

ANNUAL PROGRESS REPORT 2022

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 2022
 (January 2022 to December 2022)

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	kvklaturms@gmail.com	www.kvklatur.co.in
	9404957511		

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

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

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

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

1.4. Date and Year of sanction: 20.05. 2005

1.5. Staff Position (as on December, 2022)

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		
1.	Senior Scientist and Head	Dr. Digraze S.S.	9404957511	Horticulture	156900	14.10.2016	-
2.	Subject Matter Specialist	Bedre S.B.	9422469021	Agril. Extension.	87400	11.07.2006	-
3.	Subject Matter Specialist	Deshmukh S.B.	9404957510	Entomology	87400	11.07.2006	-
4.	Subject Matter Specialist	Smt.Gunjal A.A.	9404957515	Home Science	87400	13.10.2006	-
5.	Subject Matter Specialist	Matai P.D.	7899357261	Agronomy	63100	03.05.2018	-
6.	Subject Matter Specialist	Dr.Shinde S.P.	9421618790	Agril Engg.	56100	01.10.2022	-
7.	Subject Matter Specialist	Dr. Ulemale P.D.	9921048008	Horticulture	56100	01.10.2022	-
8.	Programme Assistant	Dr. Salunke S.B.	9404957517	Veterinary	60400	01.10.2006	-
9.	Computer Programmer	Suryawanshi V.M.	9404957520	Computer	55200	19.01.2009	-
10.	Farm Manager	Kokate S.L.	9423732196	-	60400	16.10.2006	-
11.	Accountant/Superintendent	Deshmukh A.J.	9850614733	-	60400	11.07.2006	-
12.	Stenographer	Smt. Adgaonkar M.M.	9834020867	-	41000	01.04.2006	-
13.	Driver 1	Pitale N.B.	9822964401	-	34000	01.04.2006	-
14.	Driver 2	Shaikh W.M.	9657667082	-	24500	17.12.2018	-
15.	Supporting staff 1	Sagar O.K.	9850157843	-	29700	01.04.2006	-
16.	Supporting staff 2	Jadhav V.H.	9763621672	-	29700	01.04.2006	-

1.6. Total land with KVK (in ha): 20

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					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	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	Demo unit	ICAR	26.03.2009	80	5,00,000	-	-	-

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	63355	Under working
Motor Cycle (MH-24-Q-1404)	2006-2007	50,714	125677	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)

Sl. No.	Agro-climatic Zone	Characteristics
1	Assured rainfall zone	The assured rainfall zone comprises part of Ahmedpur, Chakur and udgir taluka with assured rainfall and light to heavy soil, with hilly track comes under this zones. Annual precipitation varies from 881 to 903 mm
2	Moderate rainfall zone	Some part of Latur, Renapur Ausa, Nilanga, Shirur Antentpal, Deoni, Taluka is under moderate rainfall zone receiving rainfall 700 to 800 mm.

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,nortern part of Shirur Antanpal and east of Latur)	Low rainfall medium to heavy Soil with flat area
3	AES- III (Nilanga,western part of Udgir, Chakuar and Deoni)	Moderate rainfall medium to heavy soil with hilly area
4	AES-IV (Jalkot and western part of Ahemdpur north east of Chakur)	Moderate rainfall light to medium soil with area
5	AES-V (Ahmedpur)	Moderate rainfall, light to medium soils with flat area

6	AES-VI (Western part of Latur,central part of Sirur Antantpal	Medium to heavy soils with command area
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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 (2022)

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 (2022)

Month	Normal RF(mm)	Normal Rainy days (number)	Temperature (° C)		Relative Humidity (%)	
			Maximum	Minimum	Maximum	Minimum
January	-	-	26	19	67	36
February	-	-	33	15	81	33
March	-	-	39	21	59	23
April	-	-	39	20	72	34
May	12	1	37	17	63	36
June	124	9	29	18	72	72
July	366	18	27	18	86	60
August	92	6	30	18	87	62
September	243	14	29	18	84	51
October	235	9	29	16	72	52
November	-	-	27	13	69	48
December	-	-	30	14	79	40
Total	1072	57				

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>)			
<i>Desi</i>	261600	754.348 Lakh (Eggs)	288.35 Eggs
Category		Production (Q.)	Productivity
Fish (Reservoir)			

2.7. Details of Operational area / Villages

Taluka / Block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Ausa	Kharosa, Killari	Greengram	Imbalanced application of fertilizers Non adoption of Newly Released Improved Varieties Unawareness about use of fungicides. Unavailability of labour for weed management	Imbalanced application of fertilizers Non adoption of Newly Released Improved Varieties Unawareness about use of fungicides. Unavailability of labour for weed management
Latur	Ankoli, Khandapur	Blackgram	Imbalanced application of fertilizers Unawareness about use of seed treatment Crop Area decreasing due to incidence of pest and diseases due to change in environment. Unavailability of labour for weed management	Imbalanced application of fertilizers Unawareness about use of seed treatment Crop Area decreasing due to incidence of pest and diseases due to change in environment. Unavailability of labour for weed management
Latur	Harangul, Ganagapur	Pigeonpea	Unawareness about seed treatment and use of pesticide Low yield due to use of local varieties Non Adoption of improved high yielding varieties. Imbalanced use of fertilizers	Unawareness about seed treatment and use of pesticide Low yield due to use of local varieties Non Adoption of improved high yielding varieties. Imbalanced use of fertilizers
Latur	Ankoli, Khandapur,	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	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
Ausa	Lodga, Javali	Chickpea	Major Problem Incidence of Wilt disease Yield reduced due to use of old	Major Problem Incidence of Wilt disease Yield reduced due to use of old varieties Unawareness about seed treatment

			varieties Unawareness about seed treatment Unaware about pest and disease attack.	Unaware about pest and disease attack.
Latur	Ankoli, Ganga pur	Safflower	Low yield due to use of local varieties Major attack of Aphids, sucking pest on Safflower Unavailability of labour for harvesting of crop	Low yield due to use of local varieties Major attack of Aphids, sucking pest on Safflower Unavailability of labour for harvesting of crop
Ausa	Kharosa	Rabi Sorghum	Low yield Unawareness about use of pesticide Sowing on Rainfed Situation Non adoption of seed treatment High cost of cultivation	Low yield Unawareness about use of pesticide Sowing on Rainfed Situation Non adoption of seed treatment High cost of cultivation
Latur	Bhoisamudrag a	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
	Harangul	Rabi sorghum	Infestation of fall army worm and causes losses up to 50%	Integrated Pest Management practices
Latur, Renapur	Chikurda, Itty, 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
Ausa	Lodga	Onion	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
Latur Ausa	Itty, Jawali	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
Latur Ausa	Almala Chikurda Gangapur Harangul Gondegaon	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
			More labor required for cocoon harvesting, high labour cost and time required for harvesting and de flossing.	Use of CSRTI Cocoon harvester
	Matola Tungi (bu) Gangapur Sonwati Dagadwadi Bhatangali Mamadapur Iti poharegaon	Dairy	Low milk yield Longer inter calving period Shading of body weight after calving Repeat breeding and anoestrous Subclinical and clinical mastitis Scarcity of green fodder	High mortality Less egg production Low weight gain Less income
	Akharwaie Iti Bhoisamudrag a	Goatry	Poor growth Kid mortality Poor fertility Late maturity	Feed and feeding management Nutrient management Reproductive management

			Post kidding problems	
	Gangapur Bhoisamudrag a Nagarsoga	Backyard Poultry	High mortality Less egg production Low weight gain Less income	Improved poultry breeds Feeding management Disease management

2.8. Priority thrust areas:

Crop/Enterprise	Thrust area
Soybean	Promotion of improved high yielding, Pest and disease resistant varieties. Integrated Crop Management Integrated Management of Snail infestation Integrated pest and disease management Integrated Nutrient Management Seed production programme to supply good quality seed Awareness and use about seed treatment Mechanical use for sowing and harvesting to overcome labour shortage problem.
Greengram	Create awareness about use of improved varieties Integrated pest & disease management. Integrated Weed Management Integrated Crop Management
Blackgram	Varietal Evaluation Integrated Crop Management Integrated Nutrient Management Integrated pest and disease Management
Pigeonpea	Use of growth regulators to reduce excess vegetative growth. Use of biofertilizers for seed treatment Management of Phytophthora stem blight disease Integrated Crop Management Foliar application of fertilizers for increase in yield
Chickpea	Seed production programme to supply good quality seed Awareness about seed treatment Production technologies for increasing productivity Integrated management of Fusarium and other wilts Use of Biofertilizers and fungicides to reduce wilt disease attack
Safflower	Mechanical harvesting to overcome labor shortage problem Pest management for Sucking pest i.e. Major attack of Aphids Production technologies for increasing productivity
Sorghum	Improved high yielding varieties for Grain and Stover Balanced application of fertilizers Protective irrigation at critical growth stages
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
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
12	11	120	110	14	13	310	285

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
49	42	1950	1687	235	198	25000	20178

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
800	723	29500	28480

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
4500	4055	3500	2986

3.1. B. Operational areas details during 2022

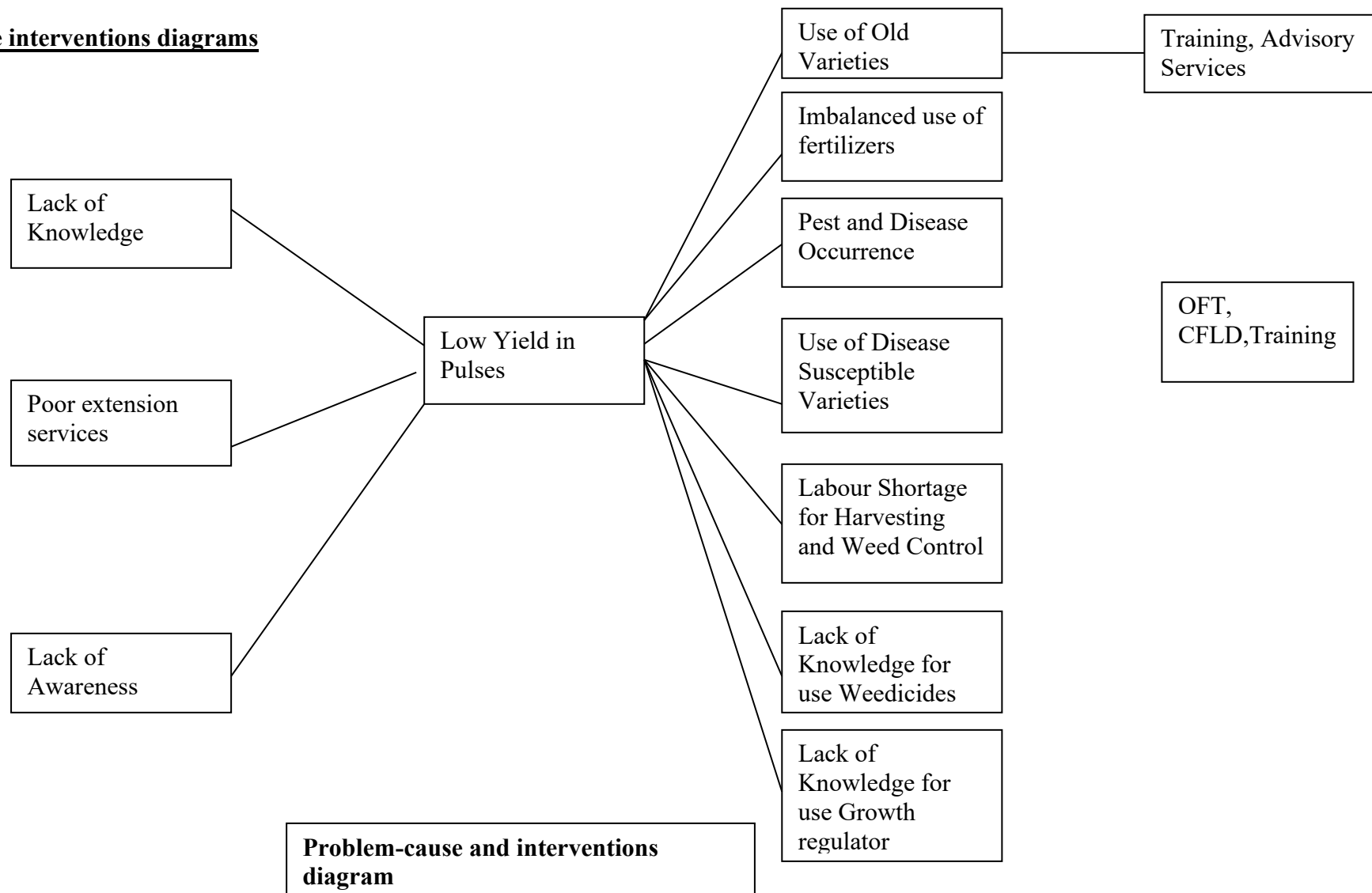
S.No .	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Intervention (OFT, FLD, Training, extension activity etc.)*
1	Soybean	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	Pigeonpea	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	Greengram	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 Unaware about use of fungicides and insecticides Unaware about use of biofertilizers.	124690	Javali,Lodga,Ankoli ,Chata	OFT, CFLD, Training
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	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
8	Bengal gram	Plant population reduction due to wilt, heavy infestation of pod borer	112770	Harangul Kharosa	FLD, Training
9	Rabi Sorghum	Heavy infestation of fall army worm Less awareness about new pest fall army worm	7500	Wanjarkheda, Bhoisamudraga	OFT, Training
10	Pigeon pea	Heavy incidence phytophthora stem blight disease	81900	Kharosa	FLD, Training

		Indiscriminate use of pesticides		Itty	
11	Sugarcane	Heavy infestation of white grub and white fly Use of disease free planting material	1050	Bhoisamudraga, Kadgaon, Gondegaon	OFT, Training
12	Chili	Low yield due to leaf curl virus incidence	375	Wanjarkheda Lodaga	Training
13	Green gram	Heavy incidence pest and diseases Indiscriminate use of pesticides	7980	Akharwai, Harangul	FLD, Training
14	Black gram	Heavy incidence pest and diseases Indiscriminate use of pesticides	7420	Kharosa, Itty	FLD, Training
15	Onion	Less plant protection measures for management of blight and thrips		Kharosa Lodaga	FLD, Training
16	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. Heavy infestation of Uzi fly on silkworm reduces more yield	220	Chikurda, Almala Harangul Gondegaon	OFT, FLD, Training
17	Mango	Less plant protection measures for management of powdery mildew and hoppers	550	Babbhalgaon, Harangul	Training
18	Custard Apple	Heavy infestation of fruit fly in early bahar fruits specifically on NMK cultivar	242	Renapur Hrangul	Training, Demonstrations
19	Post harvest losses. Absence of proper processing techniques	Post harvest management for loss reduction	60%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
20	Drudgery prone activities at farm. Unaware about improved tools & techniques	Drudgery reducing technologies for loss reduction	85%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
21	Malnutrition, deficiency of micronutrients. Unaware about nutritional requirement of family	Family nutrition & livelihood security	55%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
22	Post harvest management & value addition	Entrepreneurship development through Processing and value addition in farm produce	70%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
23	Dairy	Low milk yield. Longer inter calving period Repeat breeding and anoestrous Scarcity of green fodder Subclinical and clinical mastitis	65 % population	Tungi (bu) Gangapur Sonwati Dagadwadi Bhatangali Mamadapur Iti poharegaon	OFT, FLD, trainings
24	Backyard poultry	Low egg production	90 %	Akharwaie	OFT, FLD,

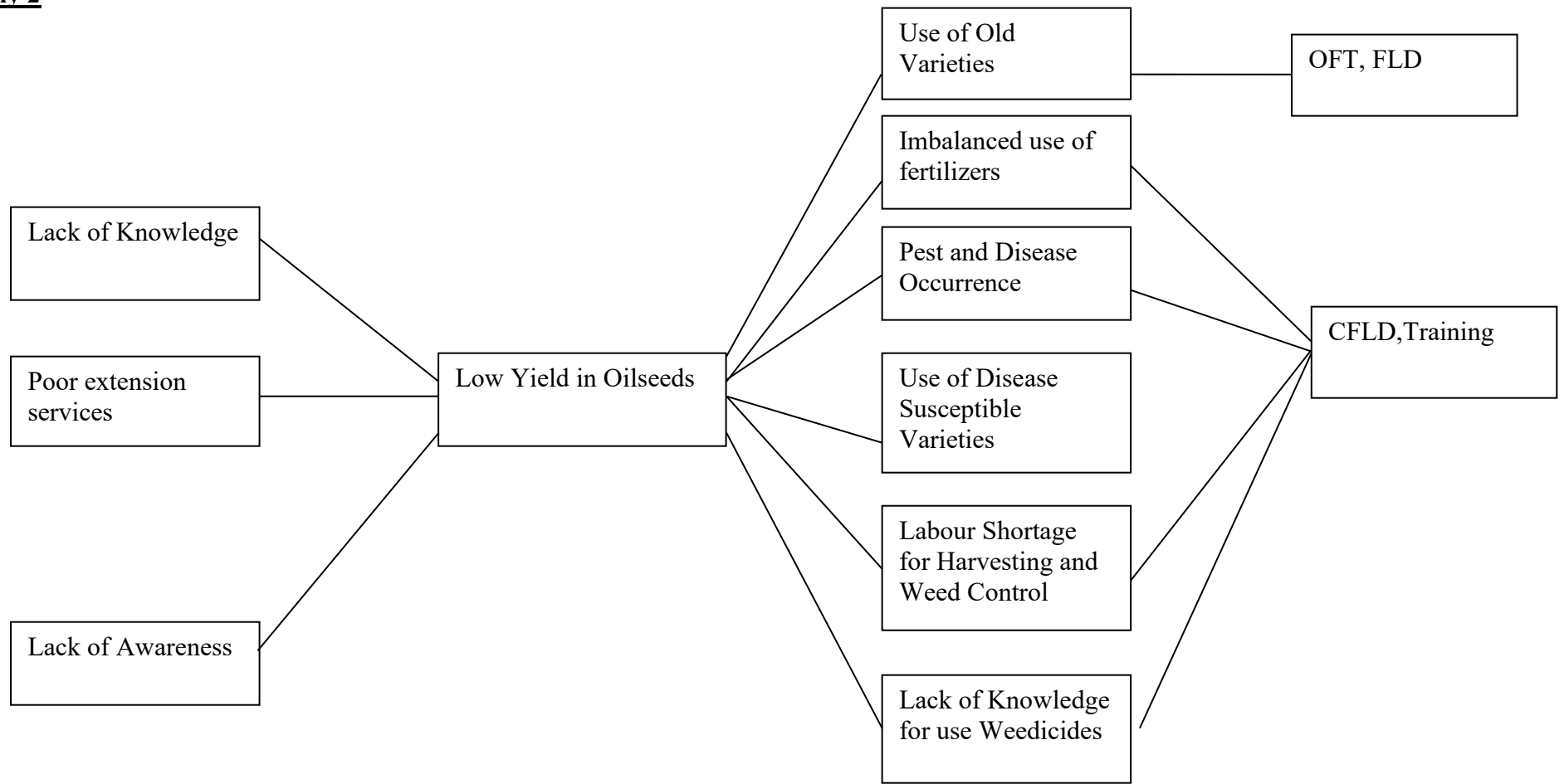
		Low body weight High mortality Less returns	population	Iti Bhoisamudraga	trainings
25	Goat	Mineral deficiency Late maturity Poor weight gain, High mortality	90 % population	Gangapur Bhoisamud raga Nagarsoga	FLD, training

