

ANNUAL PROGRESS REPORT 2020

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 KVK DURING 2020 (January 2020 to December 2020)

1. GENERAL INFORMATION ABOUT THE KVK

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

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

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

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

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

Name	Telephone / Contact		
Dr. Digraze Sachin Swaruprao	Office	Mobile	Email
	02382-267411	9423211384 9404957511	sdigrase@gmail.com

1.4. Year of sanction: 2005

1.5. Staff Position (as on 31 December 2020)

Sr. No.	Sanctioned post	Name of the incumbent	Discipline	If Permanent, Please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
				Current Pay Band	Current Grade Pay		
1	Senior Scientist and Head	Dr. Digraze S.S.	Horticulture	43250-67000	9000	14.10.2016	-
2	Subject Matter Specialist	Bedre S.B.	Agril. Extension.	26410-39100	5400	11.07.2006	-
3	Subject Matter Specialist	Deshmukh S.B.	Entomology	26410-39100	5400	11.07.2006	-
4	Subject Matter Specialist	Smt.Gunjal A.A.	Home Science	26410-39100	5400	13.10.2006	-
5	Subject Matter Specialist	Matai P.D.	Agronomy	16880-39100	5400	03.05.2018	-
6	Programme Assistant	Dr. Salunke S.B.	Veterinary	17690-34800	4200	01.10.2006	-
7	Computer Programmer	Suryawanshi V.M.	Computer	15830-34800	4200	19.01.2009	-
8	Farm Manager	Kokate S.L.	-	17690-34800	4200	16.10.2006	-
9	Accountant/Superintendent	Deshmukh A.J.	-	17690-34800	4200	11.07.2006	-
10	Stenographer	Smt. Adgaonkar M.M.	-	12750-20200	2400	01.04.2006	-
11	Driver 1	Pitale N.B.	-	10130-20200	2000	01.04.2006	-
12	Driver 2	Shaikh W.M.	-	5650-20200	2000	17.12.2018	-
13	Supporting staff 1	Sagar O.K.	-	8870-20200	1800	01.04.2006	-
14	Supporting staff 2	Jadhav V.H.	-	8870-20200	1800	01.04.2006	-

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

Sr. No.	Item	Area (ha)
1	Under Buildings	2
2.	Under Demonstration Units	2
3.	Under Crops	7.20
4.	Horticulture	3.80
5.	Pond	0.3
6.	Others if any	4.7

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 (6)	ICAR	22.02.2012	400	50,00,000			
4.	Demonstration Units (2)	ICAR	26.03.2009	80	5,00,000			
5	Fencing	ICAR	31.03.2011	2800 Rgm	7,00,000			
6	Rain Water harvesting system							
7	Threshing floor							
8	Farm godown							
9	ICT lab							
10	Other							

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Jeep (MH-24-AW-3105)	2019-2020	8,00,000	18992	Under working
Motor Cycle (MH-24-Q-1404)	2006-2007	50,714	97158	Needs replacement
Motor Cycle (MH-24-Q-1405)	2006-2007	50,714	96988	Needs replacement

C) Equipments & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Tractor with two bar sari plough	2006-07	5,09,002.00	Under working
Double palti plough	2006-07	42,019.00	Under working
Computer with projector	2006-07	1,21,900.00	Needs replacement
04 row CRIDA Bullock drawn seed cum ferti planter	2006-07	15,225.00	Under working
06 row CRIDA tractor drawn seed cum ferti planter	2006-07	44,000.00	Under working
Spring type cultivator	2006-07	26,434.00	Under working
Sugarcane harrow	2006-07	961.00	Under working
V shape harrows (02 Nos.)	2006-07	1,860.00	Under workings
Genset (Generator)	2011-12	2,50,000.00	Under workings
Computer (02 Nos) & Printer, Tab	2016-17	1,20,000.00	Under workings
Tractor with two bar sari plough	2006-07	5,09,002.00	Under working
Double pulti plough	2006-07	42,019.00	Under working
Small Tractor	2019	477678.57	Under working
Rotavator	2019	123214.29	Under working
Tractor operated Sprayer	2019	60714	Under working
Reaper	2019	123214	Under working
Bund former	2019	17857	Under working
Seed cum fertilizer drill	2019	35714	Under working
Minitractor operated cultivator	2019	13392	Under working
Sugarcane trash shredder	2019	178571	Under working
Reversible two bottom plough	2019	35714	Under working
Mulching Machine	2019	35714	Under working
Sugarcane Set cutter planter	2019	174107	Under working
Sugarcane seedling trans planter	2019	129464	Under working
Poultry mini hatchery unit	2019	582400	Under working
Soybean processing unit	2019	777560	Under working
Fruits and vegetable Processing unit	2019	1568220	Under working

