry , Latur	Joint Implementation of vaccination camp, Conducting training programs and source for data regarding animals

29	Project Directorate on poultry , Hyderabad	As a source of poultry breeds
30	Tamil Nadu Veterinary and Animal Sciences University, chennai	Supply of Mastiguard kit
31	BAIF, Uralikanchan	Source of Fodder seed & planting material
32	MPKV, Rahuri	Source of fodder seed and planting material
33	Garuda Aerospace Pvt Ltd Chennai	Drone application in agriculture
34	District Innovative Council Latur	Agriculture Technology Park
35	New Holland Pvt Ltd	Training programmes and demonstrations
36	Shaktiman Pvt Ltd	Training programmes and demonstrations
37	YASHDA Pune	Training programmes

B. List special programmes undertaken by the KVK and operational now, which have been financed by State Govt./Other Agencies

Name of the scheme	Date/ Month of initiation	Funding agency(State Govt./Other Agencies)	Amount (Rs.)
POCRA Scheme under ATMA	2023	SAD Latur	17,399/-
SAP activity	March 2023	ICAR	24,390/-
RGSA Scheme	Jan- Dec 2023	YASHDA Pune	27,00,000/-

C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes/No

If yes, role of KVK in preparation of SREP of the district?

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	No of Farmers attending
01	Meetings	GB meetings under ATMA	2	-	4
02	Research projects				
03	Training programmes	Under POCRA Scheme on CHMS for CA	-	2	57
04	Demonstrations				
05	Extension Programmes				
	KisanMela	-	-	-	-
	Technology Week	-	-	-	-
	Exposure visit	-	-	-	-
	Exhibition	-	1	-	650
	Soil health camps	-	-	-	-

	Animal Health Campaigns	-	-	-	-
	Others (Pl. specify)	-	-	-	-
06	Publications	-	-	-	-
	Video Films	-	-	-	-
	Books	-	-	-	-
	Book chapter	-	-	-	-
		-	-	-	-
	Extension Literature	-	-	-	-
	Pamphlets	-	-	-	-
	Others (Pl. specify)	-	-	-	-
07	Other Activities (Pl. specify)	-	-	-	-
	Watershed approach	-	-	-	-
	Integrated Farm Development	-	-	-	-
	Agri-preneurs development	-	-	-	-

D. Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Constraints if any
	-	-	-	-	-

E. Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
	-	-	-	-	-

F. Details of linkage with RKVY

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
	-	-	-	-	-

G. Details of linkage with PKVY (Paramparagat Krishi Vikas Yojana)

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
	-	-	-	-	-

H. Details of linkage with NFSM

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

I. Details of linkage with SMAF (Sub-mission on Agroforestry)

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks

7. Convergence with other agencies and departments:**8. Innovative Farmers Meet**

Sl.No.	Particulars	Details
	Have you conducted Farm Innovators meet in your district?	No
	Brief report in this regard	

9. Farmers Field School (FFS)

S. No	Thematic area	Title of the FFS	Budget proposed in Rs.	Expenditure	Brief report

10.1. Technical Feedback of the farmers about the technologies demonstrated and assessed:**Agronomy:****OFT on assessment of different varieties of soybean (MAUS-612 and KDS-753)**

- Due to assessment awareness created about improved varieties of Soybean
- Increase in yield and economic returns by adoption of diseases resistant improved varieties.
- Awareness about use and importance of integrated crop and nutrient management approach.
- Availability and horizontal spread of good quality improved variety seed among farmers.

OFT on Assessment of Pre & Post emergence of Herbicide for Effective Weed Management in Sole Soybean

- Assessment on use of herbicide helps to reduce cost and time for weed management.
- Use of pre emergence herbicide improves vegetative growth of crop.
- Increase in yield and economic returns by integrated weed management practices.
- Adoption of new technologies helps to minimize labour shortage problem in agriculture.

OFT on assessment of Effect of soil test based fertilizer application with foliar feeding in rainfed condition

- Foliar application of fertilizers at critical growth stages helps to improve vegetative and reproductive growth of crop.
- Application of Multi micronutrients with RDF helps to fulfill nutrient deficiency.
- Demonstration and assessment with training helps to farmer to know about newly released technologies.