Problem Cause interventions diagrams

Agronomy 1

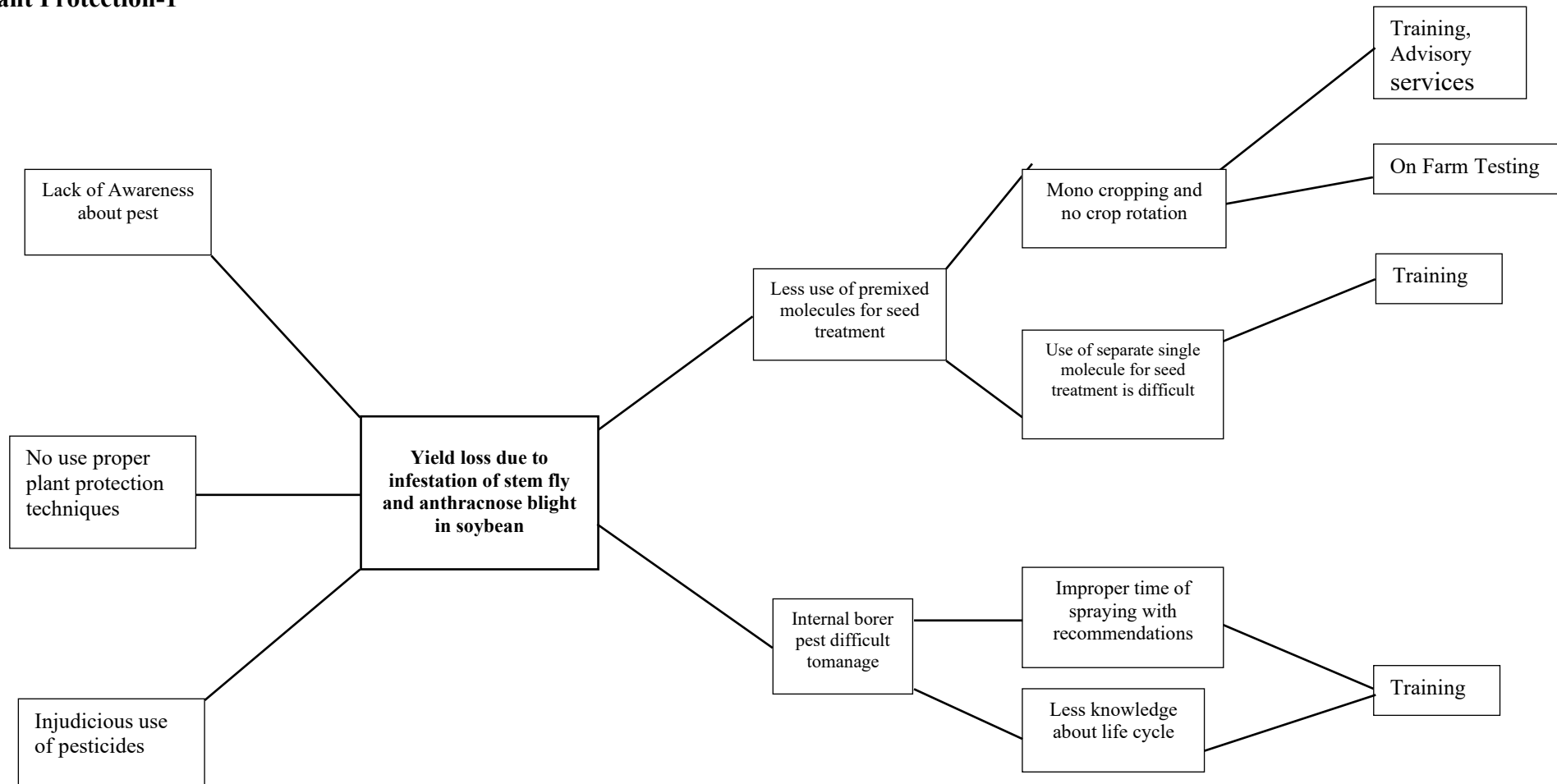


Agronomy 2

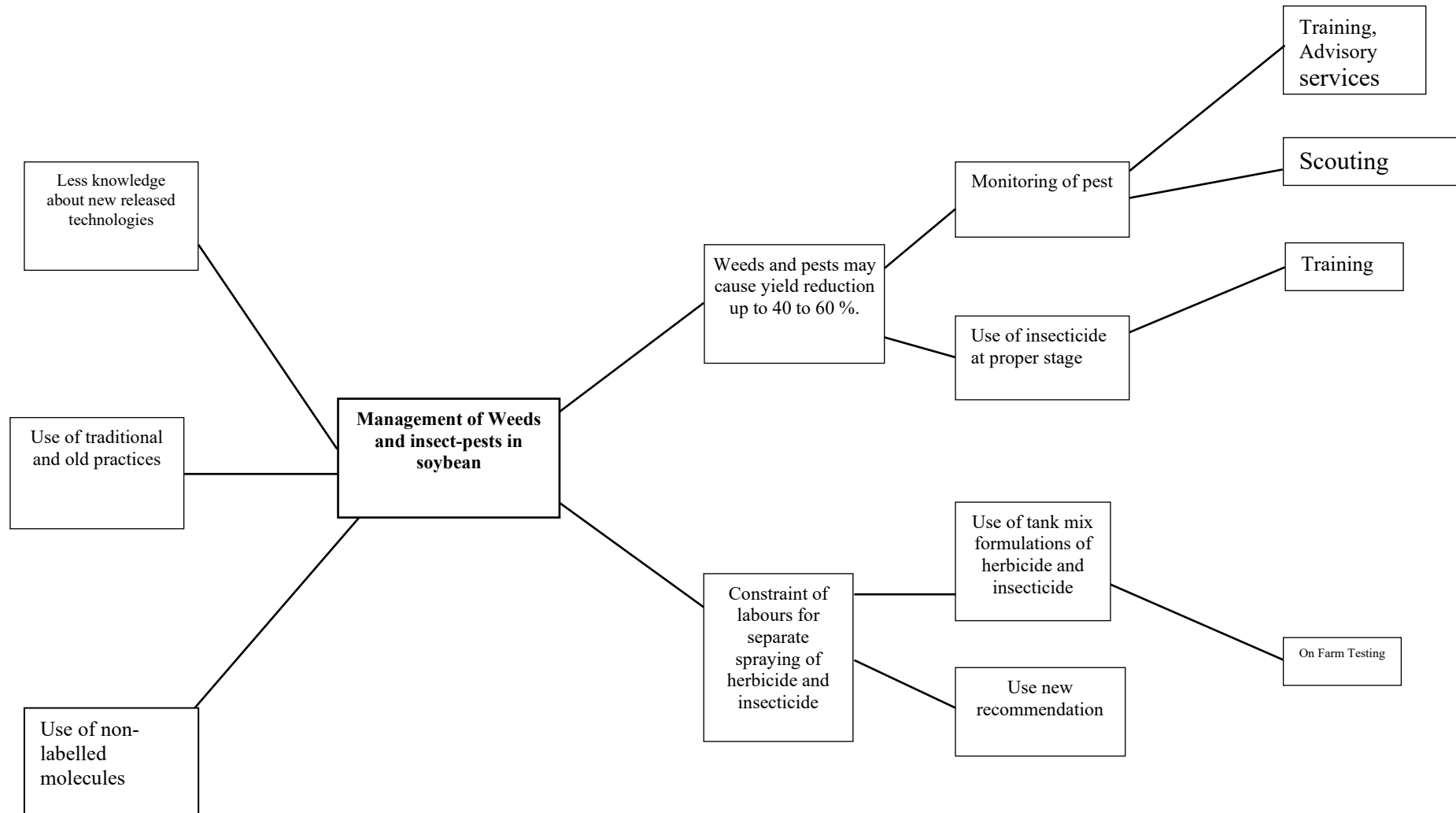


Problem-cause and interventions diagram

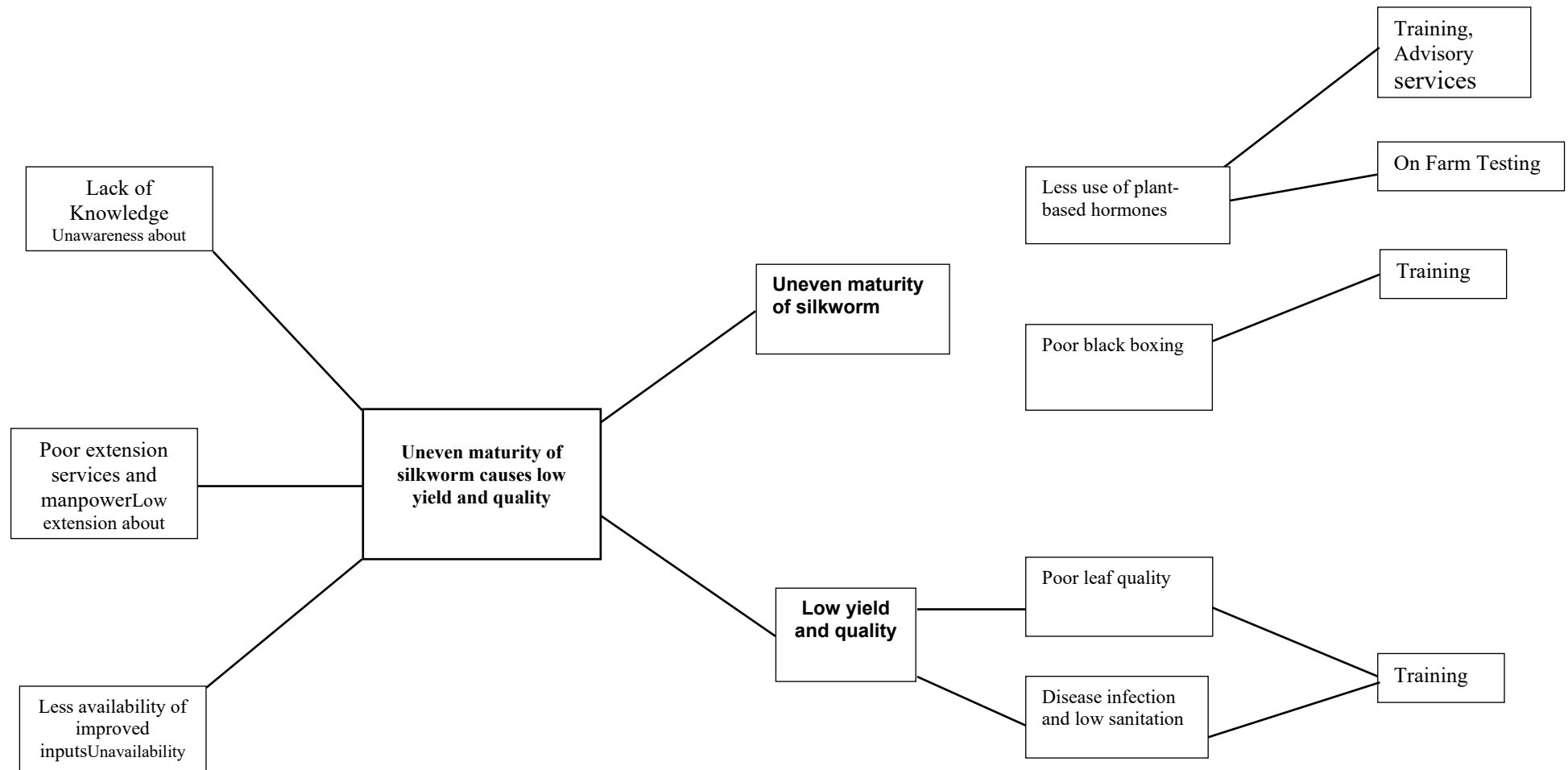
Plant Protection-1



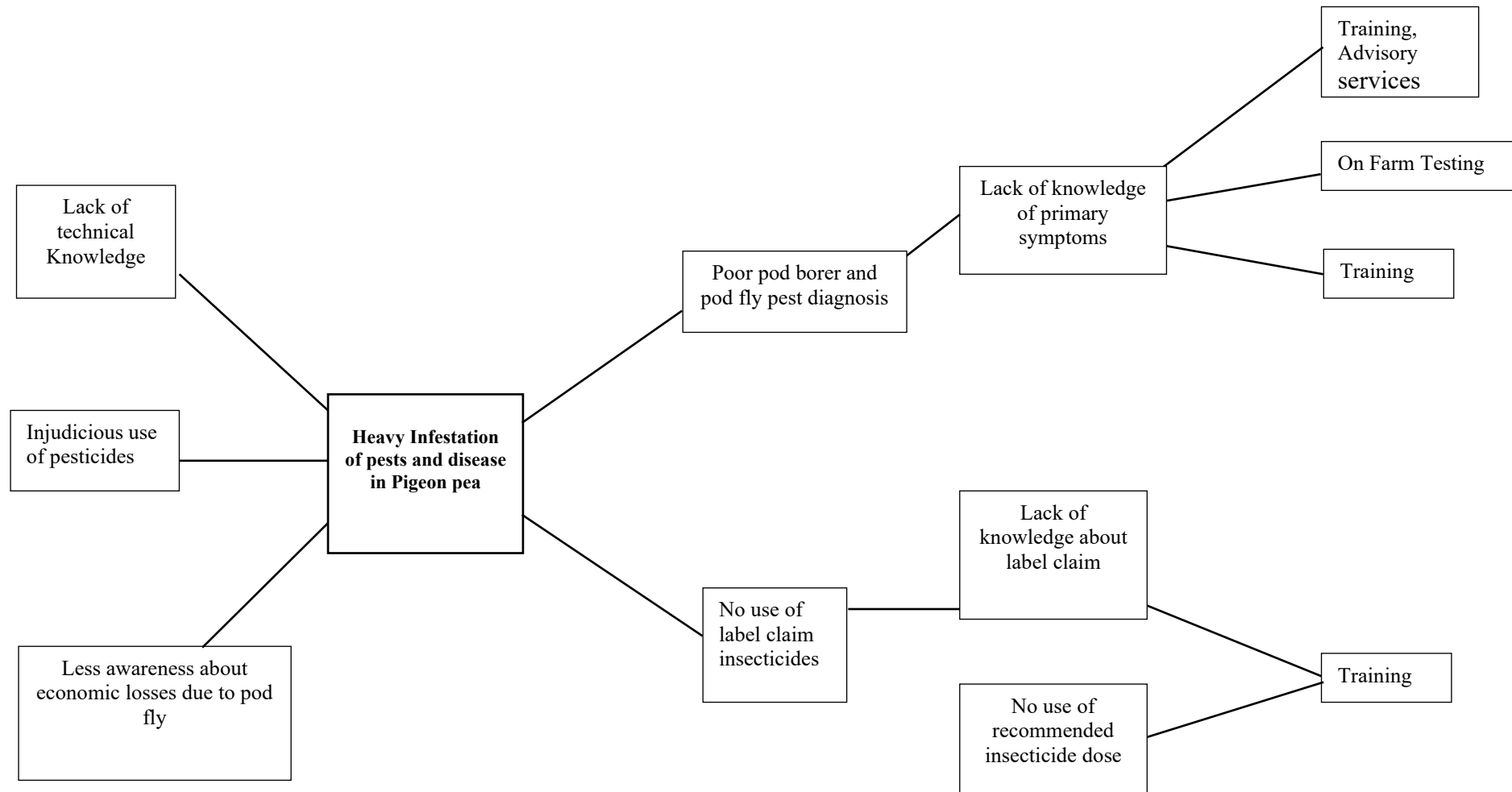
Plant Protection-2



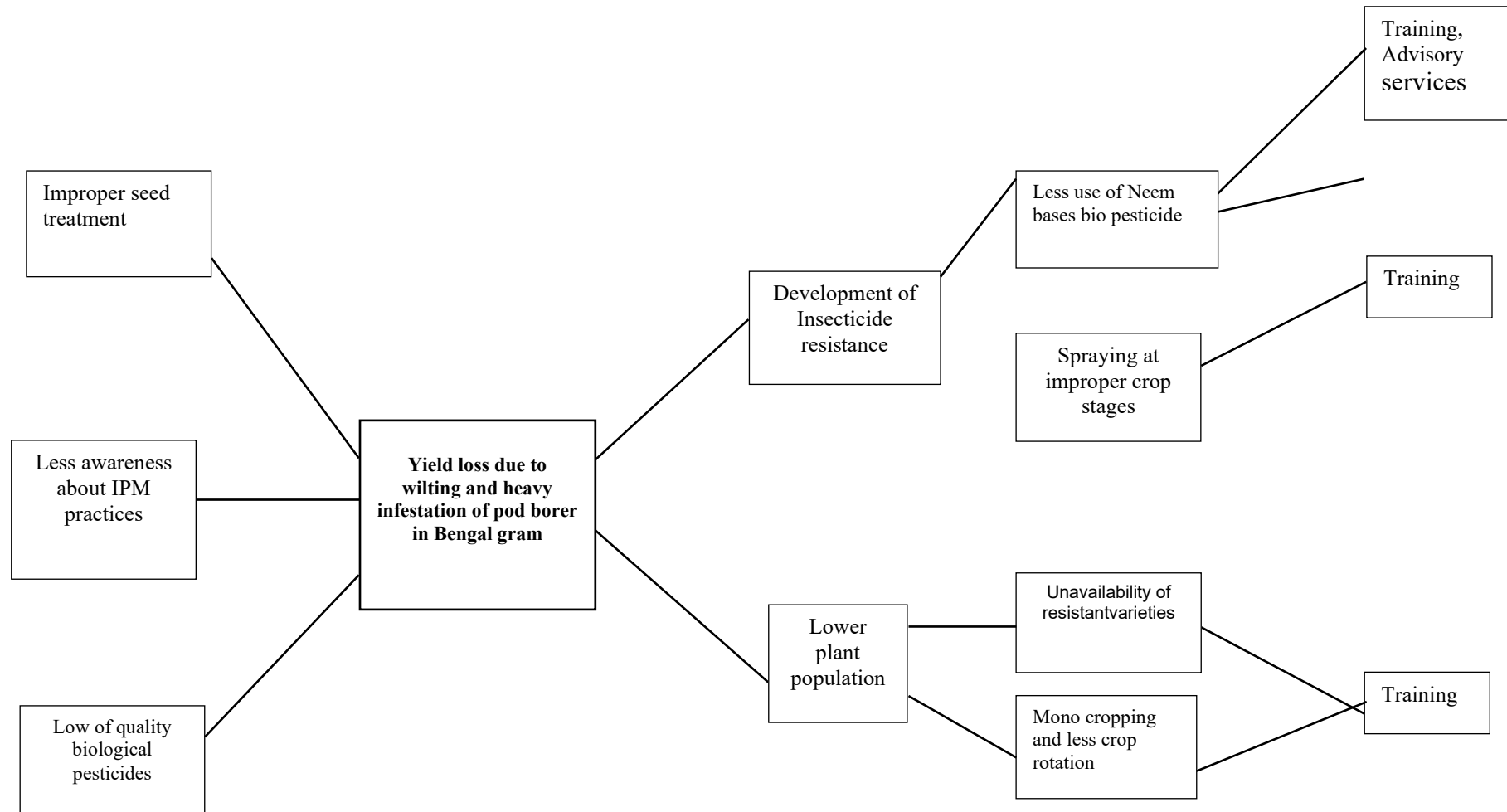
Plant Protection-3

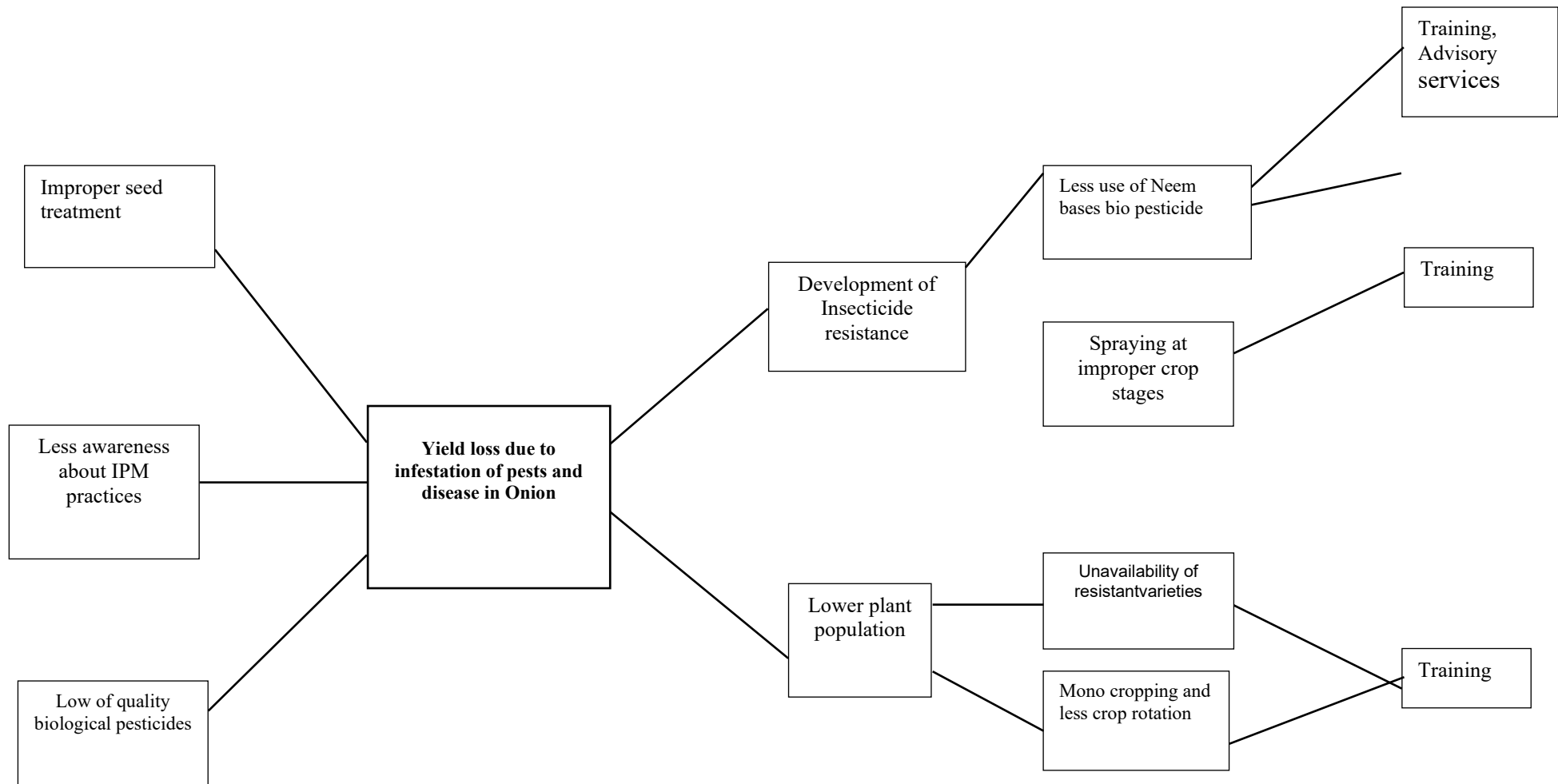


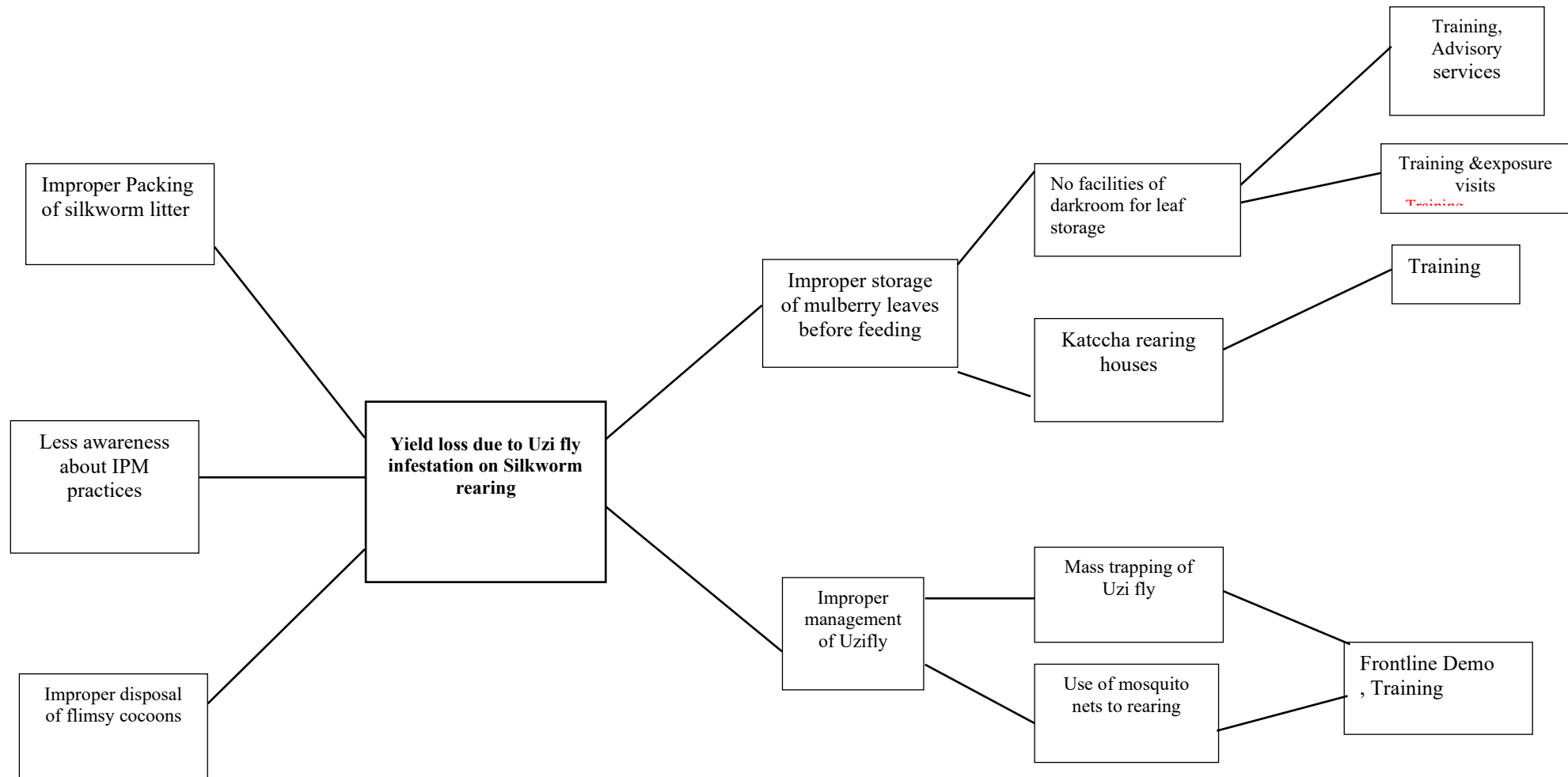
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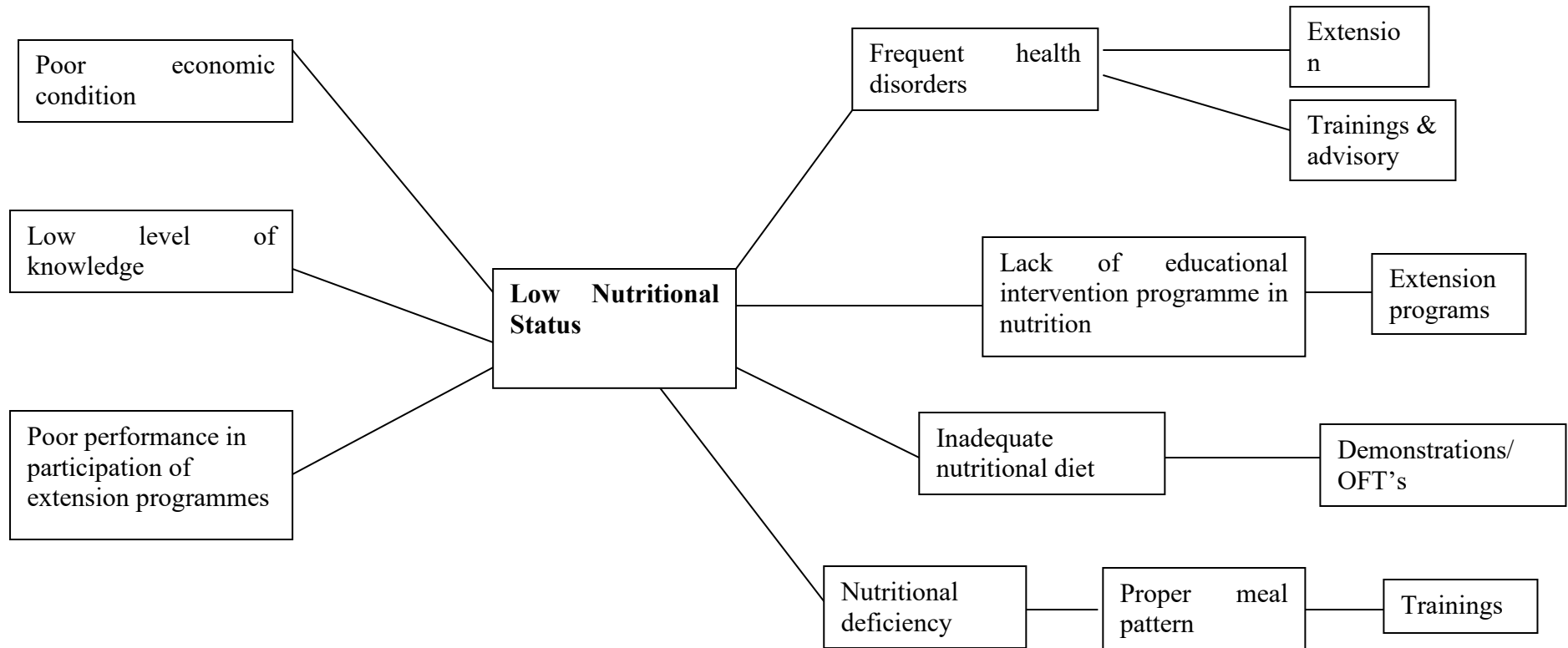


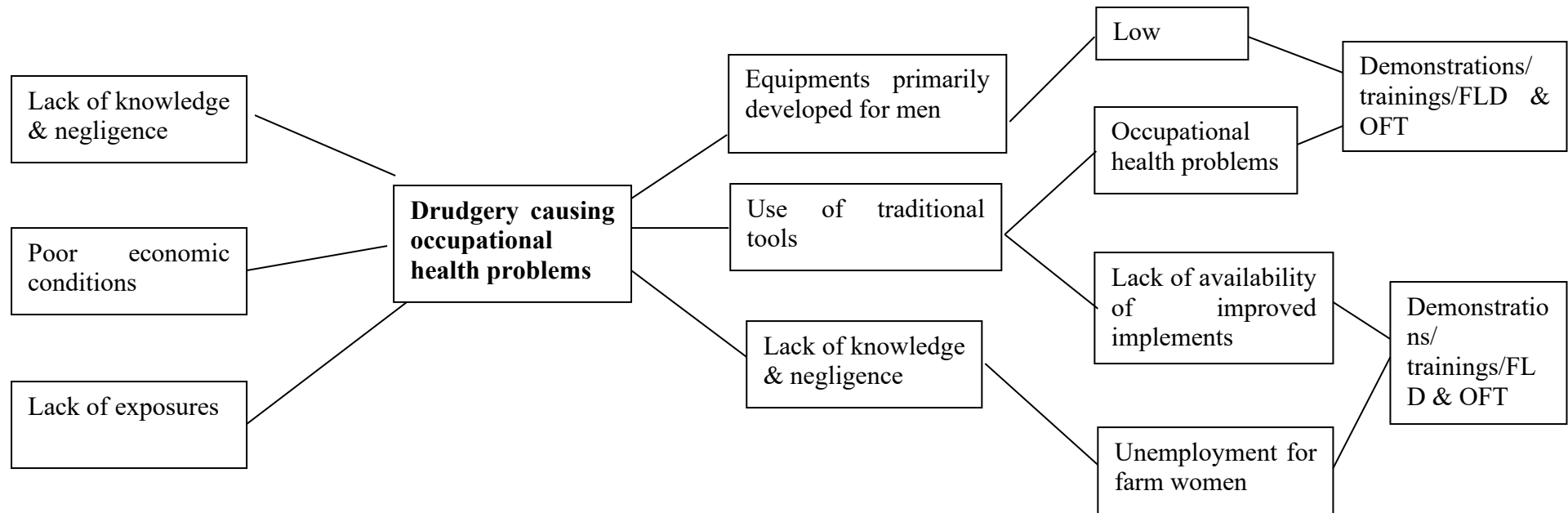
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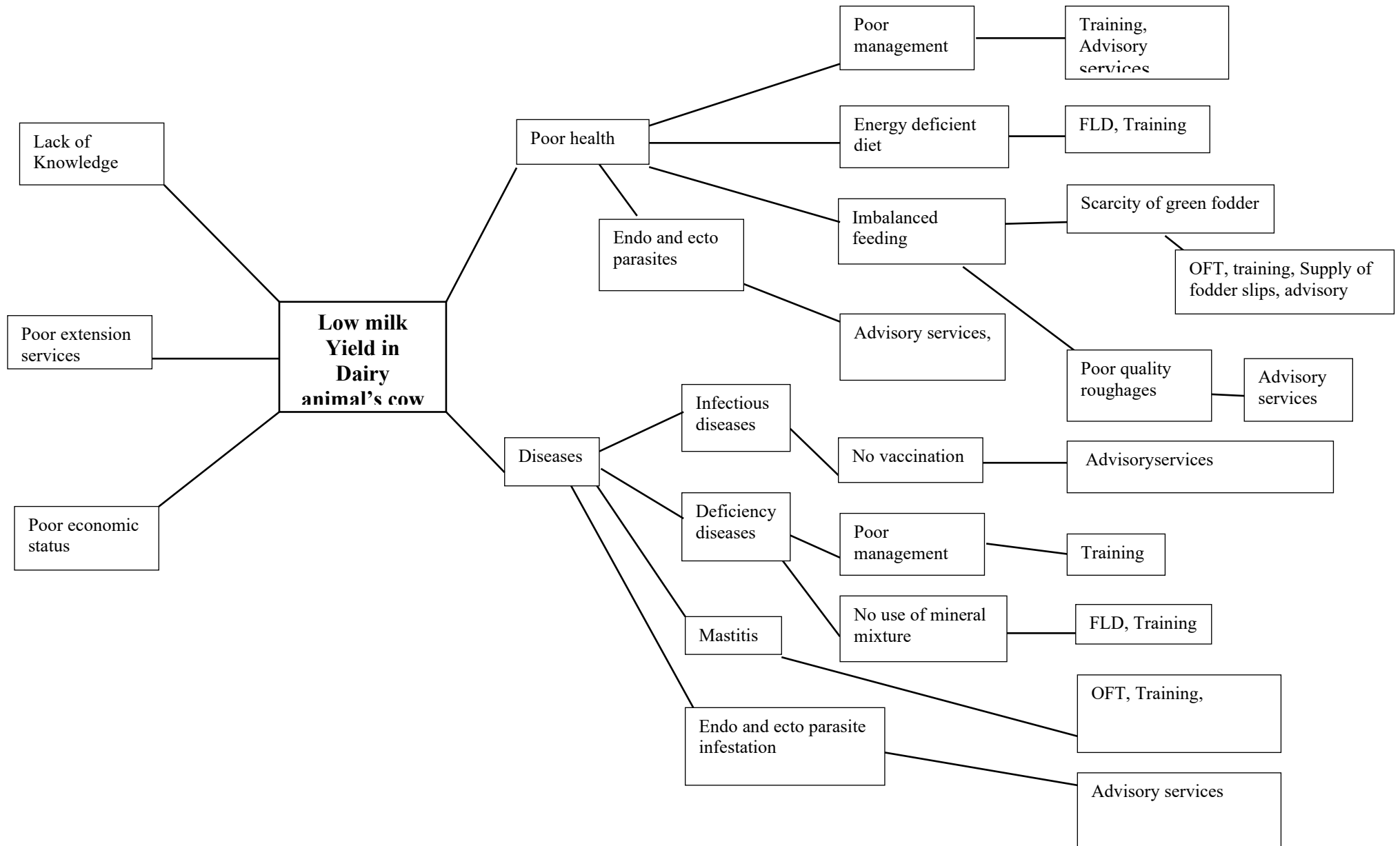