1.8. Details of SAC meetings conducted in the year 2020

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

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 Sorghum (K), Soybean, Pigeon pea, Sunflower Inter-cropping system Sorghum + Pigeon pea (4:2/3:3), 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)**a) Soil type**

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.

b)Topography

S. No.	Agro ecological situation	Characteristics
1	AES-I (western part of Latur and central part of Ausa)	Low rainfall, light to medium soils with flat area
2	AES-II (Renapur,northern part of Shirur Antanpal and east of Latur)	Low rainfall medium to heavy Soil with flat area
3	AES- III (Nilanga,western part of Udgir, Chakuar and Deoni)	Moderate rainfall medium to heavy soil with hilly area
4	AES-IV (Jalkot and western part of Ahemdpur north east of Chakur)	Moderate rainfall light to medium soil with area
5	AES-V (Ahmedpur)	Moderate rainfall, light to medium soils with flat area
6	AES-VI (Western part of Latur,central part of Sirur Antanpal)	Medium to heavy soils with command area

2.3 Soil Types

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

2.4. Area, Production and Productivity of major crops cultivated in the area of jurisdiction of KVK (2019)

S. No	Crop	Area (ha)	Production (MT.)	Productivity (Qt./ha)
1	Rice	1428	800	5.60
2	Cotton	4920	1774	10.30 (Lint 3.60)
3	Redgram	93764	1042106422	11.35
4	Kharif Jawar	33953	28308	8.33
5	Bajra	1501	409.77	2.73
6	Sunflower	634	178.25	2.81
7	Maize	6227	4783	7.68
8	Sesamum	1266	162.34	1.28
9	Groundnut	1358	503.79	3.70
10	Niger	803	93.30	1.16
11	Soybean	408556	472425	11.56
12	Blackgram	16139	5547	3.43
13	Greengram	17088	4659.8	2.72
14	Castorseed	7	1	200
15	Total Kh. oil seeds	3459	2118	612
16	Sugarcane	464	23546	51
17	Cotton	38	27	119
18	Rabi Jowar	222	81	364
19	Wheat	472	108	229
20	Rabi Maize	20	11	545
21	Other Rabi cereals	10	2	225
22	Total Rabi cereals	723	202	279
23	Bengal gram	670	200	298
24	Other Rabi Pulses	4	1	215
25	Total Rabi Pulses	673	201	298
26	Total Rabi foodgrains	1396	402	288
27	Safflower	129	38	291
28	Linseed	5	0	48
29	Sunflower Rabi	40	13	332
30	Other Rabi Oilseed	5	1	140
31	Total Rabi oilseeds	178	52	290
32	Summer Groundnut	15	11	736
33	Total Summer Oilseeds	15	11	736

2.5. Wea ther data (2020)

Month	Rainfall (mm)	Temperature 0 C		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
January		25.8	15.37	78	71
February		32.17	16.12	70	65
March		35.42	17.9	64	42
April	17.7	37.34	23.4	73	36
May	20.00	39.0	25.77	62	29
June	242	32.1	23.6	91	71
July	205.7	30.1	22.84	91	65
August	108.7	28.35	22.9	93	75
September	197	29.46	23.28	93	88
October	100	26.72	19.4	82	75
November		29.9	19.37	63	47
December		20.96	15.9	78	46
Total	890.8				