Horticulture**OFT on assessment of onion varieties- Bhima raj and Bhima shakti**

- Due to assessment awareness created about improved varieties of onion
- Increase in yield and economic returns by adoption of diseases resistant improved varieties.
- Well adopted in late Kharif season

Horticulture- FLD

- The foliar application of arka special vegetable micronutrients not only increase yield but also improve quality of fruit resulting get more price in market as compared to check
- Application of INM with pruning techniques help to increase yield and quality of fruit in custard apple and also help to minimize to pest and disease. Maintain canopy of plant resulting easy to carry out intercultural operations (spraying, harvesting, ploughing harrowing etc.)
- The variety arka kamini is high yielding variety while both varieties arka kamini and arka poornima having long vase life as compared to local variety

Veterinary

OFT on improved Poultry birds Vanashree and Nicobari for backyard poultry farming

- OFT started in the month of December 2023. Results awaited

OFT: Eco-friendly Herbal Acaricide to Control ecto parasite Infesting Livestock

- Reduced tick infestation
- Increased milk production
- Improvement in animal body condition

OFT: Assessment of New Napier fodder varieties for green fodder production

- Yield of super Napier fodder crop is more than the Yashwant and profuse growth after cutting.
- Animals like the fodder of the super Napier.
- No hairs on the leaf so easy for cutting and handling

FLD on use of lick bricks in goat

- Goats liked the taste of it and frequently licking
- Increased birth weight of kids
- Reduced mortality in kids
- Reduced post kidding problems in goat
- Increased daily weight gain in kids

FLD on Shrinidhi Poultry birds for backyard poultry farming

- FLD started in December 2023. Results awaited

FLD on integrated control of ticks on animal body

- Reduced tick infestation
- Easy and safe for application
- Increased milk production

Agricultural Engineering

OFT on Assessment of Kisan Drone for spraying crops

1. Drone spraying was suitable over all field conditions such as rainy, flood etc.
2. It is also time saving method and solved the problems of labour unavailability.
3. It provides Protection from health hazards issues.

4. Highly efficient, Accurate and consistent application.

OFT on Assessment of Manual Operated Precision Rotary Dibbler (Token Yantra)

1. By using Precision Rotary Dibbler (Token Yantra) the yield of crop increased by 20-25% as compared to Bullock drawn tiffan.
2. Also seed rate was reduced to 40-45% which intern helps to save amount of seed and hence reduced cost of cultivation.

FLD on BBF Planter

1. The field capacity of the tractor drawn BBF planter is 3.7 ha/day with a field efficiency of 74%.
2. The planter saves 15-20% seed, and increased crop yield by 15-20% as compared to conventional sowing by tractor drawn seed drill and bullock drawn tiffan.

FLD on Spiral Grader-Cleaner

1. The spiral grain separator is the best as compared to other two methods as on an average 3.5q of grains are cleaned per hour manually with two laborers and without electricity.
2. It is a cost effective; labour, time and drudgery reducing farm tool and leaves the farmer free to get on with other work.

FLD on Borewell Recharge

1. It is found that the water level is increased in the tune of 1.87 to 4.30 m with an average of 3.3 m in the zone.
2. The water table starts rising since September.
3. The increase in water table was observed up to the month of November and later on gradual reduction in water table was observed.

10.2. Technical Feedback from the KVK Scientists (Subject wise) to the research institutions/universities:

Agronomy

1. Availability of good quality improved varieties seed is major constraints. Need to supply seed in bulk.
2. By seeing the effect of climate change need to release recommendations in different crops on basis of climate change effect.
3. Need to release short durational improved varieties according to climate situation and dates of sowing.
4. Sufficient supply of Breeder and Foundation seed to KVK for Multiplication of Newly released variety seed.
5. Training and workshop on effect of climate change as well methods to overcome the situation

Horticulture

1. Need to release short duration varieties with long seed viability
2. Require more efforts to aware about new released varieties specially in vegetable crops
3. Need to recommended dwarf varieties suitable for High Density Planting in fruit crops
4. Need to released improved variety in custard apple for Maharashtra

Plant Protection – OFT

1. The recommendations as per label claim given by CIB and RC for premixed fungicides and insecticide (Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS) for seed treatment to manage disease and pest in soybean is 10 ml for per one kilogram of seed, but practically 10 ml of solution for per kilogram of seed is found very excess quantity and it is not possible to coat such quantity due to very thin seed coat. In some cases, the seed coat of soybean getting damaged due to excess moisture.
2. The recommendation of compatible tank mix combinations of insecticides and POE herbicide during prolonged dry spell of rains is not possible because crop already is in stress condition and it shows adverse effect on plant height and branches per plant. So, need to recommend spraying of compatible tank mix combinations of insecticides and POE herbicide in soybean during normal rainfall conditions in which ample amount of soil moisture in the soil.
3. The Phytophthora blight incidence was higher in the low-lying fields than well drained fields and be due to low level of field topography and poor soil surface drainage which favored the multiplication and spread of inoculum.

Plant Protection – FLD

1. Early integrated management practices found very effective for reducing early population
2. Need to develop wilt disease resistant variety in Bengal gram
3. Farmers not preferred use of sampoorna hormone on mulberry leaves during rainy and winter season, when ample number of mulberry leaves are available.
4. For Uzi fly integrated management mass holding rearing of silkworms at village level is very difficult

Agricultural Engineering

1. The dibbler is used for dibbling bold (like soyabean, chickpea) or costly/scarce seeds in less area and for gap filling purpose in rows. It also avoids bending posture, which is generally adopted in the traditional method, reducing drudgery and seed saving is achieved.
2. Reduction in cost of spraying through drone technology.
3. BBF planter is good for sowing the Soybean.
4. Bore-wells are recharged using technique have resulted into increased water-level in the bore wells. Even completely dried bore-wells can also be revived by proper management and utilization of rain water.
5. Spiral Grader enhances the quality of the seed, in turn leading to better quality produce which has high demand in the market.