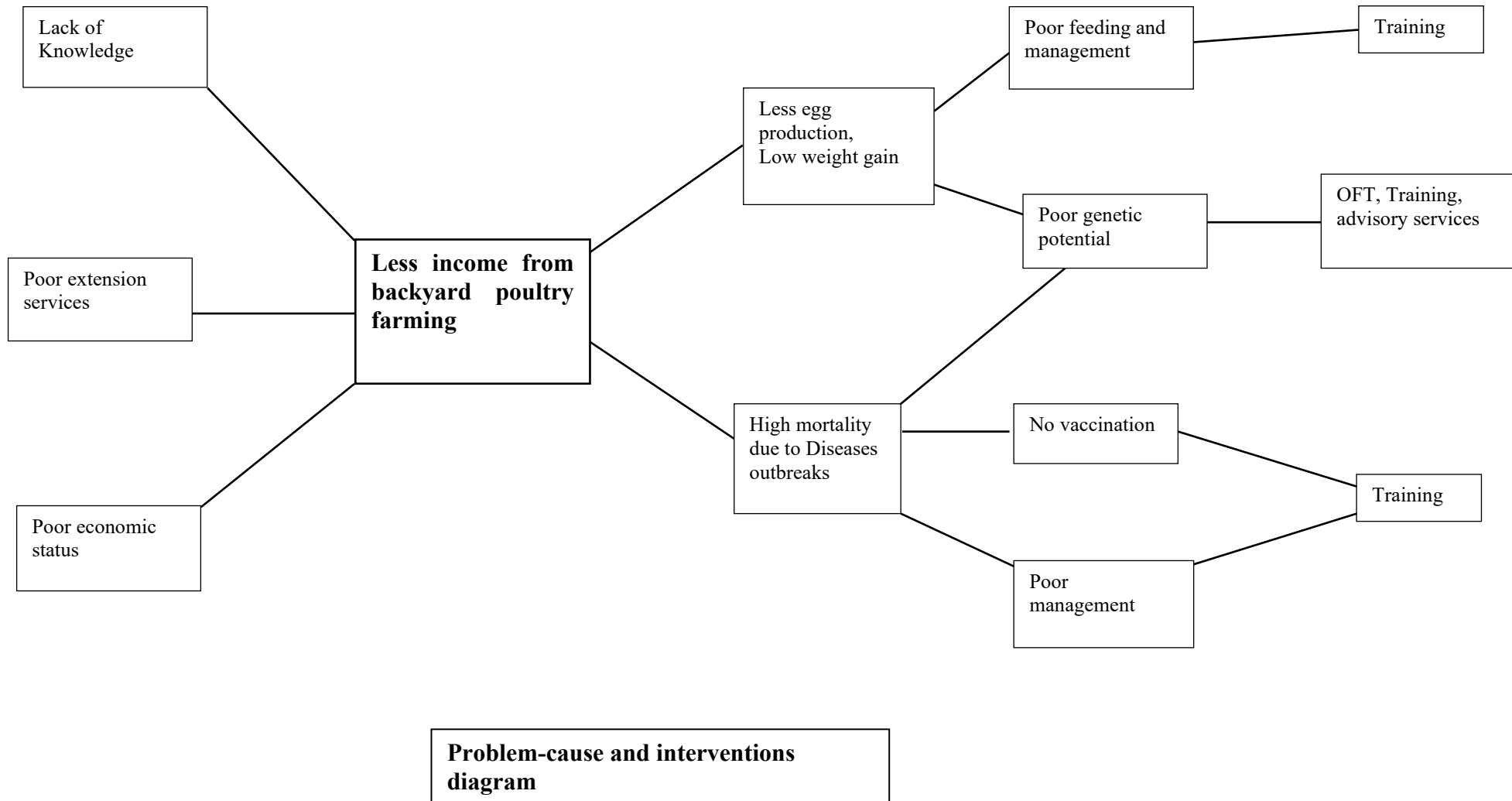


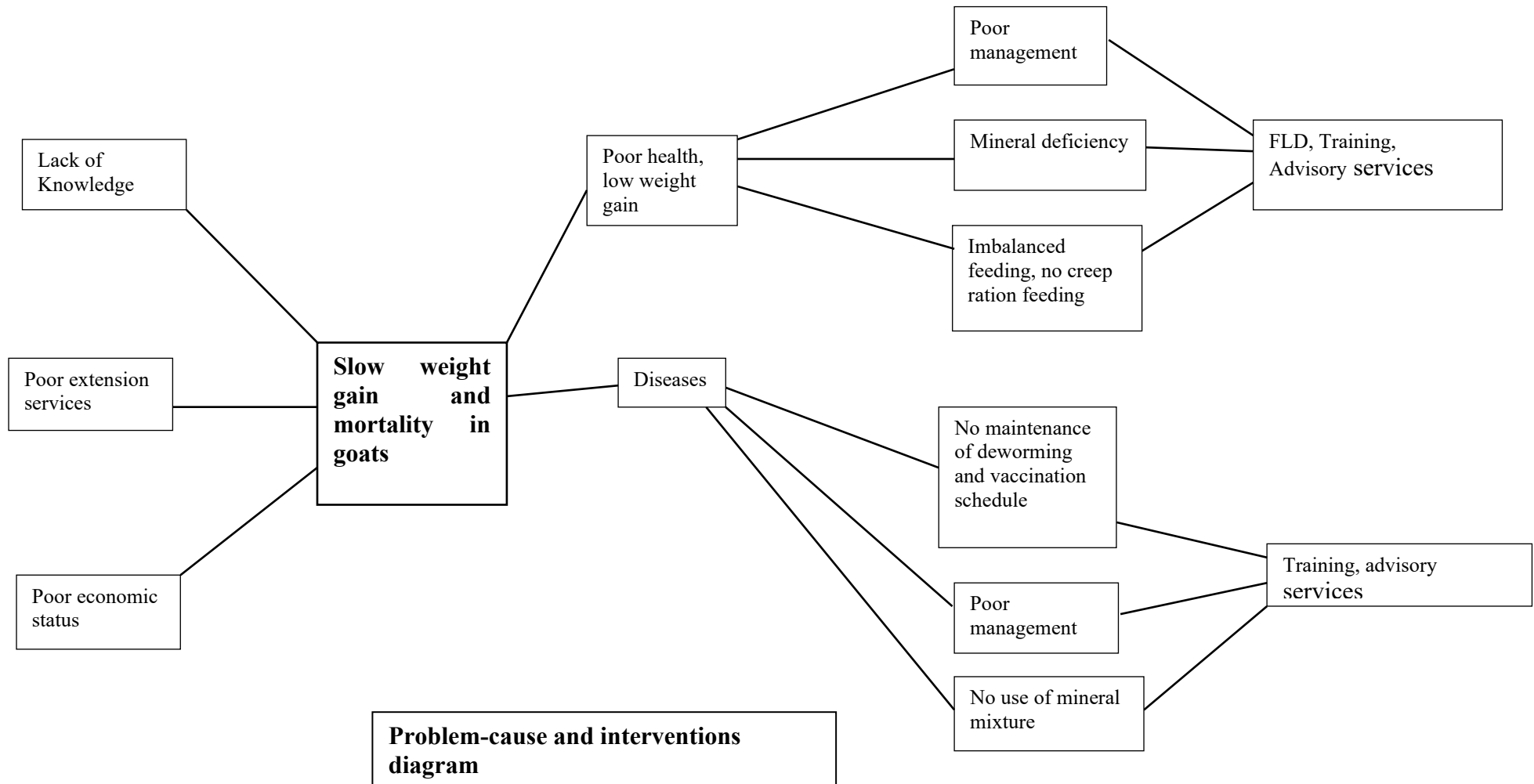












3.2. Technology Assessment (Kharif 2022, Rabi 2021-22, Summer 2022)
A1. Abstract on the number of technologies assessed in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management			01							01
Varietal Evaluation	01	01								02
Integrated Pest Management		01								01
Integrated Crop Management										
Integrated Disease Management		01								01
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System				01						01
Seed / Plant production										
Value addition	01				01					02
Drudgery Reduction					01					01
Storage Technique										
Mushroom cultivation										
Total	02	03	01	01	02					