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

Category	Population	Production	Productivity
Cattle			
Crossbred	9100	24988 MT	7.558 Kg
Indigenous	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			
Crossbred	1172	-	-
Indigenous	8159	-	-
Rabbits	520	-	-
Poultry			
Hens	261600	754.348 Lakh (Eggs)	288.35 Eggs
Desi	58500	61.029 Lakh (Eggs)	104.32 Eggs
Category		Production (Q.)	Productivity
Fish (Reservoir)	8121 Hector	21050	259.20 kg.hec

2.7. Details of Operational area / Villages

Taluka	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Latur, Ausa	Gangapur, Bhoisamudraga	Blackgram	Imbalanced use of fertilizers Unawareness about use of seed treatment Decreasing area due to incidence of pest and disease attack	Integrated Nutrient Management Promotion for use of biofertilizers for seed treatment Use of pest and disease resistant varieties
		Pigeonpea	Due to use of local varieties yield reduced Imbalanced use of fertilizers Unawareness about seed treatment and use of pesticide	Improved high yielding varieties resistance to pest and diseases Integrated Nutrient Management Use of biofertilizers & Fungicides for seed treatment
	Bhada, Kharosa, Ankoli, Chata	Soybean	Less productivity due to use of old varieties Labour shortage at the time of harvesting Unawareness about seed treatment	Use of improved and resistance to pest, diseases varieties Use of mechanization to overcome labour problem Use of biofertilizers & Fungicides for seed treatment
		Blackgram	Imbalanced use of fertilizers Unawareness about use of seed treatment Decreasing area due to incidence of pest and disease attack	Integrated Nutrient Management Promotion for use of biofertilizers for seed treatment Use of pest and disease resistant varieties
		Pigeonpea	Due to use of local varieties yield reduced Imbalanced use of fertilizers Unawareness about seed treatment and use of pesticide	Improved high yielding varieties resistance to pest and diseases Integrated Nutrient Management Use of biofertilizers & Fungicides for seed treatment
		Chickpea	Less productivity due to use of old varieties Incidence of Wilt disease Unawareness about seed treatment	Use of improved and resistance to pest, diseases varieties Use of Tricoderma Viridi for control of wilt disease Use of biofertilizers & Fungicides for seed treatment
		Safflower	Low yield due to use of local varieties Major attack of Aphids, sucking pest on Safflower Unavailability of labour for harvesting of crop	Use of improved varieties, high yielding and pest disease resistance Integrated Pest Management Harvesting by combine harvester
		Linseed	Low yield due to sowing on rainfed condition Market availability for selling of produce is less Imbalanced use of fertilizers	Protective Irrigation at Critical growth stages Sowing of crop in cluster will available market in bulk Integrated nutrient management
		Rabi Sorghum	Low yield Sowing on Rainfed Situation Non adoption of seed treatment High cost of cultivation	Improved high yielding varieties Protective irrigation at critical growth stages Biofertilizers & Fungicides for seed treatment Improved technology to reduce cost of cultivation
Latur	Bhoisamudraga	Chickpea	Plant population reduction due to wilt, heavy infestation of pod borer	Integrated Pest and disease Management