Veterinary

1. Need to development and release of high yielding rainfed or low water requiring fodder varieties
2. Genetic improvement of local indigenous animals
3. Development of high yielding and low oxalate containing Napier fodder varieties
4. Need to develop improved poultry birds that can be escaped easily from predators

11. Technology Week celebration during 2023: No

Period of observing Technology Week: From to

Online / Offline:

Total number of farmers visited :

Total number of agencies involved :

Number of demonstrations visited by the farmers within KVK campus:

Other Details

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Gosthies			
Lectures organized			
Exhibition			
Film show			
Fair			
Farm Visit			
Diagnostic Practical's			
Supply of Literature (No.)			
Supply of Seed (q)			
Supply of Planting materials (No.)			
Bio Product supply (Kg)			
Bio Fertilizers (q)			
Supply of fingerlings			
Supply of Livestock specimen (No.)			
Total number of farmers visited the technology week			

12. Interventions on drought mitigation (if the KVK included in this special programme)

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries
-	-	-	-
-			

B. Major area coverage under alternate crops/varieties

Crops	Area (ha)	Number of beneficiaries
Oilseeds		
Pulses		
Cereals	-	-
Vegetable crops		
Tuber crops		
Total		

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No. of participants
Total			

D. Animal health camps organized

State	Number of camps	No.of animals	No. of farmers

Total			
--------------	--	--	--

E. Seed distribution in drought hit states (Seed distribution/sold by KVK)

State	Crops	Quantity (qtl)	Coverage of area (ha)	Number of farmers
Total				

F. Large scale adoption of resource conservation technologies

State	Crops/cultivars and gist of resource conservation technologies introduced	Area (ha)	Number of farmers
Total			

G. Awareness campaign

State	Meetings		Gosthies		Field days		Farmers fair		Exhibition		Film show	
	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers	No.	No. of farmers
Total												

13. IMPACT

A. 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)

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

B. Cases of large scale adoption

Empowerment of Rural families through backyard poultry farming

1. Situation analysis/Problem statement:

Backyard poultry is a means of livelihood for a fairly large number of small and marginal farmers and requires less capital. It is a potential tool for up-liftment of the marginal and deprived section of the society. It provides cheap, readily available protein rich eggs and meat for family consumption at relatively low cost and sale of surplus for additional income. It also provides income and employment opportunities, for rural people, women and unemployed youths.

Backyard poultry farming in Latur district is a secondary income generation activity for the rural families. They are rearing deshi poultry birds having low egg and meat production potential (60-70 eggs/year and adult bird weight 1.5 kg). They maintain these birds traditionally without any scientific approach, causes high mortality (20-100 %) due to incidence of diseases like Ranikhet and Fowl pox. Due to these reasons backyard poultry farming with deshi poultry birds reduces the farmers' income. Also they were not able to chase the increasing demand of eggs and meat in rural as well as urban area.

Latur district is receiving Avg. 730 mm of rain with 25 rainy days in a year. Rests of the days in a year are having plenty of sunshine and dry weather. Due to this, climatic conditions in district supporting free range system of rearing. Also backyards are full of natural feed resources like fallen grains, insects, earthworms, green grass, kitchen waste, left over and damaged grains and vegetables grown in farm unfit for human consumption. Due to availability of these natural resources, backyard poultry farming with improved birds will becomes highly economical.

2. Plan, Implement and Support:

To overcome the problems in backyard poultry farming with deshi birds KVK, Latur identified the improved poultry birds (Vanaraja, Grampriya, Kaweri, Vanashree, Nicobari and Shrinidhi) suitable for backyard farming in rural areas developed by the Different institutes. These are multi-colored dual purpose birds with attractive plumage, having better immunity against common poultry diseases (Ranikhet, Gumboro and Fowl pox) and better adaptability to free range rearing system.

KVK has assessed these birds and demonstrated on farmer's field. Each family provided 20 vaccinated one month old birds. Selected farmers were trained for how to manage these birds in backyard. After receiving birds from KVK, Farmers housed these birds in cages or house made from local material at low cost during night time. During day time the birds were made loose in the surrounding area for scavenging. The birds utilize the natural feed resources like fallen grains, insects, earthworms, green grass, kitchen waste, etc. At

the time of night housing, farmers offers cheap and available grains (Maize, Bajra, and Sorghum, Wheat etc) and kitchen waste & vegetable grown on their field which is unfit for human consumption to these birds to match up the energy deficiency. Plenty of clean and fresh water was made available at farm site. Farmers are advised to deworm the birds once in every three month period and give Ranikhet disease vaccine (R2B strain) and Fowl pox vaccine at the age of 9th wks and after 6 month. Technological backstopping is provided by KVK at every step. KVK has maintained regular contact with farmers and required suggestions and advisory were given to solve location specific problems by field visits, mobile advisory.