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds						
Nutrition Management						
Disease of Management	02	02				04
Value Addition						
Production and Management						
Feed and Fodder	02					02
Small Scale income generating enterprises						
TOTAL	04	02				06

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 (Per trial covering all the Technological Options)
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	Rabi Sorghum	Assessment of different varieties of Rabi Sorghum	10	10	1.20
	Soybean	Assessment of different varieties of Soybean	10	10	1.20
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 Crop Management					
Integrated Disease Management	Soybean	Assessment of premixed fungicides and Insecticide for management of disease and pest in soybean	10	10	1.20
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology					
Farm Machineries					
Integrated Farming System					
Seed / Plant production					
Value addition					
Drudgery Reduction					
Storage Technique					

Mushroom cultivation					
Total					

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	Improved poultry birds Grampriya and Kaweri	10	10
Health Management				
Dairy Management				
Nutrition management				
Disease management	Dairy	Mastiguard teat protect spray and Herbal teat dip	10	10
Feed and fodder management	Dairy	Phule Gunvant		
Processing & Value addition		BAIF-10	10	10
Production and management				
Composting fish culture				
Small scale income generating enterprises				
Fish production				
Other				
Total			30	30

.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			
Energy conservation			
storage techniques			
House hold food security			
organic farming			
mechanization			
Bee keeping			
Seed production			
post-harvest management			
Other Sericulture	Assessment on use of ecdysteriod growth hormone sampoorana on	10	10

	silkworm for uniform maturity of silkworm		
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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
Entrepreneurship development			
Health and Nutrition			
value addition	Heat treatment in improving the shelf life of pearl millet : Bajara	10	10
Kitchen gardening	Improve the hemoglobin level using drumstick powder on anemic women	10	10
nutrition security			
other			

C. 1. Results of Technologies Assessed

Results of On Farm Trial

OFT:1 (Agronomy)

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
Rabi Sorghum	Rainfed with Protective Irrigation	Unawareness about improved varieties. Low yield Sowing on Rainfed Situation Unaware about seed treatment. High cost of cultivation	Assesment of different varieties of Rabi Sorghum	10	T1: Variety –Dagadi (Local)	Plant Height (cm)	T1	T2	T3	The result showed that variety T3 provided 37% higher yield over Farmer Practice .T3 provided higher yield (29.8/ha) which was superior over variety T2 (24.5 q/ha) and T1(21.75q/ha).	Phule Vasudha is having good bread making quality. Due to medium plant height habit reduces risk of lodging as compared to other varieties. Increase in yield by 21.6% as compared to T2 and 37% compared to local variety.	-	-
						234	186	206					
					T2: Variety- Parbhani Moti	Yield (q/ha)	21.75	24.5	29.8				
T3: Variety- Phule Vasudha													

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)	Farmer's practice	21.75	Q/ha	41125	2.17
Technology option 2	VNMKV, Parbhani	24.5	Q/ha	50500	2.43
Technology option 3	MPKV, Rahuri	29.8	Q/ha	69050	2.95



OFT:2 (Agronomy)

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 t needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Chickpea	Irrigated	Unaware about use of biofertilizers Imbalanced application of fertilizers Low yield due to incidence of wilt disease Use of local varieties Unaware about use of fungicides and insecticides	Effect of soil test based fertilizer application with foliar feeding on Chickpea in rainfed condition	10	T1: RDF	No. of Branches/plant	T1	T2	T3	The result showed that Treatment T2 performed well and provided higher yield 19.3 q/ha which was about 30.40 % higher over farmer practice. Net income of Rs 66840/h a was realized by participating farmers.	Foliar application fertilizer with basal dose helps to increase in branches at 30 DAS and Flowering 45 DAS. Foliar Spraying performed better results in crop lusture and ultimetaly in yield T2 by 17.32% over T3 and 30.40 % as compared to local practice.	-	-
					T2: RDF + 1% KNO ₃ (30 Days)+ 2% DAP (45 Days)	Yield (q/ha)	6	12	9				
					T3: RDF + 3% Urea @ Folwering and 10 Days after Flowering		14.8	19.3	16.4 5				

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: RDF	Farmer's practice	14.8	Q/ha	45540	2.78
T2: RDF + 1% KNO ₃ (30 Days)+ 2% DAP (45 Days)	MPKV,Rahuri	19.3	Q/ha	66840	3.59
T3: RDF + 3% Urea @ Folwering and 10 Days after Flowering	VNMKV,Parbhani	16.45	Q/ha	53160	3.06



OFT:3 (Agronomy)

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
Soybean	Rainfed with Protective Irrigation	Less productivity & Labour shortage Use of old variety JS- 335 Imbalance use of fertilizers Pest and disease	Assessment of different varieties of soybean	10	T1: Variety -Js-335	No. of Pods/plant	T1	T2	T3	Result observed that T2 gave higher yield 18.52 q/ha which was about 38.51% higher over farmer practice. Increased no of	MAUS-612 variety having character of close bearing pods and can persist in heavy rainfall situation during Kharif Season. Increase in yield 9.4% as compared to T2 and 38.51 %	-	-
					T2: Variety- MAUS- 612	Yield (q/ha)	13.37	18.52	16.92				
							23.62	31.96	26.34				

		occurrence Non availability of labours for weed management.			T3: Variety- MAUS- 158					Pods/plant by 35.30% results to increase in yield.	by Local Practise. Resistance to pest and disease attack is more as compared to other two varieties.		
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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	BC Ratio
13	14	15	16	17	18
T1: Variety –Js-335	JNKKV,Jabalpur	13.37	Q/ha	33796	1.77
T2: Variety- MAUS-612	VNMKV,Parbhani	18.52	Q/ha	63166	2.42
T3: Variety- MAUS-158	VNMKV,Parbhani	16.92	Q/ha	98136	2.21



OFT:4 (Plant Protection)

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 unskilled 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 16.6	T2 10.8	T3 6.4	This result showed 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 6.25 % and 8.03 % 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	24.4	18.6	12.0			
					T3: Seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS @ 10 ml/kg seed	3. % Stem tunneling due to stem fly	78.1	58.4	42.2			
						4. Grain yield (kg/ha)	2240	2380	2420			

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha)	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	2240	Kgs/ha	77670	2.48
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	2380	Kgs/ha	83790	2.54
T3: Seed treatment with premixed fungicides and insecticide Azoxystrobin 2.5% + Thiophanate Methyl 11.25% + Thiamethoxam 25% FS @ 10 ml/kg seed	IISR, Indore	2420	Kgs/ha	85610	2.56

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

OFT:5 (Plant Protection)

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 refinem ent 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 56.10	T2 45.20	T3 42.17	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 flyat 45 DAS	21.50	17.50	14.27			
						Cost of Plant Protection for first spray/ha	4250	5950	6150			
					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	2310	2465	2510			

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha)	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	2310	Kgs/ha	80780	2.21
T2: Spraying tank-mix combinations of Quinalphos 25 % EC @ 600 ml /ha + Imazethapyr 10SL@ 1000 ml /ha (POE) 30 days after	ICAR -IISR, Indore	2465	Kgs/ha	87630	2.58
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	2510	Kgs/ha	89830	2.61

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





OFT:6 (Plant Protection)

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
Sericulture	Irrigated	Farmers are forced to pick and mount the silkworm as and when they mature and the mounting process extends up to 2 –3 days	Assessment on use of ecdysteriod growth hormone sampoorna on silkworm for uniform maturity of silkworm	10	Application of ecdysteriod growth hormone Sampoorna @ 20 ml (dissolved in 4 liter of water) per 100 dfls over the leaves for early and uniform spinning of cocoons.		T1	T2	Results showed that, after application of Sampoorna ecdysteriod growth hormone, 86.5 % of the silkworms were ready for mounting by 18 hrs whereas in farmers practice only 39.5 % silkworms were ready for mounting. There is no significant difference in economic characters of cocoons i.e., cocoon weight (5.17%) and shell ratio percentage (0.49 %) between farmers practice and intervention practice at onset of spinning.	The use of Sampoorna found effective for uniform and synchronized maturation, when used at 3-5 % silkworms' starts spinning. It is very beneficial during late batches (i.e., onset of summer) were shortage of mulberry leaves due to lack of irrigation sources. Farmers not preferred its use during rainy and winter season, when ample number of mulberry leaves is available.
						Avg. Cocoon weight (Gram)	2.26	2.34		
						Shell /Cocoon Ratio	23.69	23.64		
						Percent maturity 18 hrs after application	41.2	84.4		
						Yield (Qtls) /ha	4.19	4.25		

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	4.12 (412)	Qtls/ha (Kgs/500 Dfls)	115425	3.33

Technology option 2	Central Sericultural Research & Training Institute (CSRTI), Mysore	4.44 (444)	Qtls/ha (Kgs/500 Dfls)	125975	3.44
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Assessment on use of ecdysteriod growth hormone- Sampoorna on silkworm for uniform maturity of silkworm



Uniform and Synchronized Maturation of Cocoons after application of Sampoorna Hormone

OFT-7 (Home Science)

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 shelflife of pearl millet: Bajara	10	T1 – Farmers practice- Milling of Bajara	Storage period in a days	8	Heat treatments to the grains before milling improve the storage period up to 26 to 32 days at ambient conditions. Which is commercial acceptable. While T1 flour had bitter taste at 9 th day of storage.	Due to this method to the grains before milling isincreasing the consumption of bajara.		
						organoleptic Acceptability	9				
					T2 – Technology Assessed- Blanching of seeds at 98 C, 30-120secs before milling of Bajara	Storage period in a days	26				
						organoleptic Acceptability	27				
					T3 - Technology Assessed Dry heat treatment for 120 minutes	Storage period in a days	32				
						organoleptic Acceptability	33				

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	800	Gms/kg		
Technology option 2	MPKV,Rahuri	755	Gms/kg		
Technology option 3	CCS, Haryana, Agriculture University, Hisar	770	Gms/kg		

		
Blanching of seeds at 98 C, 30-120secs	OFT on Heat treatment in improving the shelf life Bajara flour	Bajara Flour

OFT-8 (Home Science)

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
Drumstick leaves powder	Irrigated	1. An iron poor diet 2. Low level of hemoglobin content in blood of women	To improve the hemoglobin level using drumstick powder by anemic women	10	T1: Regular diet	Hemoglobin gms/dl	9.8	Assesment shows that drumstick leaves powder is helpful in improvement in Hb level. Extra nutrients such as calcium also consumed from this powder.	It is a low cost, locally available which is effective in combat the iron deficiency anemia.		
						Deficiency signs	Feeling weak & tired Irritability				
					T2: Regular diet + 25gms drumstick leaves powder	Hemoglobin gms/dl	11				
						Deficiency signs					

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 leaves powder.				
Technology option 3					



Distribution of Drumstick leaves powder

Training under OFT Programme

Use of drumstick leaves powder for improving the hemoglobin level

OFT-9 (Home Science)

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
Drumsticks	Irrigated	Difficult task & time consuming	Assess the efficiency of	10	Use of hook & bamboo for	Harvesting capacity Kg/hr	16.25	The harvester is most efficient & comfortable	It is a lightweight device & can		

		activity	Drumstick harvester for harvesting drumstick pods		harvesting drumstick pods	Damage drumstick pod percentage (%)	4.71	during harvesting. The harvesting capacity is 26.57% more & damage percentage decreased by 68.15% than traditional method.	and therefore can be easily carried from one place to another.		
					Use of manual drumstick harvester for harvesting drumstick pods	Harvesting capacity Kg/hr	22.13				
						Damage drumstick pod percentage (%)	1.50				

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	130.00	Kgs/day		
Technology option 2	MPKV,Rahuri	177.04	Kgs/day		
Technology option 3					



Drumstick harvester for harvesting drumstick pods

OFT-10 (Veterinary)

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the paramete r	Results of assessment	Feedback from the farmer	Any refinem ent needed	Justificati on for refinemen t
1	2	3	4	5	6	7	8	9	10	11	12
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	820	Phule Gunvant fodder yield is 15.8 % more than the farmers practice and 5.5% more than the BHN-10. Both the assessed varities are good as compared to the farmers practice.	BHN-10 has soft leaves and stem, no fodder wastage by animal. Phule Gunvant has soft leaves, regenerates quickly after cutting.	-	-
						Tillers/clump, No.	14				
						Leaves/stem, No.	15				
						No. of cuttings/reporting period	3				
					T2 – Technology Assessed- BHN-10	Green fodder yield, q/ha	900				
						Tillers/clump, No.	17				
						Leaves/stem, No.	16				
						No. of cuttings/reporting period	3				
					T3 – Technology Assessed- Phule Gunvant	Green fodder yield, q/ha	950				
						Tillers/clump, No.	16				
						Leaves/stem, No.	17				
						No. of cuttings/reporting period	3				

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	82	t/ha	34500	1.72
T2 – Technology Assessed-	BAIF, Urali kanchan	90	t/ha	42500	1.89

BHN-10					
T3 – Technology Assessed- Phule Gunvant	MPKV, Rahuri	95	t/ha	47500	2.0



Crop stand after One month after planting



Phule Gunvant crop stand



BHN-10 crop stand

OFT-11 (Veterinary)

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the paramete r	Results of assessment	Feedback from the farmer	An y refi ne me nt nee ded	Justific ation for refine ment
1	2	3	4	5	6	7	8	9	10	11	12
Dairy	-	Incidence of sub clinical and clinical mastitis	Assessm ent of Post milking teat disinfect ants to reduce	10	1.Farmers Practice- No use of teat germicide after milking	Milk yield, lit/animal/day	13.0	-	Technology is easy to use. Milk production increased. Teat becomes	-	-
						Fat, %	3.5				
						Incidence of Sub clinical mastitis, %	30				
						Incidence of clinical mastitis, %	10				
						Incidence of cracks, wounds on teats, %	40				

			incidence of clinical mastitis		T2-Technology assessed-Use of Mastiguard teat protect spray	Milk yield, lit/animal/day	14.8	Use of chemical masiguard teat protect increased milk yield by 13.84 %, reduced incidence of subclinical mastitis by 66 %, clinical mastitis by 100 %, cracks and wound on teat by 100 % than the farmers practice	smooth and no cracks on teats it makes easy for milking.		
						Fat, %	3.6				
						Incidence of Sub clinical mastitis, %	10				
						Incidence of clinical mastitis, %	0				
						Incidence of cracks, wounds on teats, %	0				
					T3-Technology assessed-Use of Herbal teat spray (Mastinil)	Milk yield, lit/animal/day	14.5	Application of herbal teat spray (Mastinil) increased milk production by 11.53 %, reduced incidence of subclinical mastitis by 66%, clinical mastitis by 100 %, cracks and wound on teat by 100 % than the farmers practice			
						Fat, %	3.5				
						Incidence of Sub clinical mastitis, %	10				
						Incidence of clinical mastitis, %	0				
						Incidence of cracks, wounds on teats, %	0				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
1.Farmers Practice- No use of teat germicidal after milking	-	4030	Milk yield, liter/animal/year	46355	1.57
T2- Technology assessed- Use of chemical disinfectant after milking as teat dip (Mastiguard Teat protect)	TNAU	4588	Milk yield, liter/animal/year	63145	1.76
T3- Technology assessed- Use of	GADUVAS	4495	Milk yield,	60590	1.75

Herbal teat spray (Mastinil)			liter/animal/year		
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Showing how to use and count somatic cells in the milk



Farmer using herbal teat spray



Farmer using mastiguard teat protect spray

OFT-12 (Veterinary)

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
Poultry	Backyard poultry farming	Low egg laying capacity of desi breeds. Low body weight of desi breeds in back	Assessment of Improved Poultry breeds for backyard poultry	10	T1 – Farmers practice – Rearing of desi poultry birds	No. of eggs/bird/year	61	OFT started in Rabi 2021. Rearing of Garmpriya and Kaweri poultry birds in backyard farming	Grampriya and Kaweri both the breeds easily adopted the backyard situation. Very less		
						Body weight at maturity, Kg.	1.2				
						Egg Weight, gms	42				
						age at first egg, days	198				
						Survival rate, %	92				
					T2 –	No. of eggs/bird/year	157				

		yard Less return from the desi birds	farming		Technology Assessed- Grampriya poultry birds	Body weight at maturity, Kg.	2.15	increased egg production by 157 % and 154 % respectively and net income by 95 % and 91 % respectively than the desi birds.	mortality, egg size is big, attractive plumage colour, easily thrived on whatever available in the backyard.		
						Egg Weight, gms	55				
						age at first egg, days	158				
						Survival rate, %	95				
					T3 – Technology Assessed- Kaweri poultry birds	No. of eggs/bird/year	155				
						Body weight at maturity, Kg.	2.05				
						Egg Weight, gms	55				
						age at first egg, days	162				
						Survival rate, %	94				

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 Desi birds		61	No. of eggs /bird/year	4020	2.01
Technology option 2- Grampriya birds	PDP, Hyderabad	157	No. of eggs /bird/year	7857	2.55
Technology option 3- Kaweri birds	CPDO, Bangalore	155	No. of eggs /bird/year	7679	2.50



Farm women with birds



Grampriya poultry birds



Director, ATARI, Pune visit to Backyard poultry unit under OFT

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

OFT-1

1. **Title of Technology Assessed:** Assessment of different varieties of Rabi Sorghum
2. **Problem Definition:** Unawareness about Improved Varieties, Low yield, High cost of cultivation, Unaware about pest and diseases.
3. **Details of technologies selected for assessment:**
 T1: Variety -Dagadi (Local)
 T2: Variety -Parbhani Moti
 T3: Variety -Phule vasudha
4. **Source of technology:** VNMKV, Parbhani, MPKV Rahuri
5. **Production system and thematic area:** Varietal Evaluation
6. **Performance of the Technology with performance indicators:**
 Result indicates that Phule Vasudha gives (29.8 q/ha) 37.00 % higher yield over farmers practice (21.75q/ha).
 Bread making quality of Phule Vasudha is better as compared to other varieties with grain and fodder quality.
 Plant height for assessed varieties is less as compared to farmers practice so lodging risk at time of harvesting is low.