Renapur		Rabi Sorghum	Heavy infestation of fall army worm Less awareness about new pest fall army worm	Integrated Pest Management
		Onion	Less plant protection measures for management of blight and thrips	Integrated Pest and Disease Management
		Pigeonpea	Heavy incidence pest and diseases Indiscriminate use of pesticides	Integrated Pest Management
		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
	Ankoli	Soybean	Heavy infestation of girdle beetle and leaf eating caterpillars	Integrated Pest Management
		Pigeonpea	Heavy incidence pest and diseases Indiscriminate use of pesticides	Integrated Pest Management
		Chickpea	Plant population reduction due to wilt, heavy infestation of pod borer	Integrated Pest and disease Management
		Organic waste	Most of the organic waste in farm like sugarcane trash, farm waste etc requires more time for composting. Low organic carbon	Use of waste decomposer culture developed by NCOF, Gaziabad
		Chilli	low yield due to leaf curl virus incidence	Integrated Disease Management
Latur	Akarwai	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.	Use sampoorana hormone for uniform maturity Use of Cocoon harvester
		Soybean	Less productivity due to use of old varieties Unawareness about seed treatment	Use of improved and resistance to pest, diseases varieties Use of biofertilizers for seed treatment
		Greengram	Heavy incidence pest and diseases Indiscriminate use of pesticides	Integrated Pest Management
		Blackgram	Heavy incidence pest and diseases Indiscriminate use of pesticides	Integrated Pest Management
Latur	Gondegaon	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.	Use sampoorana hormone for uniform maturity Use of Cocoon harvester
		Organic waste	Most of the organic waste in farm like sugarcane trash, farm waste etc requires more time for composting. Low organic carbon	Use of waste decomposer culture developed by NCOF, Gaziabad
Shiruranan tpal	Halki	Onion	Less plant protection measures for management of blight and thrips	Integrated Pest and Disease Management Judicious use of Pesticides
Ausa	Bhada	Soybean	Less productivity due to use of old varieties Labour shortage at the time of harvesting Unawareness about seed treatment	Use of improved and resistance to pest, diseases varieties Use of implements to overcome labour problem Use of biofertilizers for seed treatment
		Blackgram	Heavy incidence pest and diseases Indiscriminate use of pesticides Imbalanced use of fertilizers	Integrated Pest Management Integrated Disease Management
		Pigeonpea	Heavy incidence pest and diseases Indiscriminate use of pesticides	Integrated Pest and Disease Management
		Chickpea	Less productivity due to use of old varieties Incidence of Wilt disease	Use of improved and resistance to pest,diseases varieties Use of Tricoderma viridae for control of wilt disease
		Safflower	Low yield due to use of local varieties Major attack of Aphids, sucking pest on Safflower	Use of improved varieties Integrated Pest Management

		Rabi Sorghum	Heavy infestation of fall army worm Less awareness about new pest fall army worm	Integrated Pest Management
Ausa	Kharosa	Soybean	Unawareness about seed treatment	Use of improved and resistance to pest,diseases varieties Use of biofertilizers for seed treatment
		Chickpea	Less productivity due to use of old varieties Incidence of Wilt disease	Use of improved and resistance to pest,diseases varieties Use of Tricoderma Viridi for control of wilt disease
	Bhoisamudraga, Kadgaon, Gangapur, Harangul (B)	Value addition	Post harvest losses. Absence of proper processing techniques	Post harvest management for loss reduction
Latur		Drudgery reducing implement	Drudgery prone activities at farm . Unaware about improved tools & techniques	Drudgery reducing technologies for loss reduction
		Nutrition	Malnutrition, deficiency of micronutrients. Unaware about nutritional requirement of family	Family nutrition & livelihood security
Ausa		Entrepreneurship	-	Entrepreneurship development through Processing and value addition in farm produce
Latur	Akharwaie	Dairy	Low milk yield Longer inter calving period Shading of body weight after calving Repeat breeding and anoestrous Scarcity of green fodder	Feed and feeding management Preservation of green fodder Disease management Nutrient management
Latur			Poor growth Kid mortality Poor fertility Late maturity Post kidding problems	Feed and feeding management Nutrient management Reproductive management
Latur	Gangapur Bhoisamudraga Kadgaon	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	- Integrated Crop Management - Integrated Nutrient Management - Seed production programme for good quality seed - Awareness about seed treatment - Mechanical use for sowing and harvesting due to labour shortage
• Blackgram	- Varietal Evaluation - Integrated Crop Management - Integrated Nutrient Management - Integrated Weed Management
• Pigeonpea	- Use of biofertilizers for seed treatment - Integrated Crop Management - Foliar application of fertilizers for increase in yield
• Bengal gram	- Seed production programme for good quality seed - Awareness about seed treatment - Production technologies for increasing productivity - Biofertilizers and fungicides to reduce wilt disease attack
• Safflower	- Mechanical harvesting to overcome labour 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
• Linseed	- Improved varieties suited for district climate - Protective irrigation at critical growth stages - Integrated Nutrient Management
• Soybean	- IPM (Leaf eating caterpillars, girdle beetle, stem fly)& IDM (anthracnose) - In long durational varieties more problem of mosaic virus
• Greengram	Integrated Disease Management