Intervention	OFT		FLD		Demonstration conducted in convergence with ATMA		Demonstration conducted in convergence with DBT		Training		Total no. of farmers covered	
Year	No.	Farmers	No.	Farmers	No.	Farmers	No.	Farmers	No.	Farmers	Activity no.	Farmers
2013-14	01	05	-	-	-	-	02	48	04	76	07	129
2014-15	01	05	-	-	-	-	03	75	03	54	07	134
2015-16	-	-	01	10	-	-	-	-	03	60	04	70
2016-17	-	-	01	12	-	-	-	-	03	100	04	112
2017-18	-	-	01	12	-	-	-	-	01	18	02	30
2018-19	01	10	01	10	01	50	-	-	03	101	06	171
2019-20	01	10	-	-	01	25	-	-	01	15	03	50
2020	1	10	-	-	01	25	-	-	02	30	04	65
2021	01	10	-	-	-	-	-	-	01	15	02	25
2022	-	-	-	-	-	-	-	-	01	30	01	30
2023	01	10	01	10	-	-	-	-	03	66	03	86
Total	07	60	05	54	03	100	05	123	25	265	43	901

Table no. 1: Major activity conducted by KVK for dissemination of technology

Output:

Productivity & Reduction in Problem:

Backyard poultry farming with improved poultry breeds increased egg production by 173 %, net income by 142 % and reduced mortality by 50 % than the deshi birds. (Table No. 2) along with increase in

volume of production (Egg production 1314 Vs 480). Also improved poultry birds are having better adaptability to the rural backyard conditions and shown better immunity; hence the good survival rate than the deshi birds.

Gain in Knowledge and skill: Participated farmers acquired skill of rearing these birds (Feed management, Shelter management, Medication & vaccination, Debeaking etc) and also acquired skill of marketing of produce. Some of the farmers started incubating these eggs under deshi birds to produce chicks. Produced chicks reared for next batch or sold to needy farmers.

Table 2. Performance of improved poultry birds under backyard poultry farming

Sr. No	Performance parameters	Data on parameters		% increase	Remarks
		Improved poultry birds	Deshi birds		
1	Weight at 30 day	425 g	230 g	84 %	By Rearing of improved poultry birds in backyard farming egg production increased by 173 % and net income by 142 %.
2	Weight at 4-5 months	2.0	1.3 kg	54 %	
3	Weight at maturity	2.6 kg	1.6 kg	62 %	
4	Egg laying started at	158 day	205 day	Egg production started 1.56 month earlier	
5	Mortality in brooding period	98 %	92 %	-	
6	Mortality in growing/laying period	10 % (Majority due to predators or accidental)	20 % (Majority due to predators or accidental)	-	
7	Total egg production/year (9 hen x 146 eggs)	1314	480	173 %	
8	Sale of cock chicken	9	9		
9	Income by sale of eggs	13140 Rs.	4800 Rs.		
10	Income by sale of male birds	3840 Rs.	2310 Rs.		
11	Income by sale of birds after production	3145	2480		
12	Gross income/family/Year (20 birds)	20125 Rs.	9590 Rs.		
13	Gross expenditure Rs.	9500	5900		
14	Net income Rs.	10625	4390	142 %	
15	B:C ratio	2.11	1.62		

4. Outcome:

Production and Economic gain:

After attaining desirable market weight (4-5 months) farmers sold extra male birds for meat purpose and the hens were kept for egg purpose. Egg laying started at the age of 155 to 170 days of rearing. After egg laying period (72 wks) the hens were sold for meat purpose. The performance of these poultry birds along with other component compare with deshi birds is shown in **table 2**. The annual egg production of demonstrated improved poultry birds is 146 eggs/hen compared to 60 eggs / hen in the local check (deshi birds). This resulted in net return (selling eggs and birds for chicken) of Rs. 10,625 from 20 birds unit of improved poultry birds (Vanaraja, Grampriya, Shrinidhi), which is Rs. 5955 more than local check (Rs.4670/20 birds unit).

Horizontal spread:

The intervention fetched good income to the farmers through sale of eggs and birds for chicken. Consumers happily buy the eggs and chicken with better price from farmer as, it taste like deshi birds. Apart from this fertile eggs are also available to keep under deshi birds to hatch chicks. Some participant's farmers started hatching eggs under desi hen and producing chicks at their home. Produced chicks either they rear for themselves or sold to the other farmers, thus making a horizontal dissemination of the technology. By observing the performance of these birds at participant's field, demand from other farmers, rural youth, women farmers and SHGs in the district increased for the one month old birds. KVK has supplied total 30503 one month birds to 786 families from 294 villages in the district, covering all the blocks in Latur district (**Table No.3**). 58 farmers started rearing of one day chicks of improved birds by purchasing it from PDP, Hyderabad and private hatchery with technical support from KVK. Looking to the increasing need for day old chick from farmers in the district KVK has started 1000 chick capacity hatchery at KVK.