7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques:**
 - Reduce lodging risk due to plant height.
 - Increase in yield compared to local varieties
 - Improved varieties are resistant to pest and diseases
 - Good quality grain and fodder.
8. **Final recommendation for micro level situation:**
 - Availability of improved variety seed is major constraints so, need to produce seed in bulk.
 - Promotion of newly released improved varieties through training and group discussions.
 - Adoption of technology on basis of climatic situation and soil health.
 - Protective irrigation at critical growth stages
 - Promote to use of Integrated Nutrient and Crop Management Practices
9. **Constraints identified and feedback for research:**
 - Unavailability of good quality seeds of improved varieties.
 - Unawareness among farmers about characteristics 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. Farmers are come to know importance of demonstrations conducted results to increase in yield by using new technologies.

OFT-2

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 to incidence of wilt disease, Unawareness about resistant varieties, 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 @ Folwering 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 (19.3q/ha) 30.40% higher yield over T1 (14.8q/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:

Increase in yield by 30.40% 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:

Use of improved pest and disease resistant varieties.

Application of RDF according to soil health card reports.

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:

Unawareness among farmers about use of at correct stages foliar fertilizers.

Unawareness about application of RDF according soil health card reports.

Need to promote for 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.

OFT-3

1. **Title of Technology Assessed:** Assessment of different varieties of Soybean

2. **Problem Definition:** High cost of Cultivation, Labour Shortage, Same cropping pattern year by year i.e. Soybean followed by Chickpea, Low yield due to use of old varieties, 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 MAUS-612

T3: Cultivation of Soybean Variety MAUS-158

4 **Source of technology:** VNMKV, Parbhani

5 **Production system and thematic area:** Varietal Evaluation

6 Performance of the Technology with performance indicators:

MAUS-612 gives 38.51% (31.96 q/ha) higher yield over farmers practice (23.62 q/ha).

MAUS-612 shows early maturity compared to Farmers practice. Close bearing of pods is special characters observed in variety.

MAUS-158 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:

MAUS-612 variety can sustain in heavy and low rainfall situation.

Increase in yield by 38.51% as compared to farmers practice.

Resistant to pest and diseases as compared to farmers practice.

8 Final recommendation 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.

OFT-4

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 Thirum @ 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:**

Parameters of assessment	Data on the parameter		
	T1	T2	T3
1. % Seedling Mortality (20 DAG)	16.6	10.8	6.4
2. % Anthracnose (Pod blight) Incidence	24.4	18.6	12.0
3. % Stem tunneling due to stem fly	78.1	58.4	42.2
4. Grain yield (kg/ha)	2240	2380	2420

The results of assessment showed that the percent seedling mortality after 20 DAG was 16.6 % in farmers practice, 10.8 %, 6.4 % in T1 and T2 respectively. After 75 DAG percent Anthracnose (Pod blight) incidence was 24.4, 18.6, 12.0 % in T1, T2 and T3 respectively and % Stem tunneling due to stem fly was 78.1, 58.4, 42.2 % in T1, T2 and T3 respectively. These figures indicates 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 6.25 % and 8.03 %. over farmers practice in T2 and T3 respectively.

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.

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.

OFT-5

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 56.10 in farmers practice, 45.20, 42.17 in T1 and T2 respectively. After 45 days of sowing percent stem tunnelling due to stem fly was 21.50, 17.50, 14.27 % in T1, T2 and T3 respectively.

Parameters of assessment	Data on the parameter		
	T1	T2	T3
Weed count at 45 DAS	56.10	45.20	42.17
% Stem tunnelling due to stem fly at 45 DAS	21.50	17.50	14.27
Cost of Plant Protection for first spray/ha	4250	5950	6150
Yield Kg/ha	2310	2465	2510

Cost of Plant Protection per ha was Rs.4250, Rs.5950 and Rs.6150 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.

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.

OFT-6

1. Title of Technology Assessed: Assessment on use of ecdysteriod growth hormone Sampoorina on silkworm for uniform maturity of Mulberry silkworm

2. Problem Definition:

The maturation and spinning activities in silkworms are not uniform. In normal practice of silkworm rearing, farmers are forced to pick and mount the silkworm as and when they mature and the mounting process extends up to 2 — 3 days and even more during cooler seasons. This involves lot of time, labour and extra mulberry leaf and ends up in higher

production cost besides some marketing difficulties. In drought prone areas farmers are frequently facing economical losses during late batches (i.e., onset of summer) due to lack of irrigation sources shortage of mulberry leaves.

3. Details of technologies selected for assessment:

T1 - Farmers are forced to pick and mount the silkworm as and when they mature and the mounting process extends up to 2 –3 days

T2 - Application of ecdysteriod growth hormone - Sampoorna @ 20 ml (dissolved in 4 liter of water) per 100 dfls over the leaves for early and uniform spinning of cocoons.

Thin feeding was given to silkworms, which are to be treated with Sampoorna. Diluted solution was sprayed on the feed using a hand sprayer. After 6 - 8 hours of treatment, one more feeding was given after complete consumption of treated leaf wherever required. Mountages were kept on the rearing beds at the same time to all the batches.

4. Source of technology: Central Sericultural Research & Training Institute (CSRTI), Mysore

5. Production system and thematic area: Sericulture

6. Performance of the Technology with performance indicators:

Parameters of assessment	Data on the parameter	
	T1	T2
Cocoon weight (Gram)	2.26	2.34
Shell /Cocoon Ratio	23.69	23.64
Percent maturity 18 hrs after application	41.2	84.4
Yield (Qtls) /ha	4.19	4.25

Results showed that, after application of Sampoorna ecdysteriod growth hormone, 86.5 % of the silkworms were ready for mounting by 18 hours whereas in farmers practice only 39.5 % silkworms were ready for mounting. There is no significant difference in economic characters of cocoons i.e., cocoon weight (5.17%) and shell ratio percentage (0.49 %) between farmers practice and intervention practice at onset of spinning

Also results revealed that, the maturation processes completing quickly i.e., within 24 hrs. without affecting the cocoon quality after application of hormone. This intervention helps farmer in synchronizing all post cocoon activities and saving labour and mulberry leaves.

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

The use of Sampoorna found effective for uniform and synchronized maturation, when used at 3-5 % silkworms' starts spinning. It is very beneficial during late batches (i.e., onset of summer) were shortage of mulberry leaves due to lack of irrigation sources

8. Final recommendation for micro level situation:

Recommendation for micro level situation regarding use of Sampoorna in silkworm rearing should be for two conditions

1. To achieve synchronize the maturity activity of silkworm

2.To archive uniform spinning and advanced maturity activities when crop losses is predicted due to mulberry leaf shortage.

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

Farmers not preferred its use during rainy and winter season, when ample number of mulberry leaves is available.

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like group discussions, trainings, literature, farmers rally etc.

OFT-7

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 26 & 32 days by blanching of seeds at 98 C, 30-120secs & heat treatments for 120 minutes before milling of seeds respectively which is commercially acceptable. While T1 flour had bitter taste at 9th day of storage.

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

Increase in storage period, so it can be made available commercially.

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:**

Unawareness of women farmers regarding improvement of shelf life of flour through this technology.

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.

OFT-8

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:**
The harvester is most efficient & comfortable during harvesting. The harvesting capacity is 26.57% more & damage percentage decreased by 68.15% than traditional method.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**
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 lightweight device & can and therefore can be easily carried from one place to another.
9. **Constraints identified and feedback for research:**
Current form of harvesting includes shaking the trees by hand, climbing the trees, using hook and bamboo made out of scrap material. Drumstick tree is very delicate for climbing hence, there should be accidental chances for labour. Improved harvesting method is needful for harvesting drumstick pods
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.

OFT-9

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:**
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**
It is a low cost, locally available which is effective in combat the iron deficiency anemia.
8. **Final recommendation for micro level situation:** Drumstick stick leaves powder is also useful to the economically weaker section of the society.
9. **Constraints identified and feedback for research**
Unawareness of women farmers regarding locally & homestead avialabilty 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.

OFT-10

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 cultivates old variety of Napier fodder crop i.e. Phule Yashwant for round the year fodder production. This variety is having low fodder yield, hairs on leaf and high in oxalic acid content. Hence, there should be good alternatives to this variety. Hence, this assessment is conducted to increase green fodder yield and to make good quality green fodder available to the animals round the year

3. Details of technologies selected for assessment:

Farmers Practice (T1) Phule yashwant

Assessed Practice (T2) BHN-10

Assessed Practice (T3) Phule Gunwant

4. Source of technology: BAIF, Urali Kanchan and MPKV, Rahuri

5. Production system and thematic area: Irrigated perennial crop and Varietal evaluation

6. Performance of the Technology with performance indicators:

BHN-10 : BHN-10 fodder yielded 900 q/ha in 3 cuttings up to the reporting period, and having 17 tillers per clump with 16 leaves per stem. BHN-10 fodder crop gives net income of Rs. 42500 with 1.89 BCR.

Phule Gunwant: Phule Gunwant fodder yielded 950 q/ha in 3 cuttings up to the reporting period, and having 16 tillers per clump with 17 leaves per stem. Phule Gunwant fodder crop gives net income of Rs. 47500 with 2.0 BCR.

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

Green fodder yield increased

Net return increased

No. of tillers per clump is more.

8. Final recommendation for micro level situation: Looking to the results performance of both the assessed fodder varieties are superior than the farmer's 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

OFT-11

- 1 Title of Technology Assessed:** Assessment of Post milking teat disinfectants to reduce incidence of sub clinical mastitis in CB cows
- 2 Problem Definition:**
- Bovine mastitis is economically the most important significant disease of dairy cow. There is huge loss to the farmers due to mastitis. Out of two forms of mastitis, subclinical mastitis is subtle, causes huge economic losses, and is difficult to detect as the cow appears healthy, the udder does not show any signs of inflammation and the milk appears normal. However, microorganism and somatic cell count found in elevated numbers in the milk. Udder and milking hygiene significantly reduce the risk of environmental pathogen inhabiting and causing inflammatory infection in cows. Keeping in view present assessment was conducted to reduce the incidence of mastitis in dairy cows.
- 3 Details of technologies selected for assessment:**
- T1- No use of teat disinfectants
- T2-Use of Mastiguard teat protect spray after milking
- T3-Use of Herbal disinfectant spray (Mastinil) after milking
- 4 Source of technology:** TNAU and GADVASU
- 5 Production system and thematic area:** Stall fed production system /Disease management
- 6 Performance of the Technology with performance indicators:**
1. Use of Mastiguard teat protect spray post milking: Application of Mastiguard teat protect increased milk yield by 13.84 %, reduced incidence of subclinical mastitis by 66 %, clinical mastitis by 100 %, cracks and wound on teat by 100 % than the farmers practice.
2. Use of Herbal disinfectant after milking as teat dip (Mastidip): Application of herbal teat dip (mastidip) increased milk production by 11.53 %, reduced incidence of subclinical mastitis by 66%, clinical mastitis by 100 %, cracks and wound on teat by 100 % than the farmers practice
- 7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques: --**
- Milk production and fat %- Increased
- Incidence of subclinical mastitis- Reduced
- Incidence of clinical mastitis- Reduced
- Incidence of cracks and wound on teat- Reduced
- 8 Final recommendations for micro level situation:**
- Looking to the results application of assessed teat disinfectants after milking reduces the incidence of subclinical and clinical mastitis, crack and wounds on teats and increased milk yield of dairy animals.
- 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

- 1 **Title of Technology Assessed:** Assessment of Improved Poultry breeds 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 though backyard poultry farming this assessment is conducted.
- 3 **Details of technologies selected for assessment:**

Grampriya and Kaweri are new promising dual-purpose variety for rural poultry production. They have optimum body weight and better egg production capacity.

T1- Rearing of deshi poultry birds

T2-rearing of Grampriya Poultry birds

T3- Rearing of Kaweri poultry birds
4. **Source of technology:** Directorate of poultry research, Hyderabad and CPDO, Bangalore
5. **Production system and thematic area:** Backyard poultry farming/ Breed evaluation
6. **Performance of the Technology with performance indicators:**

Rearing of Garmpriya and Kaweri poultry birds in backyard farming increased egg production by 157 % and 154 % respectively and net income by 95 % and 91 % respectively than the desi birds.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

Annual Egg production- increased

Mortality-Reduced

Net Income- Increased
8. **Final recommendations for micro level situation:**

Looking to the results rearing of improved poultry birds Grampriya and Kaweri increased annual egg production. Reduced mortality and increased net income from backyard poultry farming. Hence, may be used for backyard poultry farming in the district.
9. **Constraints identified and feedback for research:** No
10. **Process of farmer's participation and their reaction:** Farmers are participated through Group discussion, training and demonstration

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 2022 and recommended for large scale adoption in the district

S. No	Crop/ Enterprise	Thematic Area*	Technology demonstrated	Details of popularization methods suggested to the Extension system	Horizontal spread of technology		
					No. of villages	No. of farmers	Area in ha
1	Soybean	INM	Introduction of Zinc Solubilizing Bacteria and Zinc Sulphate to increase productivity of Soybean	Training, Group Discussion, Field day and Demonstration	08	285	114
2	Pigeon pea	ICM	Introduction of Mepiquat Chloride 5% (Growth Regulator) on Pigeonpea to reduce vegetative growth and increase flowering and fruiting	Training, Group Discussion, Field day and Demonstration	12	344	137
3	Pigeonpea	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Pigeon pea	Farmers rally, group discussion, agro advisory,	21	65	32
4	Chickpea	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Chick pea	Popular article, SMS, pomplet, Group discussion, training, field day and demonstration	15	28	35
5	Onion	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Okra	Popular article, SMS, pomplet, Group discussion, training, field day and demonstration	12	55	30
6	Sericulture	CSRTI Cocoon Harvester	Harvesting of cocoons using CSRTI Cocoon Harvester	Popular article, SMS, pomplet, Group discussion, training, field day and demonstration	15	65	40
7	Fodder	Fodder management	Silage making in bags	Large scale demonstration preparation and distribution of folder, supply of silage bags	06	14	-
8	Poultry	Poultry management	Vanaraja Poultry birds	Large scale demonstration	18	24	-
9	Goat	Nutrient management	Mineral Lick Bricks	Large scale demonstration	05	17	-
10	Dairy	Feed and nutrient management	Bypass fat and mineral mixture feeding	Large scale demonstration, preparation and distribution of folder	04	06	-

B. Details of FLDs implemented during 2022(Kharif 2022, Rabi 2021-22, Summer 2022) (Information is to be furnished in the following **three tables** for each category i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.**)

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	Soybean	INM	Introduction of Zinc Solubilizing Bacteria and Zinc Sulphate to increase productivity of Soybean	Kharif 2021	10	10	07	18	25	-
2	Pigeonpea	ICM	Introduction of Mepiquat Chloride 5% (Growth	Kharif 2021	10	10	04	21	25	-

			Regulator) on Pigeonpea to reduce vegetative growth and increase flowering and fruiting							
3	Pigeon pea	IPDM	Integrated Pest and Disease Management in Pigeon pea	Kharif 2022	10	10	0	25	25	-
4	Chickpea	IPDM	Integrated Pest and Disease Management in Chickpea	Rabi 2021-22	08	08	0	20	20	-
5	Onion	IPDM	Integrated Pest and Disease Management in Onion	Rabi 2021-22	08	08	0	20	20	-

Details of farming situation

Crop	Season	Farming situation (RE/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Soybean	Kharif	Rainfed	Black Soil	Medium	Low	High	Bengalgram	10-20 June	1-10 October	805	-
Pigeonpea	Kharif	Irrigated	Black Soil	Medium	Low	High	Soybean	10-20 June	10-20 January	1072	-
Pigeon pea	Kharif	Partial Irrigation	Medium	Medium	Low	Medium	Bengal gram	15-30 June 2022	15 – 30 Dec 2022	-	-
Chickpea	Rabi	Partial Irrigation	Medium	Medium	Low	Medium	Soybean	15-30 Oct 2021	15 -30 Feb 2022	-	-
Onion	Rabi	Irrigated	Medium	Medium	Low	Medium	Soybean	15Oct - 15 Nov 2021	March 2022	-	-

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Soybean- Demonstration gives 29.45% higher yield over Check plot. Balanced application of fertilizers on basis of soil health card reports with RDF results to improve productivity. Importance of seed treatment with biofertilizers and fungicides to improve germination and health of crop.
2	Pigeonpea- Unawareness about application of growth regulator in pigeonpea. Adoption of technology helps farmers to save labour, cost and time. Growth regulator helps to maintain plant height results to increase in no. of branches and yield. Increase in yield by 19.60% over farmer practice with 1.85 B:C ratio
3	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.
4	Phytophthora wilt was not managed effectively. Need to develop wilt disease resistant variety in Bengal gram.
5	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
6	Uzi fly damages 25% crop loss in the 4th to 5th in star and 20% at harvesting stage of cocoons during July to September.