• Blackgram	• Integrated Disease Management
• Pigeonpea	• Pod borer & wilt management • Increase in percentage of sterility mosaic virus in some talukas • Use of susceptible seed material
• Bengal gram	• Awareness about seed treatment • Less plant population due to heavy incidence of wilting
• Safflower	• Pest management for Sucking pest i.e. Major attack of Aphids
• Sugarcane	• Heavy infestation of white grub and white fly • use of disease free planting material
• Sorghum	• Heavy infestation of fall army worm • Less awareness about new pest fall army worm
• Onion	• Less plant protection measures for management of blight and thrips • Integrated Pest and Disease Management
• Mango	• Less plant protection measures for management of powdery mildew and hoppers
• Pomegranate	• Problem of wilting and oily spot bacterial disease
• Vegetable crops	• Indiscriminate use of pesticides and heavy residue problem • Unavailability of market for organic produce
• Sericulture	• Less use of plant based growth hormone for uniform maturity and to increase yield • Infestation of Uzi fly in traditional growing villages • Less mechanization for cocoon harvesting
• Organic waste	• Use of microbial consortia for rapid decomposition
• Agri & agri allied enterprises	• Entrepreneurial activities for income generation
	• Promotion of groups approaches for effective TOT
	• To identify & use the potential para extension workers for efficient communication
	• Promote the use of ICT to increase the access to proper information sources
	• Motivate the farmers to use latest technologies as per their capacity
	• Promotion of organic inputs for reduction in production cost
• Agriculture Engineering	• To provide on spot advocacy to the farmers
	• Improved farm machinery and equipments for specialized operations like mulch laying, bed shaper, bed maker etc.
	• Drudgery reducing technology
	• Production of small tools and equipment
	• Post harvest technology
	• Small scale processing and value addition
• Value addition	• Soil and water conservation & insitu moisture conservation
	• Maintenance of micro irrigation system
• Drudgery reducing equipments	• Post harvest management for loss reduction
	• Empowering farm women through small scale processing value addition
• Foods and Nutrition	• Drudgery reducing technologies for farm women • Entrepreneurship development
• Dairy animals	• Establishment of Nutritional gardens • Family nutrition & livelihood security
• Poultry	• 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 • Round the year availability of green fodder • Clean milk production
	• Scientific management of Broiler birds
	• Health management
	• Introduction of improved breeds poultry birds for backyard poultry farming
	• Animal health and care – (Timely vaccination, deworming and insemination)
	• Balanced/ supplement feeding in livestock
• Goatery	• Fertility management of goats
	• Round the year availability of green fodder
• Rural Youth	• Entrepreneurship development through training programmes
• Soybean	• IPM (Leaf eating caterpillars, girdle beetle, stem fly)& IDM (antracnose)
• Sugarcane	• Management of white grub
• Rabi sorghum	• Integrated pest management & varietal demonstration
• Safflower	• Pod borer & wilt management

• Soybean	• Management of girdle beetle
• Bengal gram	• Management of wilt disease
• Sorghum	• Fall Armyworm <i>Spodoptera frugiperda</i> management
• Mango	• Jassids & Powdery mildew management
• Pomegranate	• Use of proper intercultural operations • Preventive measures for diseases
• Sericulture	• Advance technology of bi-voltine cocoon production • Chawky rearing • Use of Sampoorana and Serimore hormone • Cocoon harvesting mechanization

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
14	9	140	90	15	13	235	275

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
55	46	7802	11457	650	536	12500	11465

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
25	21.3	20000	7000

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
40 kids	28	1200 liters	2903 liters
4000 birds	3422		