Economic Benefit occurred to secondary level participants:

Depending upon the birds unit size (20-100 birds) participants farmers getting additional net income of Rs. 10600 to 53000 (Rs. 880 to 4400 per month) by selling eggs and birds for chicken. 58 farmers started with chicks rearing in shed getting net income of Rs. 45,000 to 2, 25,000 per year depending upon the birds placed in shed (100-500 birds)

Table No. 3 Year wise birds supplied to the farmers from KVK

Sr. No.	Year	No. of villages covered	No. of birds supplied by KVK	No. of farmers
1	2013-14	14	2032	48
2	2014-15	15	4566	88
3	2015-16	20	1194	26
4	2016-17	42	3751	73

5	2017-18	30	1890	44
6	2018-19	76	4375	193
7	2019-20	22	3049	124
8	2020-21	41	4090	82
9	2021-22	26	2671	54
10	2022	08	2885	54
11	2023	21	1975	56
	Total	315	32478	842

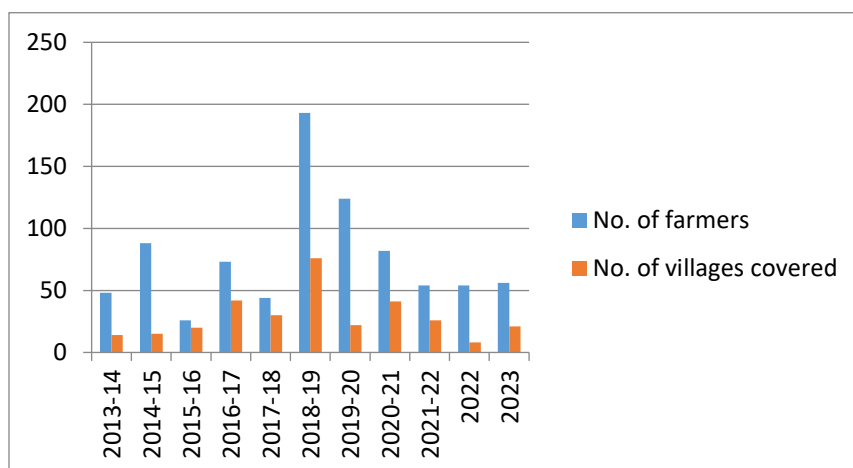


Chart 1: Year wise birds provided to farmers from KVK and no. of villages covered

5. Impact

Technological benefits:

Egg production of improved poultry birds is higher (146 egg/bird/year) than the deshi birds (60 eggs/bird/year). Egg production per bird in state increased from 122 to 133 and per capita availability of egg increased from 41 eggs to 48 eggs in state (2012-13 & 2017-18_Integrated sample survey report, Department of animal Husbandry, Maharashtra.). Farmers who were rearing deshi poultry earlier are now rearing improved poultry birds in the district.

Economic Benefits:

KVK contact farmers doing backyard poultry farming with improved poultry birds generated approximately Rs.150 lakh as net income through backyard poultry farming.

Social benefit:

Daily needs of the farmers are fulfilled because of daily supply of money by selling eggs and birds for Chicken. Other farmers from neighboring villages are visiting to the farm to see the birds, management and to purchase the eggs and birds. Due to this farmer's status in the society increased.

Health benefits:

Protein rich eggs and meat is made available for the family consumption that helped to provide balanced diet to the families and alleviate protein hunger among the growing children and pregnant women.

Employment generation:

This activity created additional source of income and employment opportunity to the farmer, youth and farm women in the rural areas of the Latur district.

Environmental Benefits:

As Latur district continuously facing drought like condition in such circumstances backyard poultry farming helped farmer by daily cash flow to family by selling eggs and chicken.

Thus the backyard poultry farming technology disseminated by KVK, Latur with active participation of all farmers is economically viable, easy to operate, feasible, having potential to create employment opportunity and additional source of income.