Farmers' reactions on specific technologies

S. No	Feed Back
1	Soybean Increase in yield and economic returns by adoption of technology. Adoption of integrated crop management practices to improve productivity is important. Demonstrated technology is better to overcome multimicronutrient deficiency in soil.
2	Pigeonpea- Demonstrated technology is better option overcome labour shortage problem. Nipping in pigeonpea is most important practice to increase In yield but due to labour shortage farmers cant do. Use of growth regulator through spraying save labour and time. Technology is easy and suitable to adopt as well helps to increase in yield and economic returns
3	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
4	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.
5	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
6	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										
Groundnut																		
Sesamum																		
Mustard																		
Safflower																		

	Varietal with INM	Introduction of improved variety ISF-764 with INM aspect	ISF-764	50	20	11.16	9.3	10.45	8.8	18.75	21540	56858	35318	2.65	18040	47880	29840	2.63
Linseed																		
Sunflower																		
Soybean																		
	INM	Introduction of Zinc Solubilizing Bacteria and Zinc Sulphate to increase productivity of Soybean	MAUS-158	25	10	20.00	15.65	17.8	13.75	29.45	47650	103240	55590	2.16	46400	79750	33350	1.71
	INM	Cultivation of improved variety KDS-726 with INM aspect	KDS-726	125	50	24.8	18.2	21.5	17.25	24.64	46250	124700	78450	2.69	43750	100050	56300	2.28
Castor																		

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																		
	ICM	Introduction of Mepiquat Chloride 5% (Growth Regulator) on Pigeonpea to reduce vegetative growth and increase flowering and fruiting	BDN-716	25	10	6.90	8.60	7.75	6.48	19.60	35500	65875	30375	1.85	35200	55080	19880	1.56
	INM	Cultivation of Wilt and S.M. Resistant variety of Pigeonpea with INM aspect	BDN-716	50	20	8.5	5.75	7.12	5.62	26.69	31700	61054	29354	1.92	29250	48191	18941	1.64
Blackgram																		
	INM	Introduction of Yellow Mosaic Resistant Variety of Blackgram	AKU-15	25	10	8.59	6.89	7.74	6.28	23.25	20925	53406	32481	2.55	18925	43332	24407	2.28
Greengram																		
	INM	Varietal Evaluation of Greengram Variety BM2003-2	BM2003-2	50	20	9.49	7.25	8.37	6.87	21.83	20925	54405	33480	2.60	18925	44655	25730	2.35
Chickpea																		

	INM	Introduction of improved variety of Chickpea Phule Vikram with INM aspect.	Phule Vikram	72	30	22.54	16.2	19.37	15.12	28.11	28600	92976	64376	3.25	27500	72576	45076	2.63
	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Chickpea	Jacky-9218	20	8	21.5	16.2	18.85	16.5	14.24	35250	90480	55230	2.56	33100	79200	46100	2.39
Fieldpea																		
Lentil																		
Horsegram																		
Cowpea																		



Frontline Demonstration (FLD) on Soybean



Frontline Demonstration (FLD) on Pigeonpea



Frontline Demonstration (FLD) on Pigeonpea



Cluster Frontline Demonstration (CFLD) on Greengram



Cluster Frontline Demonstration (CFLD) on Blackgram



Cluster Frontline Demonstration (CFLD) on Pigeonpea



Cluster Frontline Demonstration (CFLD) on Chickpea



Cluster Frontline Demonstration (CFLD) on Soybean



Cluster Frontline Demonstration (CFLD) on Safflower



FLD on Integrated Pest and disease Management in Pigeon pea



FLD on Integrated Pest and disease Management in Chickpea



FLD on Integrated Pest and disease Management in Onion

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)			Check	% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo					Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Cereals																			
Paddy																			
Waterlogged Situation																			
Coarse Rice																			
Scented Rice																			
Wheat																			
Wheat Timely sown																			
Wheat Late Sown																			
Mandua																			
Barley																			
Maize																			
Amaranth																			

Millets																			
Jowar																			
Bajra																			
Barnyard millet																			
Finger millet																			
Vegetables																			
Bottlegourd																			
Bittergourd																			
Cowpea																			
Spongegourd																			
Petha																			
Tomato																			
Frenchbean																			
Capsicum																			
Chilli																			

Brinjal																		
Vegetable pea																		
Softgourd																		
Okra																		
Colocasia (Arvi)																		
Broccoli																		
Cucumber																		
Onion																		
Coriender																		
Lettuce																		
Cabbage																		
Cauliflower																		
Elephant fruit																		
Any other (Pl specify)																		
Flower crops																		

Marigold																			
Bela																			
Tuberose																			
Gladiolus																			
Any other (Pl. specify)																			
Fruit crops																			
Mango																			
Strawberry																			
Guava																			
Banana																			
Papaya																			
Muskmelon																			
Watermelon																			
Any other (Pl. specify)																			
Spices & condiments																			
Ginger																			
Garlic																			
Turmeric																			

Any other (Pl. specify)																			
Commercial Crops																			
Sugarcane																			
Potato																			
Cotton																			
Any other (Pl. specify)																			
Medicinal & aromatic plants																			
Mentholment																			
Kalmegh																			
Ashwagandha																			
Any other (Pl. specify)																			
Fodder Crops																			
Sorghum (F)																			
Cowpea (F)																			
Maize (F)																			
Lucern																			
Berseem																			
Oat (F)																			
Napier																			

					production lit/day				nc eption -1.9								
Sheep & Goat																	
	Feed management	Feeding of kid starter ration to goat kids	10	20	16.8 kg/animal	14.4 kg/animal	16.67	1. Daily weight gain, gm-98.5 2. Mortality %- 13	1. Daily weight gain, gm-80 2. Mortality %-20	2785	10617	7832	3.81	2677	8147	5470	3.04
	Nutrient management	Feeding of mineral lick bricks to goat	15	90	18.8 kg/animal	14.1 kg/animal	33.90	1. Birth weight of kids,Kg-2.12 2.Twinning %-70 3. kids mortality %-16.66	1. Birth weight of kids,Kg-1.96 2. Twinning	2863	8557	5694	2.98	2835	5915	3080	2.08

									%-60 3. Kids mo rtal ity %-21										
Buffalo Calf																			
Dairy																			
Poultry																			
Sheep & Goat																			
Vaccination																			



FLD on Bypass fat and mineral mixture feeding



FLD on kid starter ration feeding



FLD on Mineral lick brick Feeding

FLD on Fisheries

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of units	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demonstration	Check		Demonstration	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Common Carps																	
Composite fish culture																	
Feed Management																	

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 LarvaeInfested by Uzi at 5th Instar			Avg No. of Uzi fly trapped / trap		12550	42250	29700	3.36	11050	29100	18050	2.63
				14	0											
				Cocoon Yield (Kg) / 100 dfls												
				84.5	58.2											
Button Mushroom																
Apiculture																
Maize Sheller																

[illegible]

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Post Harvest Management	Dehydration of vegetables by solar dryer	10	Dehydration time in hrs/days		
			Onion	7.3 hrs	11.9 hrs
			Tomato	8.2 hrs	13.7 hrs
			Spinach	4.9 hrs	8.2 hrs
			Drumstick leaves	3.8 hrs	6.9 hrs
			Garlic cloves	7 days	11 days
Drudgery reduction	Manual vegetable seedling trans planter & sapling carrier	10	No of seedlings transplanted Seedlings/ hr	1140	660
			Area covered R / hr	4.89R	2.83R
			No of labors employed Woman/ ha	4.41	2.55



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

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	526.2	190	63.89	4	4	9,400	21,048	11,648	2.23	4,100	7600	3,500	1.85
Nutritional farming	Nutritional food security	Demonstration on Farming System for Nutrition	50	50	2200	2180	0.90	4	4	24,300	76,200	51,900	3.13	35,321	85,000	49,679	2.40



Nutrition garden



Farming system for nutrition : Nutri cereals, pulses & nutrition garden

FLD on Demonstration details on crop hybrids

Crop	technology demonstrated	Hybrid Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs./ha)			
					Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average						
Oilseed crop													
Pulse crop													
Cereal crop													
Vegetable crop													

Fruit crop													
Other (specify)													

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										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production	1	72	0	72	12	0	12	84	0	84
Nursery management										
Integrated Crop Management	2	79	0	79	15	0	15	94	0	94
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs	1	24	0	24	0	0	0	24	0	24
Others (pl. specify)										
Total	4	175	0	175	27	0	27	202	0	202
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	1	29	1	30	0	0	0	29	1	30
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)	1	29	1	30	0	0	0	29	1	30
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)										
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										
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management										
Feed & fodder technology	1	6	6	12	0	0	0	6	6	12
Production of quality animal products										
Others (pl specify)										
Total	1	6	6	12	0	0	0	6	6	12
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	1	0	21	21	0	8	8	0	29	29
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	9	70	97	167	18	47	65	88	144	232
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	10	70	118	188	18	55	73	88	173	261
VI Agril. Engineering										
Farm Machinery and its maintenance	02	149	17	166	26	3	29	175	20	195
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	28	0	28	02	0	02	30	0	30
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	3	177	17	194	28	3	31	205	20	225
VII Plant Protection										
Integrated Pest Management	1	15	0	15	0	0	0	15	0	15
Integrated Disease Management	1	16	0	16	0	0	0	16	0	16
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	2	31	0	31	0	0	0	31	0	31
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										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	1	42	15	57	1	2	3	43	17	60
WTO and IPR issues										
Others (pl specify)										
Total	1	42	15	57	1	2	3	43	17	60
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										

Others (pl specify)										
Total										
GRAND TOTAL	22	530	157	687	74	60	134	604	217	821

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	2	124	0	124	17	0	17	141	0	141
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming	1	20	85	105	9	11	20	29	96	125
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management										
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs	1	18	2	20	4	2	6	22	4	26
Others (pl specify)										
Total	4	162	87	249	30	13	43	192	100	292
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)										
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)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management	1	50	0	50	4	0	4	54	0	54
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	1	50	0	50	4	0	4	54	0	54
IV Livestock Production and Management										
Dairy Management										
Poultry Management	1	28	0	28	2	0	2	30	0	30
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	20	0	20	0	0	0	20	0	20
Disease Management	2	23	26	49	5	0	5	28	26	54
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)										
Total	4	71	26	97	7	0	7	78	26	104
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	6	11	232	243	0	50	50	11	282	293
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										
Women empowerment	3	0	44	44	0	8	8	0	52	52
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	9	11	276	287	0	58	58	11	334	345
VI Agril. Engineering										
Farm Machinery and its maintenance										
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										

Production of small tools and implements										
Repair and maintenance of farm machinery and implements										
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total										
VII Plant Protection										
Integrated Pest Management	1	14	2	16	0	0	0	14	2	16
Integrated Disease Management	1	44	6	50	5	0	5	49	6	55
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	2	58	8	66	5	0	5	63	8	71
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 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	20	352	397	749	46	71	117	398	468	866

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	2	124	0	124	17	0	17	141	0	141
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming	1	20	85	105	9	11	20	29	96	125
Micro Irrigation/irrigation										
Seed production	1	72	0	72	12	0	12	84	0	84
Nursery management										
Integrated Crop Management	2	79	0	79	15	0	15	94	0	94
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs	2	42	2	44	4	2	6	46	4	50
Others (pl specify)										
Total	8	337	87	424	57	13	70	394	100	494
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	1	29	1	30	0	0	0	29	1	30
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)	1	29	1	30	0	0	0	29	1	30
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)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management	1	50	0	50	4	0	4	54	0	54
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	1	50	0	50	4	0	4	54	0	54
IV Livestock Production and Management										
Dairy Management										
Poultry Management	1	28	0	28	2	0	2	30	0	30
Piggery Management										
Rabbit Management										
Animal Nutrition Management	1	20	0	20	0	0	0	20	0	20
Disease Management	2	23	26	49	5	0	5	28	26	54
Feed & fodder technology	1	6	6	12	0	0	0	6	6	12
Production of quality animal products										
Others (pl specify)										
Total	5	77	32	109	7	0	7	84	32	116
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	6	11	232	243	0	50	50	11	282	293
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	1	0	21	21	0	8	8	0	29	29
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	9	70	97	167	18	47	65	88	144	232
Women empowerment	3	0	44	44	0	8	8	0	52	52
Location specific drudgery reduction technologies										
Rural Crafts										

Women and child care										
Others (pl specify)										
Total	19	81	394	475	18	113	131	99	507	606
VI Agril. Engineering										
Farm Machinery and its maintenance	2	149	17	166	26	3	29	175	20	195
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	28	0	28	02	0	02	30	0	30
Small scale processing and value addition										
Post Harvest Technology										
Others (pl specify)										
Total	3	177	17	194	28	3	31	205	20	225
VII Plant Protection										
Integrated Pest Management	2	29	2	31	0	0	0	29	2	31
Integrated Disease Management	2	60	6	66	5	0	5	65	6	71
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	4	89	8	97	5	0	5	94	8	102
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										
Mobilization of social capital										
Entrepreneurial development of farmers/youths	1	42	15	57	1	2	3	43	17	60
WTO and IPR issues										
Others (pl specify)										
Total	1	42	15	57	1	2	3	43	17	60
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	42	882	554	1436	120	131	251	1002	685	1687

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										
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										

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	01	125	8	133	30	0	30	155	08	163
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	125	8	133	30	0	30	155	08	163

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										
Planting material production										

Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture	01	125	8	133	30	0	30	155	08	163
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	125	8	133	30	0	30	155	08	163

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										
Integrated Pest Management	02	57	0	57	0	0	0	57	0	57
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										
Management in farm animals										
Livestock feed and fodder production										
Household food security	1	0	24	24	0	3	3	0	27	27
Any other (pl.specify)										
TOTAL	3	57	24	81	0	3	3	57	27	84

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										
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL										

Training programmes for Extension Personnel including sponsored training – 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
Productivity enhancement in field crops										
Integrated Pest Management	02	57	0	57	0	0	0	57	0	57
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										
Management in farm animals										
Livestock feed and fodder production										
Household food security	1	0	24	24	0	3	3	0	27	27
Any other (pl.specify)										
TOTAL	3	57	24	81	0	3	3	57	27	84

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										
Commercial production of vegetables	1	29	1	30	0	0	0	29	1	30
Production and value addition										
Fruit Plants										
Ornamental plants										
Spices crops										
Soil health and fertility management										
Production of Inputs at site	1	24	0	24	0	0	0	24	0	24
Methods of protective cultivation										
Others (pl. specify)	1	42	15	57	1	2	3	43	17	60
Natural farming	04	160	40	200	20	5	25	180	45	225
Total	7	255	56	311	21	7	28	276	63	339
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										
Animal Disease Management										
Fisheries Nutrition										
Fisheries Management										
Others (pl. specify)										
Total										
Home Science										
Household nutritional security										
Economic empowerment of women										
Drudgery reduction of women										
Others (pl. specify) Processing & Value Addition	9	70	97	167	18	47	65	88	144	232
Total	9	70	97	167	18	47	65	88	144	232
Agricultural Extension										
CapacityBuilding and Group Dynamics										
Others (pl. specify)										
Total										
GRAND TOTAL	16	325	153	478	39	54	93	364	207	571



Eco holi colors training



Value addition training



Value addition training



EF Training programme



Sponsored training



Sponsored training

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										
Others (pl. specify)										
Total										
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										
Others (pl. specify)										
Total										
Income generation activities										
Vermicomposting										
Production of bio-agents, bio-pesticides, bio-fertilizers etc.										
Repair and maintenance of farm machinery and implements	01	27	00	27	03	00	03	30	00	30
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	01	27	00	27	03	00	03	30	00	30

Training programme Photographs





Photographs of training programme for farmers



Demonstration on Drone Spraying Technology

Diagnostic and Scientist Visits



3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services (Other than KMAS)	63	10742	176	10918
Diagnostic visits	27	435	34	469
Field Day	6	221	0	221
Group discussions	1	55	1	56
Self -help groups	4	268	12	280
KisanMela	5	323	13	336
Scientists' visit to farmers field	34	479	34	513
Plant/animal health camps	2	91	2	93
Farmers' seminar/workshop	3	1816	41	1857
Method Demonstrations	4	237	21	258
Celebration of important days	2	126	2	128
Special day celebration	3	230	10	240
Others (pl.specify)				
Lecture delivered, Poshan Abhiyan Farmers visit	44	4066	743	4809
Total	198	19089	1089	20178

Photographs of Extension Programmes

	
Field day on Soybean (KDS-726) at village Gondegaon	Hon'ble Dr. Lakhan Singh Director ATARI Pune during field visit to IFS plot



Kisan Mela under Kisan Bhagidari Prathamikta Hamari Programme



Kisan Mela under Garib Kalyan Sammelan Programme



PM kisan Sanman Nidhi Yojana programme in presence of Hon'ble Shri. Sudhakar Shrengare PM Latur



World Pulses Day Celebration



World Soil Day Celebration



Kisan Mela under Jalshakti Abhiyan



Dignostic visit to farmers field



Scienitst visit to farmers field

	
Director, ATARI, Pune to Goat unit	Field visit to dairy farm
	
PPR disease vaccination to goats	Seed & Inputs Distribution Programme
	
Seed & Inputs Distribution Programme	Group Discussion
	
Hon. Director Visit to Soybean Seed Production unit	Demonstration of drone Activity
	
Poshan abhiyan	Shetkari mahila divas

Details of other extension programmes:

Particulars	Number
Electronic Media (CD./DVD)	
Extension Literature	
Newspaper coverage	11
Popular articles	6
Radio Talks	
TV Talks	1
Animal health camps (Number of animals treated)	492
Social Media (No. of platforms Used)	03
Others (pl. specify)	
Total	513

3.6 Online activities during year 2022

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					
4					
5					
	Total				
B	Farmers scientist's interaction programme				
1					
2					
3					
	Total				
C	Farmers seminars				
1					
2					
3					
	Total				
D	Expert lectures				
1					
2					

3					
4					
	Total				
E	Any other (Pl. specify)				
1					
2					
3					
4					
	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	-	723	9466480	639
Pulses						
Commercial crops						
Vegetables						
Flower crops						
Spices						
Fodder crop seeds						
Fiber crops						
Forest Species						
Others						
Total						

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
Fruits						
	Mango	Keshar	Keshar	7499	599920	126
Fodder crop saplings	Fodder crop	Super Napier	Hybrid Napier	9675	7256.25	9
		Phule Gunwant	Hybrid Napier	5500	2750	11
		BAIF 10	Hybrid Napier	5800	2900	12
Others	Azolla	Azolla Pinnata		6	1200	6
Total						

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg/Lit		
Bio Fertilizers	Phosphate Solubilizing Bacteria	1320	528000	279
	Rhizobium	1062	424800	245
	Trichoderma	604	120800	127
Others	Vermicompost	71 qtl	71000	44
Vermicompost & Vermiculture	Vermiculture	42 kg	21000	19
Total				

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 (Goats)	Goat	Osmanabadi	Kids	320	21	112000	12
Poultry							
Broilers							
Layers							
Duals (broiler and layer)		Grampriya	One momth birds		835	91015	17
Japanese Quail		Vanaraja	One momth birds		2050	278525	59
Turkey		Grampriya	Day old chicks		850	25500	-
Emu							
Ducks							
Others (Pl. specify)							
Piggery							

Piglet							
Others (Pl.specify)							
Fisheries							
Indian carp							
Exotic carp							
Others (Pl. specify)							
Total							

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

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

B. Literature developed/published

Item	Title	Authors name	Number
Research papers			
Technical reports			
News letters			
Technical bulletins			
Popular articles	<i>Aalaa ubhalaa pashudhanala Sambhala</i>	Dr. Sharad Salunke	1
Extension literature			
Others (Pl. specify)			
TOTAL			

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)			
2	Facebook page/ Account (no of Post)	23	Facebook	1640
3	Mobile Apps			
4	WhatsApp groups	34	Whatsapp	3156
5	Twitter Account			
6	Any other (Pl. Specify)			

D. Success Stories / Case studies, if any (two or three pages write-up on each case with suitable action photographs. The Success Stories / Case Studies need not be restricted to the reporting period).

Broad Bed Furrow (BBF) Sowing in Soybean: Through Cluster Approach

Situation analysis/Problem statement:

Soybean is major crop in Kharif Season holding 4.5 Lakh ha area out of 6.67 Lakh ha. (70%) cultivable area of district. Majority of the area under soybean – Chickpea based cropping system is in district. The district normally receives annual rainfall ranging from 700 -800 mm per annum. Almost 80 % of which is received between June to September with dry spells So, its major issue of availability of moisture during crop period or sometimes heavy rainfall received. The productivity of rainfed farming is low as compared to the irrigated crop production. The crop yield in the rainfed farming is often reduced due to the lack of soil moisture. It is necessary to adopt suitable technology to conserve the rain water *in-situ* to ensure adequate moisture during the various growing stages of the crop in rainfed farming.

BBF farming has many advantages in regard to water saving, mechanical weeding, fertilizer placement, available moisture conservation, less lodging and better crop stand. In-situ water conservation makes the moisture available for the sown crop. Use of BBF can have several benefits depending on its use. Raised beds are primarily a field drainage tool aimed at decreasing water logging and increasing crop yield.

Plan, Implement and Support:

The KVK,Latur conducted 150 demonstrations on 60 ha area with active involvement of farmers on cluster basis with BBF Method of sowing. During this process, KVK gave the inputs like improved high yielding and drought resistant variety seeds, Trichoderma, Rhizobium, PSB for seed treatment and foliar fertilizers. Group discussion, Training, demonstration of BBF Planter and sowing activity for better moisture conservation and to maintain optimum plant population. Several extension activities were organized for making the demonstration more effective. Method demonstration conducted on farmers field through participatory approach of line departments. KVK Latur plans to increase BBF sowing area in adopted village as well in Latur district in next year for more horizontal spread and reduce the climate risk situation during Kharif and Rabi season also.

Output:

For efficient in-situ moisture conservation, broad bed furrow planter with improved variety KDS 726 was demonstrated and compared to traditional bullock drawn seed drill under rainfed condition. On an average 23.75 q/ha yield was recorded under sowing through BBF which was superior with 37.68% increase in yield over local check (17.25 q/ha). Net return of Rs. 91500/ha was attained by the farmers while under farmer's practice profit of Rs. 56300/ha was realized. Reduced Seed rate per hectare due to BBF sowing from 75 Kg/ha to 50Kg/ha results to reduce the cost of cultivation and increased in no. of branches and pods per plant due to healthy physiological growth of plant.

Performance of Soybean in BBF method of sowing

Particular	Grain yield (kg/ha)	Gross Cost (Rs/ha)	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio
BBF Sowing	23.75	46250	137750	91500	2.97
Farmers' practice	17.25	43750	100050	56300	2.28
% Increase	37.68			62.52	

Outcome:

Broad Bed Furrow (BBF) sowing method popularized by KVK Latur by conducting different extension activities like Group discussion, Training, demonstration on farmers field, awareness about BBF Technology. Demonstration conducted village Farmers were realized about the benefits of BBF technology as Reduced Seed rate/Acre, Uniform planting distance, In situ moisture conservation during dry spells, removal of excess water through furrows during heavy rainfall situation, Distance between row to row is sufficient for intercultural operations. Looking to these benefits farmers are adopting this technology rapidly as well transfer horizontal spread of technology among nearby villages also.