Brooding of day old chicks at KVK farm



1 month birds ready to supply for backyard poultry



Training on backyard poultry farming



Close view of Grampriya birds



Close view of Vanaraja birds



Womens training on backyard poultry farming



Backyard poultry unit





Different backyard poultry units under demonstration



Scavenging of birds in cow shed



Eggs of improved poultry birds

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

14. Kisan Mobile Advisory Services

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
Jan 2023			
Feb 2023			
March 2023			
April 2023			
May 2023			
Jun 2023			
Jul 2023	01	216008	
Aug 2023			
Sept 2023			
Oct 2023			
Nov. 2023			
Dec. 2023			

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
	Text only		01					
	Voice only							
	Voice & Text both							
	Total Messages		01					
	Total farmers Benefitted		216008					

15. PERFORMANCE OF INFRASTRUCTURE IN KVK

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

Sl. No.	Demo Unit	Year of establishment	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Produce	Qty.	Cost of inputs	Gross income	
1	Silkworm Rearing Unit	2022	0.40	Bivoltine Hybrid Silkworms	90 Kgs	180 Dfls	15500	21000	-

B. 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									
Jwar	19.11.2022	27.3.2023	0.40	Parbhani shakti	Bulk	3.00 q	2150	10500	
Wheat	10.11.2022	23.03.2023	0.40	Lokvan	Bulk	3.67 q	2800	8441	
Pulses									
Begalgram	15.11.2022	20.2.2023	1.20	Vikram	Bulk	7.35 q	12510	33259	
Rajma	16.11.2022	14.1.2023	0.15	Varun	Seed	0.80 q	2100	8000	
Oilseeds									
Soyabean	3.7.2023	16.10.2023	3.80	MAUS-162, MAUS-158 MAUS-71	Seed	45.52 q	71000	213944	
					Bulk	33.33q	32500	156651	
Safflower	9.11.2022	25.3.2023	1.20	IFS-764	Bulk	5.10 q	6600	20461	
Ground nut	10.8.2023	29.12.2023	0.05	Western -51	seed	0.35 q	1900		Yet not sold
Fibers									
Spices & Plantation crops									
Floriculture									
Fruits									
Mango	25.8.2010	15.5.2023	0.20	Kesher	Bulk/Seed	13.60 q	4450	95200	
Mango	30.9.2022	-	0.80	Kesher	Bulk/Seed		50100		
Custard apple	20.8.2017 25.7.2020	-	0.80	NMK-1 Golden	Bulk		3900		
Vegetables									
Others (specify)									
Sugarcane cafeteria (Suru)	5.1.2023	Awaited	0.30	CO-11015, VSI-18121, Phule-9057,11082	Bulk/Seed	20.00 tons	13800	54000	
Sugarcane (Ratton)	26.2.2022	Awaited	1.30	CO-86032	Bulk	73.00 tons	54790	197100	
Sugarcane (Ratton)	26.2.2023	Awaited	0.30	COC-671,CO-86032,MS-1001,VSI-434,8005,COM-265	Bulk/Seed	18.00 tons	12642	48600	
Fodder cafeteria	16.1.2022	-	0.45	Dasharath, Hy. Nepier African Tall, subabhul,	Bulk/Seed	30 tons	7600		Use for Goat unit
	20.10.2023	-	0.12	Hy. Nepier	Bulk/Seed	15 tons			Use for Goat unit
Chia	06.12.2022	10.4.2023	0.40	-	Bulk	0.46 q	11000	69000	Yet not sold

Photographs of instructional farm of KVK



KVK farm Wheat MACS-4028



KVK farm Safflower ISF-746



Mulberry -V1



Chia seed plot



Bengalgram Vikram+PDKV Kabuli



Soybean MAUS 162



Sugarcane cafeteria



Fodder crop- Dashrath-local



Mango mother plant block



Rabi Cafeteria

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

Sl. No.	Bio Products	Name of the Product	Qty (kg/lit)	Amount (Rs.)		Remarks
				Cost of inputs	Gross income	
1.	Bio-Fertilizers	Rhizobium	455.75	56000	182300	Sold to 161 farmers
2.	Bio-Fungicides	PSB	444.75	56000	177900	Sold to 158 farmers
3.	Bio-pesticides	Trichoderma viridae	526	61000	105200	Sold to 102 farmers

D. Performance of instructional farm (livestock and fisheries production)

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Improved poultry birds	Vanaraja Shrinidhi Vanashree Nicobari	4-6 wks birds	1975	217400	255250	-
2	Goat	Osmanabadi	Kids and Goats	15	52400	80265	-

E. Utilization of hostel facilities

Accommodation available (No. of beds):

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January 2023	138	18	
February 2023	309	28	
March 2023	208	22	
April 2023	-	-	
May 2023	-	-	
June 2023	-	-	
July 2023	-	-	
August 2023	54	3	
September 2023	180	8	
October 2023	264	8	
November 2023	-	-	
December 2023	237	22	

F. Database management

S. No	Database target	Database created
-	-	-

G. Details on Rain Water Harvesting Structure and micro-irrigation system

Amount sanction (Rs.)	Expenditure (Rs.)	Details of infrastructure created / micro irrigation system etc.	Activities conducted					Quantity of water harvested in '000 litres	Area irrigated / utilization pattern
			No. of Training programmes	No. of Demonstration s	No. of plant materials produced	Visit by farmers (No.)	Visit by officials (No.)		

H. Performance of Nutritional Garden at KVK farm**If Nutritional Garden developed at KVK farm/Village Level? Yes/No****If yes,****Nutritional Garden developed at KVK farm**

Area under nutritional garden (ha)	Component of Nutritional Garden	No. of species / plants in nutritional garden	No. of farmers visited
2 R	Vegetable crops	17	124
	Fruit crops	04	
	Others if any	-	

Nutritional Garden developed at Village Level (Area under nutritional garden)

No. of Villages covered	Component of Nutritional Garden	No. of species / plants in nutritional garden	No. of farmers covered
4	Vegetable crops	17	50
	Fruit crops	04	
	Others if any		

H. Details of Skill Development Trainings organized

S.No.	Name of KVKs/SAUs/ICAR Institutes	Name of QP/Job role	Duration (hrs)	No. of participants					
				SCs/STs		Others		Total	
				Male	Female	Male	Female	Male	Female
1	KVK Latur	Backyard poultry farmer	210	0	0	24	1	24	1
2	KVK Latur	Small Organic cultivator	210	0	0	25	0	25	0

17. FINANCIAL PERFORMANCE

A. Details of KVK Bank accounts

Bank account	Name of the bank	Location	Branch code	Account Name	Account Number	MICR Number	IFSC Number
With Host Institute	LDCC Bank	Latur	1002	Manjara Charitable Trust, Latur	100210005013825	413801052	IBKL0497LDC
With KVK	SBI Bank	Latur	6303	Manjara Krishi Vigyan Kendra, Latur	30029035891	413002972	SBIN0006303

B. Utilization of KVK funds during the year 2023-24 (Rs. in lakh) (Till Dec, 2023)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	205.19	161.38	154.27
2	Traveling allowances			0.63
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	12.50	11.75	5..23
B	POL, repair of vehicles, tractor and Equipments			2.55
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)			
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		217.69	173.13	162.68
B. Non-Recurring Contingencies				
1	Works	-	-	-
2	Equipments including SWTL & Furniture	-	-	-
3	Vehicle (Four wheeler/Two wheeler, please specify)	-	-	-
4	Library (Purchase of assets like books & journals)	-	-	-
TOTAL (B)		-	-	-
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		217.69	173.13	162.68

C. Status of revolving fund (Rs. in lakh) for the Four years

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2018 to March 2019	-	-	-	-
April 2019 to March 2020	20.82	35.99	31.30	25.51
April 2020 to March 2021	25.51	23.33	29.20	19.64
April 2021 to March, 2022	19.64	78.66	69.45	28.85
April 2022 to March 2023	28.85	73.59	53.92	48.52
April 2023 to March 2024	-	-	-	-

17. Details of HRD activities attended by KVK staff during year

Name of the staff	Designation	Title of the training programme	Institute where attended	Mode (Online/Offline)	Dates
Matai P.D.	SMS,Agronomy	Best Innovative Farmer Award Distribution	CRIDA, Hyderabad	Offline	12.04. 23
Matai P.D.	SMS,Agronomy	Launch and Review Workshop of NICRA	ICAR,CCARI Goa	Offline	15-16.09.23
Matai P.D.	SMS,Agronomy	Kisan Exhibition	Moshi, Pune	Offline	16.12.23
Matai P.D.	SMS,Agronomy	National Seed Congress 2023	Taj Hotel,Ch. SambhajiNagar	Offline	11-13.12.23
Matai P.D.	SMS,Agronomy	74th ZREAC Meeting	NARP, Ch.Sambhaji Nagar	Offline	12.06. 2023
Deshmukh S. B.	SMS (Plant Protection)	Three day workshop on Natural and Organic Farming	NCNOF, Gaziabad	Offline	4-6.12. 2023
Dr.S.P.Shinde	SMS,Agril.Engg.	Best Innovative Farmer Award Distribution	CRIDA,Hyderabad	Offline	12.04.2023
Dr.S.P.Shinde	SMS,Agril.Engg.	Launch and Review Workshop of NICRA	ICAR,CCARI Goa	Offline	15-16.09.23
Dr.S.P.Shinde	SMS,Agril.Engg.	Kisan Exhibition	Moshi, Pune	Offline	16.12.2023
Anjali A Gunjal	SMS (Home Science)	Capacity Building of Agricultural Extension Professionals to Promote Agro Processing	ICAR-Central Institute of Post Harvest Engineering & Technology, Ludhiana (Punjab)	Offline	7-11.08.23
Dr. P .H Ulemale	SMS (Horticulture)	Capacity Building of Agricultural Extension Professionals to Promote Agro Processing	ICAR-Central Institute of Post Harvest Engineering & Technology, Ludhiana (Punjab)	Offline	7-11.08.23
Bedre S.B.	SMS (Agil. Extension)	National Workshop on AC&ABC Scheme	MANAGE Hyderabad (TS)	Offline	16 – 17.03.23
Dr. Salunke S.B	Programme Assistant	Fodder FPO workshop	ISED, Bhopal	Offline	22.05.23
Dr. Salunke S. B.	Programme Assistant	Interface meet on Advance in animal health and [production with SDAH and KVKs of Maharashtra	Organized by IVRI, Pune	Online	28.07.23