Impact:

- Management of irrigation water is simpler and more efficient. On an average about 30% less irrigation water was required compared to flat bed method and improved crop yields by more than 20%.
- Better upland crop production is possible under wet spells because of proper drainage.
- Farmers can apply N and irrigation water at grain filling stage to improve protein content without inducing lodging. Reduced lodging can have a significant positive effect on yield as many farmers do not irrigate after heading precisely to avoid lodging.
- Weeds between the beds can be controlled mechanically early in the crop cycle.
- Herbicide dependence is reduced, and hand weeding and hoeing between rows are easier
- Yield of soybean transplanted on FIRB was comparable with traditional soybean but could save as much as 25-50% in irrigation water.
- Compaction of soil is limited only to the furrows used as tramlines.





Case Study: KVK, Latur (M.S.)
Income Generation through Migratory Beekeeping –
Profitable business

Background:

Mr. Dinkar Vitthalrao Patil belongs to village Hippalner of Chakur tehsil. It is situated 35 km away from district head quarter Latur. Dry land farming is the main source of livelihood of his farm family; they grow mostly soybean, black gram, green gram, pigeon pea and chickpea. Low productivity and low income in the area is mainly due to lack of assured irrigation due to uncertain rainfall.



Since 2009, Mr. Dinkar Patil motivated towards bee keeping by vocational training from Central Bee Research and Training Institute (CBRTI), Pune. He started rearing bees with only two bee hive boxes. He acquiring knowledge and mastering the intricacies of this business.

Breeding honey bees, pollination and selling honey are three main operations of his apiculture unit. Now in the entire year he is logged with three different operations: breeding: August-October, honey: November-February, pollination: March-July.

KVK Intervention:

In the month of September 2009, KVK Latur along with extension functionaries of the State Department of Agriculture approached Mr. Dinkar Patil and imparted first training on beekeeping at Maharashtra Khadi Gram Udyog, Latur and later at Central Bee Research and Training Institute (CBRTI), Pune.

After imparting training, discussed the problems faced by him with KVK Latur regarding the different issues regarding migratory bee keeping. KVK has given different channels to resolve his problems.

Mr. Patil was regularly in contact with KVK formerly as well as informally on various aspects of Bee farming and guiding the rural youths in different trainings organized by KVK, Latur. He gave hands on experience to number of unemployed youths with respect to bee keeping techniques and future trends of apiculture.

During September 2022 Dr. Lakhan Singh, Director, ATARI, Pune visited his honey processing unit and given different ways regarding how this business will expand to nationwide and will be helpful for technical backstopping to other districts also.

Output:

Mr. Dinkar Vitthalrao Patil started beekeeping using recommended technical practices by KVK with two bee colonies in 2009. He has gradually increased bee colonies every year. As a result, his honey production and income increased substantially with the scientific knowledge. He has increased bee colonies up to 2000 and net income of Rs. 15 to 16 lakhs annually in the year 2022. He has refined his skill of honey production, queen rearing, mass multiplication, beekeeping management, other bee products and adopted options that reduced cost of cultivation.

Outcome:

In the month of August to October he is doing bee breeding activity. In this period, he develops bee colonies in the wooden box and sells it to other bee-keepers. In one box there are 15 thousand bees. He sells one box along with the bees at Rs. 4500. On an average he develops 250 boxes every year and sold to other bee-keepers.

In the month of November to February he is doing pollination activity. He is leading migratory honey cultivator in Satara, Solapur, Ahmednagar, and Jalna district. He is harvesting up to 19,000 to 20,000 kg honey from pigeon pea, mustard, coriander, ajwain and forest plants. He is registered own firm namely M/s Gauri Natural Product, Almala District Latur.

In the month of March to July he is doing pollination activity. He had done some significant quantum of work in pomegranate orchards and onion-seed farms to boost the production by keeping honey bee hives on rental basis i.e., Rs.2000 for per month. It is done from March till July, the main flowering period. Bees enhance cross pollination of male and female flowers thereby sets the fruits on the trees. Consequently, the production surely increases by 80-90%.

He has a tie-up with seed companies for cross pollination in onion seed plots i.e., in open cultivation as well as greenhouses/playhouses. He kept bee boxes in the farm for more than 30 days.

During 2022 he earned 15.50 lakhs from selling of honey and bee colonies and about 6-7 his family members and relatives are employed round the year in beekeeping.

Last Five-Year Status of Dinkar Patil's Beekeeping:

Sr. No.	Year	No. of bee Colonies	Honey Produced	Net Income(Rs)
1	2018-19	1000	9,000 Kgs	8,50,000
2	2019-20	1000	10,000 Kgs	10,05,000
3	2020-21	1500	12,000 Kgs	11,00,000
4	2021-22	1700	15,000 Kgs	13,60,000
5	2022-23	2000	20,000 Kgs	15,50,000

Before intervention annual income: up to Rs. 2, 00,000 /-

After intervention annual income: Marketing of Honey - Rs.15, 50,000/-

Selling of bee colony- Rs. 6, 67,500/-

Person employed – 6-7 family member and relatives employed round the year.

Impact:

By the intervention of KVK Latur, a local young man turned to an entrepreneur and beekeepers of the area marketed honey to local entrepreneur. Bee farming has brought prosperity in Mr. Dinkar Patil family due to adoption of this technology by several farmers/rural youths. The productivity of onion and pigeon pea increased 15 to 25 % in the village by pollination on of honey bees. Introduction of medium duration pigeon pea in the village by villagers for availability of the flora Bee keeping increased economic and social status of the farmers. Mr. Patil work is recognized by society and follows several rurally ou than landless farmers.

Special Achievements:

- Accredited as Bee Breeder by National Horticultural Mission during the year 2018-19
- Member of - National Bee Board, New Delhi Government of India
- Master Trainer of Central Bee Research and Training Institute (CBRTI), Pune
- He trained about 500 young rural youths reading bee keeping business

Recognitions/Awards at different forums received by the Entrepreneur

- Maharashtra Krishi Bhushan Award - 2014 given by Vasantao Naik Prathisthan, Pusad
- Jagar Baliraja Krishi Samman Award - 2016 given by IBN Lokmat
- National Challenger Award - 2018 given by Rotary Club of Yakutsk
- Scientific Consensus Stage Entrepreneur Award -2019
- Vasantao Naik Agriculture Friend Award – 2017 given by Government of Maharashtra

Future prospectus:

Mr. Dinkar Patil trying to implement smart apiary management and starting to use automatic and remote tools for bee colony monitoring together to improve bee colony productivity. Bee sting helps in controlling blood pressure problems, stroke, and arthritis. He wants to spread awareness of its benefits as far and wide as possible. His aim is to take the art and science of bee-keeping to every house and spread the word everywhere about this hobby.

Bee keeping technology is disseminating by KVK Latur and Mr. Dinkar Patil in the region through different trainings, exposure visit, exhibitions etc. and it suitable for entire Maharashtra and other state also.



Mr. Dinkar Patil with Honey Bee colony rearing



Dr. Lakhan Singh Director, ATARI, Pune visited Honey Processing Plant, Chakur Dist. Latur



Bee hives supply for pollination in Pomegranate



Outlet at Latur market for Honey sale



Recognitions/Awards at different forums received by the Entrepreneur

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 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

➤ **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	No of units established	Sr no	Name of the village Tq AUSA	No of units established
1	Bhoisamudraga	93	6	Fattepur	45
2	Gangapur	31	7	Talani	14
3	Akarwai	50	8	Nagarsoga	12
4	Mahapur	50	9	Yakatpur	09
5	Borwati	8	10	Wanwada	05
	Total:	232		Total:	85

➤ **Output:**

At present a total 317 farm women members 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 1000/- per quintal while 15 to 20 kg vermiculture costing Rs 500/- from last 2 to 3 years.

Table no 3:

Cost: benefit ratio of vermicompost (Unit size: vermibeds of size 2'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/-	1,20,000/-	65,000/-		

➤ **Impact:**

- These women farmers adopted vermicompost production, enhanced their income & livelihood status, improved soil health.
- These women earning Rs 65,000/- 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 generate 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.



Off campus training on Vermicompost & vermiculture production



On campus training on Vermicompost & vermiculture production



Vermicompost village untis



Vermicompost village untis

Masala Processing Unit : Agro-enterprise established by Farm Woman

➤ Situation analysis/Problem statement:

Mrs Ashwini Kompale, Village Vasangav, aged 33 years having 3 acres land and leading a Self Help Group in her village. Her group members are mainly depend on farming as a livelihood. These families cultivating horticultural and agricultural crops in their farm. These families direct sell their farm produce just by harvesting without any processing. Due to SHG activities these women farmers came to know about KVK & participated in training programme on dehydration of vegetables at KVK during year 2017. After that the demonstration on solar dryer for dehydration of vegetables were conducted at their village during year 2018. Mrs Ashwini got option for increasing shelf life of vegetables in a hygienic condition.

➤ Plan, Implement and Support:

Mrs Ashwini Kompale now well acquainted with dehydration of vegetables & started drying of vegetables like tomato, onion, ginger, Spinach, red chilli produced at farm & start selling at local market. This activity reduces vegetables wastage and generates additional income through dried products. The market of dried tomato, onions & ginger at hotels & demand from families are increased. For producing 1 kg of dried onion she needs to process 8 to 10 kg of onions.

➤ Output:

Due to corona virus disease COVID: 19 the lockdown was placed and the vegetables growers from Ashwini's village struggling to reach upto customers. She purchase vegetables from her own village & dehydrated it ie lockdown pushed Ashwini to work at a larger scale. For making more quantities of chilli powder, onion powder she needs grinder & packaging machine. DIC of Latur supported Ashwini by financial assistance for purchasing the masala grinder machine & packaging machinery. Now Ashwini established Brand as "Bhumi Masale" in 2021 and capture a market within & outside the district.

➤ Outcome

At present Ashwini makes onion flakes & powder, ginger powder, red chilli powder, turmeric powder, pulav masala & onion-garlic masala. These spices make available in 50, 100, 200 & 500 gms packing. Her village is very near to the district place hence she got benefit in marketing of her products. As her market increases she replaced plastic pouches by tetra packs. In this enterprise Ahwini appointed two ladies on daily wages while her husband shri Ramdas helping her in marketing. Due to this image of Ashwini & her

family increased in society & the family income enhanced by earning Rs 1.00 to 1.50 lakhs yearly.

➤ **Impact:**

- Ashwini is a master trainer of KVK & MAVIM for Masala Processing training programmes.
- Due to improvement in economic status she gave admission of her kids at district place.
- Ashwini awarded as a “Agro Yuva Samman Purskar” in January 2023 by Sakal Agroone.



Drying of vegetables for masala preparation



Inaugural Programme of Bhumi Masale Processing Unit



Sale of products



Visit of Hon Director ATARI, Pune to Bhumi Masale Processing Unit



plastic pouches are replaced by tetra packs



Master trainer during training programme



Zonal award by dainik Agrowon



District award by MAVIM



Award by ATMA Nanded



Horticultural Field Crops

Silage making technology: tool for sustainable dairy farming in Latur district

Situation analysis/Problem statement:

Milk production and dairy farming as a subsidiary occupation to agriculture have been given immense importance as dairy farming not only gives employment opportunities but also act as a catalyst to improve the dietary supplement of the family and provides a steady income to a large number of people in the rural areas. It is an emerging an important sector in the economy of India and plays an important role in the socio-economic development of the country. The contribution of dairying sector to the national income is invaluable. This sector provides insurance against crop failures. This sector helps in increasing the crop production by providing the drag power, organic manure and cash income on a regular basis.

Dairy farming in Latur district is one of the most important income generation and subsidiary occupation to agriculture for the rural families. Farmers in the district rears buffalo and cross bred H.F. cows for milk production with average herd size of 02-05 animals. Farmers and rural youth are adopting dairy farming as main business with herd size of 10 -30 animals.

Feeding and management practices are very important in successful dairy farming. For optimum milk production feeding of balanced diet is necessary. Green fodder is the most important component of balanced diet. Latur district is receiving Avg. 730 mm of rain with 25 rainy days in a year. Due to less rainfall, water shortage and frequent scarcity condition, farmers are unable to cultivate fodder crops in all seasons. Summer is the green fodder scarcity period. Also frequent drought like condition limits quality forage supply to the animals. This affects the production, productivity and reproduction of the dairy animals.

Plan, Implement and Support:

In such situation it is necessary to conserve available green fodder in kharip and rabi season and supply it to the animals in summer season. Conserving forage as silage is an option to alleviate feed constraints and maintain animal productivity during scarcity periods. To mitigate the forage problem KVK, Latur identified the technology i.e. silage making in bags and started working on that with farmers. KVK has assessed and demonstrated the technology on farmer's field. Through different activities (OFT, FLD and demonstrations through ATMA) total 130 farmers were provided 02 silage bags each having one ton storage capacity. These farmers were trained for silage making. After receiving bags farmers prepared the silage. Maize and sorghum were the most common crops (>80%) used for silage making, with hybrid Napier being ensiled to a limited extent. Bags were kept closed for the fermentation up to 60 days period. After that prepared silage is offered to the animals as per needs. 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. In convergence with ATMA Large scale demonstrations were also conducted to reach large no. of farmers. Farmers were motivated to do the silage through different activities and programmes. Now farmers in the district accepted the technology and preparing silage. For silage making farmers are using different silo types like big bags, small bags, earth, hip, bells etc.

Intervention	OFT		FLD		Demonstration conducted in convergence with ATMA/NICRA		Training		Total no. of farmers covered	
	Year	No. of activity	Farmers	No. of activity.	Farmers	No. of activity .	Farmers	No. of activity.	Farmers	No. of activity .
2013-14	-	-	-	-	-	-	01	16	01	16
2014-15	01	10	-	-	01	30	03	42	05	82
2015-16	01	10	-	-	01	30	01	27	03	67
2016-17	-	-	01	10	-	-	01	40	02	50
2017-18	-	-	01	10	-	-	03	102	04	112
2018-19	-	-	01	10	-	-	04	107	05	117
2019-20	-	-	01	10	-	-	04	172	05	182
2020	-	-	01	10	-	-	02	41	03	51
2021	-	-	-	-	01	25	-	-	01	25
Total	02	20	05	50	03	85	17	506	29	702

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

Sr, No.	Name of extension activity	No.	No. of farmers
1	Method demonstration	05	21
2	Lecture delivered as resource person	04	241
3	SHGs meeting	01	08
4	Kisan Mobile advisory	03	130046
5	Mobile advisory	-	1072
6	Farmers visit to KVK	-	158
7	Popular article	04	-
8	Folder	01	-

9	Training manual and book chapter	08	-
10	News paper coverage	01	-

Table no. 2: Extension activity conducted by KVK for dissemination of technology

Output:

Silage making and feeding to the dairy animals in scarcity or lean period increased the milk production by 25 % and net income by 46 % than the farmers practice. Also there is marked improvement in the health of the animals and 100 % reduction in the problem of green fodder shortage during lean period. (Table No.3)

Sr. No.	Parameters	Demonstration	check
1	Milk yield, L/day/animal	12.5	10.0
2	Fat %	3.8	3.7
3	Gross income, Rs/animal/Year	100130	87420
4	Total cost of production Rs/Animal/Year	60765	60465
5	Net return, Rs/Animal/Year	39365	26955
6	B:C ratio	1.64	1.44

Participated farmers realized the benefit of silage. Silage bags proved useful as a learning tool and as an adaptable prototype for silage making. Farmers are now acquired skill of making silage with proper technique.

Outcome:

Farmers are able to provide quality fodder to the animals during lean period and maintain the health and productivity of the animals due to silage making technology. Looking to these benefits farmers in the neighboring village's approaches to the participant's field and KVK for technology and started using the technology. We have shared the benefits and results with line department at every point. Animal husbandry department, Maharashtra state is giving subsidy for silage fodder for promotion of this technology. Now more than 1000 farmers in the district are taking benefit of this technology successfully. Farmers having more no. of animals started making silage on large scale (Up to 100 ton) by adopting different storage techniques. Two farmers started making silage in small bags and selling to the needy farmers.

Impact

Due to silage feeding during scarcity period-

- Animal's milk production increased
- Reduced cost on extra concentrate that is to be fed during lean period to cope up the deficiency of green fodder
- Increased net income of the farmers
- There is improvement in general appearance of the animals.
- No drop in milk production during summer season
- Extra labour required for silage making, this created employment opportunity to other workers in the village
- Extra load on soil for crop production is reduced due to seasonal cropping
- The use of such new technology increased the respect and importance of farmers in the village

Thus the Silage making technology disseminated by KVK, Latur with active participation of all farmers is economically viable, easy to operate, feasible, having potential sustain the dairy farming during fodder scarcity.



Silage prepared in bags



KVK farmer prepared hydraulic press machine for making silage in small bags



New ideas by farmer of silage making on large scale



मुरघास : चाराटंचाईवर उत्तम पर्याय



News publication in news paper



Popular article on silage making



Training of farmers on silage making

Feeding od silage to dairy animals

Success story-6

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 and Shrinidhi) suitable for backyard farming in rural areas developed by the Directorate on Poultry Research, Hyderabad. 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
Total	06	50	04	44	03	100	05	123	22	199	40	815

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
	Total	294	30503	786

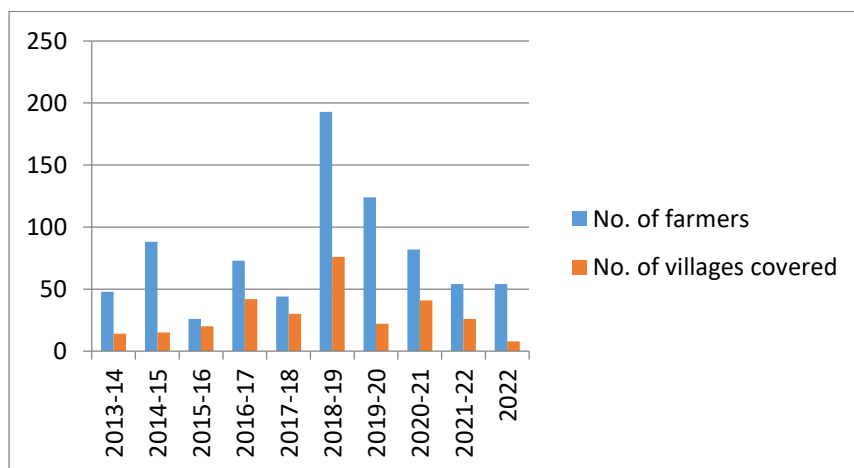


Chart 1: Year wise birds provided to farmers from KVK and no. of villages covered

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



Hatched chicks under desi hen from fertile eggs of improved birds

Success story-3

Scientific approach made dairy farming successful



Situation analysis/Problem statement:

Mr. Govardhan Dattu Suryavanshi, Young farmer from Tungi (Budruk), Taluka Ausa, District Latur aged 36 years. He has completed his education till 10th standard and started farming with his family. He has a total 7 acres of land, in which mainly sugarcane, gram, wheat and pigeon pea crops are grown. The whole family depended on agriculture and there was no consistency in agricultural income due to changing climatic condition. So the financial situation of his family was desperate. So he decided to do agri-allied business to give financial support to his family. In 2016, he invested 50,000 rupees and purchased one HF cow. In the next year cow's number was increased by purchasing some new cows. After increasing the number of animals, he started experiencing many problems like low milk production, high cost of rearing, round the year quality green fodder availability, mastitis problem, high feed cost, ecto parasite infestation etc.. Then he realized that he is doing something wrong and needs technical support. So he visited Krishi vigyan Kendra, Latur for technical support and told all his problems. KVK gave him utmost technical guidance and made available technological solution to his problems through OFT, FLD, advisory, trainings, by providing literature, field visits, providing inputs. He overcomes all the issues with the help of scientific knowledge and using available new technologies. Today he is having 25 HF animals (15 cows and 10 calves) and 06 buffaloes in his shed with total 250 liter of daily milk production.

Plan, implement and support:

Activities implemented by KVK's to tackle the Problems: When he came to KVK with his problems and questions in dairy farming, the experts of Krishi Vigyan Kendra took it all together and introduced him to the technology in various ways. At the same time, he advised to increase his business knowledge through

various activities run in KVK. He also gave a positive response to it and attended various programmes. Also he gain knowledge of dairy farming from social media, exhibitions, direct interaction with scientist.

The gain of knowledge and utilization of it in the farming solved his majority of the problems. Due to that reason his business continued to flourish.

SR.No.	Problem	Solution	KVK's effort	Activity
1	Unavailability of green fodder	Planting of new improved perennial fodder varieties	Provided new improved variety fodder planting material (DHN-6, Super Napier)	OFT and FLD
2	Unavailability of green fodder during lean period	Silage making with available green fodder and conserve it for lean period	KVK provided silage bags to the farmer	FLD
3	Unaware about Silage making	Give technical knowledge about silage making	Given silage making technology and knowledge	Trainings
4	Mastitis problem	Loose housing system, clean and ventilated housing and teat disinfection after milking.	Motivated to go for loose housing system of rearing, maintenance of cleanliness in the farm. Provided disinfectant solution for teat disinfection after milking.	Through trainings and advisory OFT
5	Tick infestation	Rearing of poultry birds to irradiate ticks in the farm and animals body without using any chemical	Provided improved poultry birds to the farmer	Advisory and provided birds from KVK poultry shed.
6	Low milk yield due to imbalanced feeding	Balanced feeding	Provided scientific knowledge about balanced feeding	Trainings, field visits, advisory.
7	Improper shed management	Proper and scientific daily routine management of animals	Provided knowledge about all routine management tips for maintaining good and healthy environment in the shed in different seasons.	Training, Field visit and advisory.

Output:

With the help of KVK and various media and through his own experience, he overcame various problems by using modern and sustainable technologies and made the dairy successful. After gaining knowledge in this business, he bought some more cows and buffaloes.

Adoption of Loose housing system for animals: After increasing the number of animals, he created a loose housing system for the animals. A feeding space, night shelter and milking space provided to the animals on one and a fence was created on the outside to create a space for the cows to roam freely. It cost him roughly Rs.5.0 lakh. But due to use of loose housing system of rearing his milk production was increased, management cost reduced, animal health and body condition is improved, animals became healthy and cost on treatment of various illness is also reduced. There were many other benefits of this type rearing.

Adoption of silage making technology:

He used Silage making technology and silage bags provided by KVK and made first time silage at his farm and fed them to animals. Realizing its benefits, he bought more bags in the next season and prepared silage and given to the animals during lean period. Therefore, since the animals were provided with healthy fodder throughout the year, their milk production increased instead of decreasing. He became proficient in the use of this technology and using it regularly.

Cultivation of improved fodder varieties for green fodder:

KVK provided some planting material of improved fodder varieties of Napier fodder crop to the farmer, he multiplies it and increased area under fodder cultivation. Now he is able to provide green fodder to his animals from this field to his animals most of the month of the year. And during the month in which it falls, silage is used.

Prevention of Mastitis in the farm:

The loose housing system, clean and ventilated cowsheds and disinfection of teat after milking completely eradicated the mastitis problem in the farm. Due to this, the milk production of the animals increased but also the cost of treating diseases was reduced.

Adoption of poultry farming in cow shed:

Due to the free-range rearing of poultry birds in the cowsheds, ticks on the animals and in the sheds have been eliminated. Due to the availability of various insects, ticks, green fodder and dung as chicken feed, they are being reared at very low cost. Due to the illumination of ticks on animal body and shed there is no need of chemical spray. So the milk production of the animals has increased but the cost of health care has been reduced.

Scientific Management of animals:

This farmer has made dairy farming sustainable and successful by using various scientific methods, apart from the above mentioned technologies, Use of milking machine for milking, scientific breeding, balanced feeding, disease prevention and maintenance of vaccination schedule at farm, clean and ventilated housing.

Milk production and economics: Today, he has a total of 31 animals like 10 cows, 15 calves and 6 buffaloes. He rears all these animals in a very scientific way. Cows only come to the cowshed for fodder and milking. At other times they sit in open space. 1 acre area of improved hybrid Napier fodder crop has been planted for green fodder adjacent to cowshed. Also, maize is planted on 01 acre area for green fodder and maize on 04 acre area in one season to prepare silage. For dry fodder, they use the crop residues from the field and buy them to some extent. Two laborers are hired to work in the cowshed.

Economics of his farm

SR.No.	Particulars	Production	Rate	Annual Total Income Rs. In lakh
A	Income			
1	Cow milk	200 lit per day	27	19.71
2	Buffalo milk	50 liter [per day	47	8.57
3	Poultry birds	25 eggs per day	10	0.91
4	Cow dung	20 tractor	3000	0.60 (used for own farm)
			Total	29.79
B	Expenditure			
1.	Labour (2 No.), dry fodder, feed purchase, electricity and other required things			12.0
	Net Income (A-B)			17.79 lakh

Outcome:

Horizontal spread: As this farmer has succeeded in dairying, the surrounding farmers are visiting him and are learning to use the technology he has adopted. After taking knowledge about the adopted technologies such as loose housing system, green fodder varieties, milking machine use, balanced feeding, silage making, poultry farming etc. Visited farmers applied these technologies to their farm also and they are also equally benefited by use of these technologies. A total of 23 farmers in the district and surrounding areas have adopted various technologies available with this farmer and it has benefited them also.

Reduction in use of chemical inputs:

Ticks get eradicated naturally by the poultry birds reared in the shed hence, there is no use of chemical acaricides on the farm for eradication of ticks.

Reduction in the use of concentrate feed:

Due to availability of quality green fodder, silage proper and ventilated housing, stress free environment the shed reduced the use of concentrate feed by 20 without affecting milk production.

Improvement in quality of produce:

If animals are under stress their production, reproduction and quality of the produce is definitely gets hampered. As, farmer adopted balanced feeding system, loose housing system of rearing for providing stress free environment to the animals production, reproduction and quality of produce gets improved.

Improvement in family income status:

Due to getting good returns from this business (net income of Rs.17.8 lakh /annum) he supported very well to his family. His family's financial situation has improved. He is applying available cow dung compost to his own field due to that the soil fertility and the production has increased.

Impact:**Large scale adoption of the technology:**

More than 1000 farmers are using these technologies and increased their 10-30 % milk production, reproduction of the animals.

Productivity of the animals: Production of the dairy animals due to adoption of various technologies increased from 14.28 kg day per animal in 2017-18 to 14.62 kg day per animal to 14.62.

Social benefits:

Due to running profitable business and very good return (17.8 lakh per annum) he has been recognized in a society and his reputation has increased. His children are going in English medium school and constructed pakka house.

Environmental benefit:

- Adoption of loose house system of rearing cow moves freely in the open area, seeks shed or sunshine with their choice
- Cow dung and cow urine is applied to the field which increases the soil fertility and crop productivity
- Cow dung and fallen feed, insects, worms, ticks in the shed utilized by the poultry birds and get converted into high protein containing human diet (Eggs and chicken).
- Silage making technology help in alleviating the effect of drought and drought like situations,.

Photographs



Animals standing in free space



Animals resting in the shed provided in the loose space



Murhaa buffalo at farm



Napier fodder plot



Cows resting and poultry birds searching their food



Giving information on SCC count in the milk

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

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 : 90
- iii. No. of survey/PRA conducted : No
- iv. No. of technologies taken to the adopted villages : 35
- v. Name of the technologies found suitable by the farmers of the adopted villages:
- 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	Training programmes and demonstrations

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.)
SAP activity	March 2022	ICAR institute	24390
Garib Kalyan Sammelan Programme	May 2022	ICAR institute	1,83,950
Kisan Bhagidari Prathamikta Hamari Prog.	April 2022	ICAR institute	94,500
ATMA Latur	November 2022	SAD Latur	5,00,000
Pradhan Mantri Formalisation of Micro Food Processing Enterprise Scheme (PMFME)	March 2022	State Agriculture Dept	5,66,719

C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

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				
02	Research projects				
03	Training programmes				
04	Demonstrations	Use of drone in agriculture	-	10	652
05	Extension Programmes				
	KisanMela				
	Technology Week				
	Exposure visit				
	Exhibition				
	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?	Yes/ 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 MAUS-158)

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

OFT on assessment of different varieties of Rabi Sorghum (Parbhani Moti and Phule Vasudha)

1. Demonstration and assessment of new technologies helps to improve productivity and reduces incidence of pest and disease attack.
2. Grain and fodder quality is better as compared to local varieties
3. Increase in yield and economic returns by adoption of diseases resistant improved varieties.
4. Adoption of improved varieties according to soil type and characteristics.

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

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

Plant Protection -OFT

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.

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..

The use of Sampoorna found effective for uniform and synchronized maturation, when used at 3-5 % silkworms' starts spinning. It is very beneficial during late batches (i.e. onset of summer) were shortage of mulberry leaves due to lack of irrigation sources.

Plant Protection – FLD

1. 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.
2. The availability of pheromone traps are major constraint. By applying fungicides for seed treatment and using good seed problem of witting is not effectively managed.

3. 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
4. Uzi fly damages 25% crop loss in the 4th to 5th instar and 20% at harvesting stage of cocoons during July to September.

Veterinary

OFT on improved Poultry birds for backyard poultry farming

1. Birds well adapted to the condition
2. Large size brown colored eggs
3. Weight gain is more than deshi birds
4. Feather pecking problem arises in birds with some farmers
5. Easily caught by the predators

OFT on use of teat disinfectant to reduce incidence of sub clinical mastitis

1. Easy to use
2. Incidence of subclinical mastitis is reduced
3. No incidence of clinical mastitis occurred
4. Reduced cracks, wounds on teat due to that cow stayed calm during milking
5. Milk production increased

FLD on Bypass fat and mineral mixture feeding to dairy animals

1. Milk production increased
2. Fat % increased
3. Animals come on heat early and get conceived
4. Improvement in health of the animals.

FLD on use of lick bricks in goat

1. Goats liked the taste of it and frequently licking
2. Increased birth weight of kids
3. Reduced mortality in kids
4. Reduced post kidding problems in goat
5. Increased daily weight gain in kids

FLD on feeding of kid starter ration to the goat kids

1. Increased daily weight gain in kids
2. Reduced mortality in kids
3. Kids attain market size earlier

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.

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.

Plant Protection – FLD

3. Sudden infection of Phytophthora stem blight in pigeon pea at flowering to pod formation stage increases from last year and no any technology recommendations to effectively manage said problem. About 70 to 80 % area affected this year in the district.
4. Need to develop wilt disease resistant variety in Bengal gram
5. For Uzi fly integrated management mass holding rearing of silkworms at village level is very difficult

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 2022: 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
(Please furnish detailed information for each case)

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 2022	10	216004	-
Feb 2022	-	-	-
March 2022	01	1737	-
April 2022	-	-	-
May 2022	02	459099	-
Jun 2022	01	243101	-
Jul 2022	01	243101	-
Aug 2022	01	243101	-
Sept 2022	01	240339	-
Oct 2022	01	240339	-
Nov.2022	02	456352	-
Dec.2022	-	-	-

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
Latur	Text only	5	4	1	-	1	-	11
	Voice only							

	Voice & Text both							
	Total Messages	5	4	1	-	1	-	11
	Total farmers Benefitted							2343173

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									
Jawar	19.11.2022	27.3.2023	0.40	Prabhnai Shakti	Bulk	2.40	1960	6000	
Pulses									
Bengalgram	22.11.2022	5.3.2023	1.20	Vikram	Bulk	7.80	12510	35100	
Rajma	16.11.22	14.2.23	0.15	Varun	Seed	0.85	2100		Not sold
Oilseeds									
Soybean	17.7.2022	19.10.2022	3.80	MAUS-162,612, MAUS-158	Seed	34.47.0	69100	192864	
					Bulk		7600	35000	
Safflower	9.11.2022	25.3.2023	1.20	ISF-764	Bulk	5.50	6500	27500	
Fibers									
Spices & Plantation crops									
Floriculture									
Marigold	10.7.2022	23.10.2022	0.10	Asthagandha, yellow	Bulk	1.80	4500	9200	
Fruits									
Mango	25.8.2020	15.5.2022	0.20	Keshar	Bulk/seed	9.5	3870	57200	
Mango	30.9.2022	-	0.80	Keshar	Bulk	-	48850	-	
Custard apple	20.8.2020 25.7.2020	-	0.80	NMK-1, Golden	Bulk	-	3500		
Vegetables									
Kharif Vegetables	25.7.2022	20.11.2022	0.10	All vegetables varieties	Bulk	0.10	1500	15700	
Others (specify)									

Sugarcane (Suru)	16.2.2022	24.2.2023	0.50	CO-86032	Bulk	28.109(tons)	21072	67462	
Sugarcane (Ratton)	19.2.2022	24.2.2023	0.80	CO-86032	Bulk	44.960(tons)	33718	107940	
Sugarcane cafeteria (Ratton)	19.2.2022	22.2.2023	0.30	COC-671,CO-86032,MS-1001,VSI-434,8005,COM-265	Seed,bulk	16.975(tons)	12642	40740	
Fodder cafeteria	02.01.2021		0.30	DHN-6, BHN-10,11, Super nepiar, African tall, Parbhani oti, Co-4, RL-88, phule Gowardhan Dasharath, Shewari, ubabool Odyse.	Seed,Bulk	210	6500		Use for Goat unit
Maize	06.12.2021	-	0.20	Africantal 1	Fodder		2950	-	Use for goat unit

Photographs of instructional farm of KVK



KVK farm Wheat MACS-4028



KVK farm Safflower ISF-746



Mulbery -V1



KVK farm Floriculture



Bengalgram Vikram



Soybean KDS-726



Sugarcane cafeteria



Fodder crop- Dashrath-local



Mango Plantation Keshar



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	Phosphate Solubilizing Bacteria	1320	528000	279	
		Rhizobium	1062	424800	245	
2	Bio-fungicide	Trichoderma	604	120800	127	
Total			2986	1073600	651	

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	Poultry	Vanaraja, Grampriya	One month birds	2885	325975	369540	-
2	Goat	Osmanabadi	Kids	21	117621	112000	-

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 2022	-	-	
February 2022	50	8	
March 2022	222	20	
April 2022	-	-	
May 2022	-	-	
June 2022	-	-	
July 2022	-	-	
August 2022	-	-	
September 2022	30	3	
October 2022	56	6	
November 2022	90	9	
December 2022	138	18	

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 Demonstrations	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

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
3 R	Vegetable crops	9	232
	Fruit crops	7	
	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
2 ha	Vegetable crops	9	100
	Fruit crops	7	
	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

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 financial year 2022-23 (Rs. in lakh)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	188.00	188.00	185.64
2	Traveling allowances	1.28	1.28	1.28
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	5.49	5.49	5.49
B	POL, repair of vehicles, tractor and Equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	3.96	3.96	3.96
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)		198.73	198.73	196.37
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)		198.73	198.73	196.37

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 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	60.83	53.05	36.63

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	Capacity Building Programme	CRIDA,Hyderabad	Offline	13-14th August, 2022
Matai P.D.	SMS,Agronomy	International Conference on Precision Agriculture	SVVV,Indore	Offline	26th-27th September 2022
Matai P.D.	SMS,Agronomy	Launch and Review Workshop of NICRA	KVK,Jalna	Offline	8-9th June,2022
Matai P.D.	SMS,Agronomy	"International Conference on Reimagining Rainfed Agro-ecosystems: Challenges & Opportunities"	CRIDA,Hyderabad	Offline	22-24th December, 2022
Deshmukh S B.	SMS (Plant Protection)	"Farm Level Production of Bio inputs"	NIPHM, Hyderabad	Offline	4 to 13 April, 2022
Deshmukh S B.	SMS (Plant Protection)	"Use of Drone in Agriculture"	MPKV, Rahuri	Offline	12th Aug. 2022
Deshmukh S B.	SMS (Plant Protection)	"Orientation cum training programme on Natural Farming" under the project entitled" Out scaling of Natural Farming through KVKs"	Natural Farming Training Centre, Gurukul, Kurukshetra, Haryana	Offline	8th to 9th Dec. 2022
Bedre S.B.	SMS (Agril. Extn)	Workshop on DFI Project	ATARI Pune	Offline	19 - 20 March 2022
Bedre S.B.	SMS (Agril. Extn)	State level workshop	NABARD Pune	Offline	21 July 2022

Dr. Ulemale P.H.	SMS (Horticulture)	Training programme for District Level Trainer entrepreneurship development programme of Maharashtra (under PMFME scheme)	KVK, Baramati	Offline	9 - 10 Nov 2022
Dr. Ulemale P.H.	SMS (Horticulture)	National workshop on Nature Farming	RVSKVV, Gwalior	Offline	03 Dec.2022
Dr. Ulemale P.H.	SMS (Horticulture)	Training of Trainer (ToT) Programme on Post harvest management of banana and pomegranate	NIPHT, Talegaon Dabhade	Offline	12 - 16 Dec.2022
Dr. Ulemale P.H.	SMS (Horticulture)	Visit to ICAR –NIASM Baramati	NIASM Baramati	Offline	10 Nov 2022
Gunjal A.A.	SMS (Home Science)	Training of Trainer (ToT) Programme on Post harvest management of Custard apple and Guava	NIPHT, Talegaon Dabhade, Pune	Offline	19-23 Dec.2022
Dr. Shinde S. P	SMS (Agril Engg)	Applications of Drone in Agriculture	MPKV, Rahuri	Offline	2 Dec 2022
Dr. Shinde S.P.	SMS (Agril Engg)	Reimagining Rainfed Agro-ecosystems: Challenges & Opportunities	ICAR-CRIDA, Hyderabad	Offline	22-24 Dec 2022

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 productin, IPM,FSN,Backyard poultry farming with improved birds,Mini dal processing enterprise,CFLD.	20	52551	117105
Bhoisamudraga Ta. Dist. Latur	40	IPM,FSN,Backyard poultry farming with improved birds,Mini dal processing enterprise,CFLD.	20	63500	126172

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

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- SwachhtaPakhwada, Cleaning, Awareness Workshop, Microbial based Agricultural Waste Management by Vermicomposting etc.	No. of Programmes conducted	No. of Participants
1	Swachhta Pakhwada	7	173

Sr. No	Name of KVK	Date	Activity	No of VIPs	No of Farmers	Others	Total
1	Latur	17.12.2022	Cleaning of office	0	0	10	10
2	Latur	19.12.2022	Waste disposal activity in office	0	0	6	6
3	Latur	20.12.2022	Group meeting on farm waste management	0	27	2	29
4	Latur	21.12.2022	Spot advisory on water harvesting in agriculture at village ity	0	15	2	17
5	Latur	22.12.2022	Group meeting on plant waste management through vermicomposting	0	32	2	34
6	Latur	25.12.2022	Group meeting on plant waste management through vermicomposting	0	40	1	41
7	Latur	27.12.2022	Group meeting on plant waste management through vermicomposting	0	35	1	36



21. Books published 2022-23

Title of the Book	Authors	ISBN No (Optional) / 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 (write in detail).

APR SUMMARY

(Note: While preparing summary, please don't add or delete any row or columns)

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	42	1002	685	1687
Rural youths	1	155	8	163
Extension functionaries	3	57	27	84
Sponsored Training	16	364	207	571
Vocational Training	1	30	0	30
Total	63	1608	927	2535

2. Frontline demonstrations

Crops/Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds			
Pulses			
Cereals			
Vegetables			
Other crops			
Hybrid crops			
Total			
Livestock & Fisheries			
Other enterprises			
Total			
Grand Total			

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops			
Livestock			
Various enterprises			
Total			
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total			

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	198	20178
Other extension activities	5	513
Total	203	20691

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
Latur	Text only	5	4	1	-	1	-	11
	Voice only							
	Voice & Text both							
	Total Messages	5	4	1		1		11
	Total farmers Benefitted	1212743	216013	240339	-	240339	-	1909434

6. Seed & Planting Material Production

	Quintal/Number	Value (Rs.)
Seed (q)	723	9466480
Planting material (No.)	28474	612826
Bio-Products (kg)	2986	1073600
Livestock Production (No.)	3756	507040
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	
2	Workshops	3
3	Conferences	3
4	Meetings	8
5	Trainings for KVK officials	16
6	Visits of KVK officials	5
7	Book published	
8	Training Manual	
9	Book chapters	
10	Booklet	
11	Leaflets/ Folder/ Pamphlet	
12	Research papers	
13	Technical Bulletin	
14	Popular article	
15	Lead papers	
16	Seminar papers	
17	Extension folder	

18	Proceedings	
19	Award & recognition	
20	On-going research projects	
21	Other	