18. Details of progress in Doubling Farmers Income (DFI) villages adopted by KVKs

Name of the village	Total No. of families surveyed	Key interventions implemented	No. of farmers covered in each intervention	Change in income (Rs/unit)	
				Before (base year)	After (current year)
Akarwai Ta. Dist. Latur	40	Soyabean Seed production, IPM, FSN, Backyard poultry farming with improved birds, Mini dal processing enterprise, CFLD.	20	60155	125172
Bhoisamudraga Ta. Dist. Latur	40	IPM, FSN, Backyard poultry farming with improved birds, Mini dal processing enterprise, CFLD.	20	65277	132288

19. Details of activities planned under NARI /PKVY / TSP / KKA, etc.

S. No.	Name of the programme	No. of villages adopted	Key activities performed	No. of activities carried out	No. of families covered
1	FLD on Nutritional garden	3	Training, Demonstration & field visits	4	100
2	FLD on Farming System for Nutrition	3	Training, Demonstration & field visits	4	100
3	OFT on increasing shelf life Bajara flour	2	Training, Demonstration & field visits	4	10
4.	Nutri Millets Contest	2	Training, millets contest	2	157

20. Details of Progress of ARYA Project

Name of Enterprise	No of Training Conducted	No of Beneficiaries	No of Extension Activities	No of Beneficiaries	No of Unit established	Change in income		No. Of Groups Formed
						Before	After	
-	-	-	-	-	-	-	-	-

21. Details of SAP

S. No.	Types of major Activity conducted- Swachhta Pakhwada, Cleaning, Awareness Workshop, Microbial based Agricultural Waste Management by Vermicomposting etc.	No. of Programmes conducted	No. of Participants
1	Swachhta Pakhwada	5	155

Sr. No	Name of KVK	Date	Activity	No of VIPs	No of Farmers	Others	Total
1	Latur	12.07.2023	Cleaning of office	0	0	8	8
2	Latur	02.08.2023	Waste disposal activity in office	0	0	4	4
3	Latur	10.10.2023	Awareness programme on crop waste management	0	32	2	34
4	Latur	18.09.2023, 7.11.2023,	Awareness programme on vermicomposting	0	68	3	71

		15.12.2023					
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21. Books published 2023-24

Title of the Book	Authors	ISBN No	Publisher	Pages No	Description/review of the book (one paragraph/sentence)
-	-	-	-	-	-
-					

22.. Please include any other important and relevant information which has not been reflected above

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	54	2607	876	3483
Rural youths	02	49	1	50
Extension functionaries	30	779	347	1126
<i>Sponsored Training</i>	46	1463	561	2024
<i>Vocational Training</i>	2	46	1	47
Total	86	3435	1224	4659

2. Frontline demonstrations

Crops/Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	45	18	-
Pulses	45	18	-
Cereals	25	10	-
Vegetables	20	08	-
Other crops	33	14	-
Hybrid crops	-	-	-
Total	168	90	-
Livestock & Fisheries	35	-	305
Other enterprises	195	-	195
Total	230	-	-
Grand Total	398	90	500

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	15	90	90
Livestock	04	30	30
Various enterprises	03	30	30
Total	22	150	150
Technology Refined			
Crops	-	-	-
Livestock	-	-	-
Various enterprises	-	-	-
Total	-	-	-
Grand Total	22	150	150

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	180	22333
Other extension activities	231	-
Total	411	22333

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
	Text only	-	1	-	-	-	-	1
	Voice only	-	-	-	-	-	-	-
	Voice & Text both	-	-	-	-	-	-	-
	Total Messages	-	1	-	-	-	-	1
	Total farmers Benefitted	-	216008	-	-	-	-	216008

6. Seed & Planting Material Production

	Quintal/Number	Value (Rs.)
Seed (q)	381.785	4601789
Planting material (No.)	12418	327740
Bio-Products (kg)	1426.5	465400
Livestock Production (No.)	1990	335515
Fishery production (No.)	-	-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value (Rs.)
Soil	-	-
Water	-	-
Plant	-	-
Total	-	-

8. HRD and Publications

Sr. No.	Category	Number
1	Abstract	06
2	Workshops	-
3	Conferences	-
4	Meetings	-
5	Trainings for KVK officials	02
6	Visits of KVK officials	14
7	Book published	-
8	Training Manual	-
9	Book chapters	-
10	Booklet	-
11	Leaflets/ Folder/ Pamphlet	-
12	Research papers	-
13	Technical Bulletin	-
14	Popular article	09
15	Lead papers	-
16	Seminar papers	-
17	Extension folder	05
18	Proceedings	-

19	Award & recognition	02
20	On-going research projects	-
21	Other	12