3.1. B. Operational areas details during the year 2020

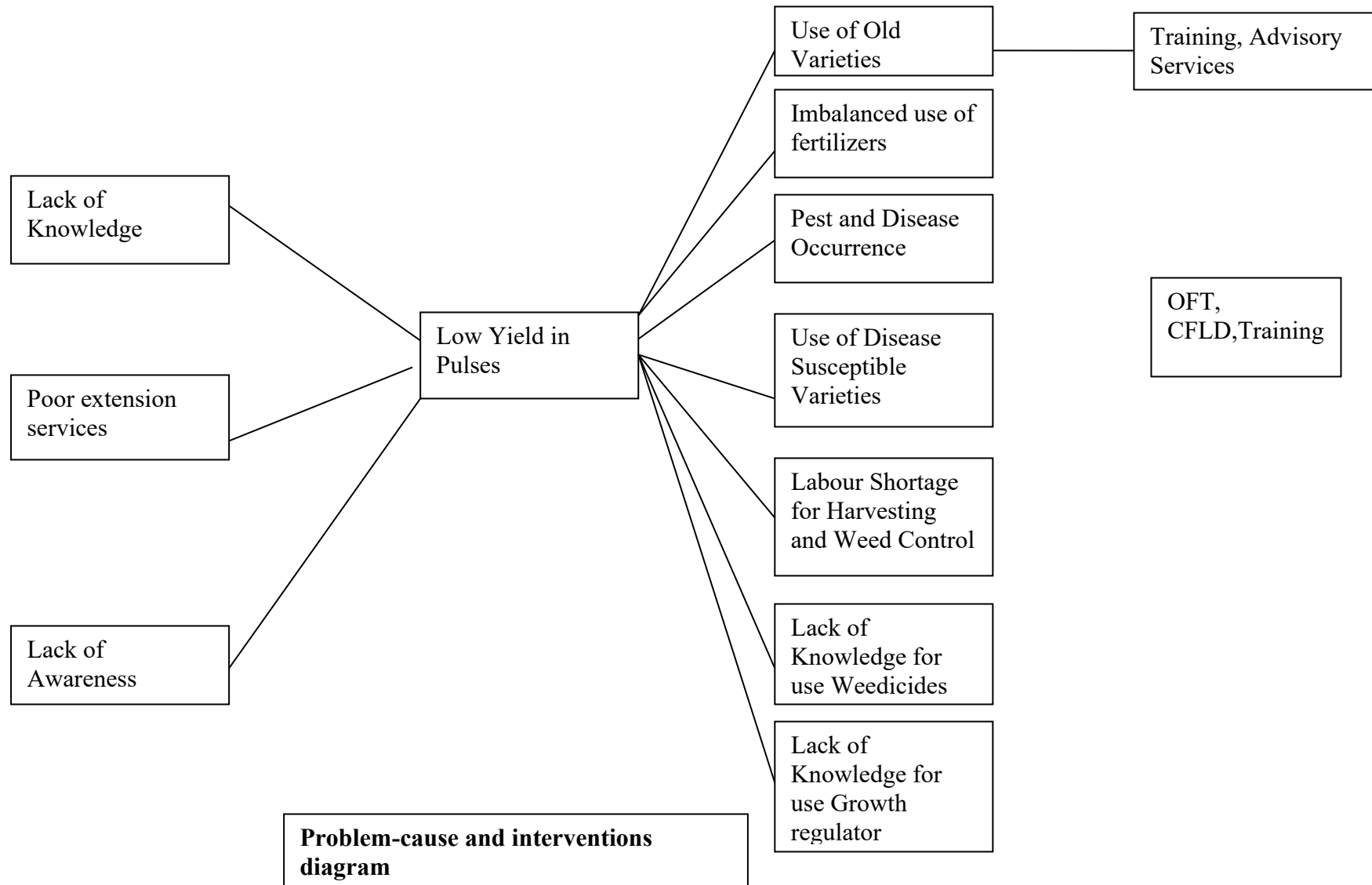
S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Intervention (OFT, FLD, Training, extension activity etc.)*
1	Soybean	Less productivity & Labour shortage Use of old variety JS-335 Imbalance use of fertilizers Pest and disease occurrence Non availability of labours for weed management	259210	Ankoli Chata Chikurda Harangul Bhada Kharosa,	OFT,FLD,CFLD
2	Red gram	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.	81900	Gangapur Kharosa Bhoisamudraga	CFLD,Training
3	Black gram	Low yield due to attack of powdery mildew disease. Use of old varieties Imbalance use of fertilizers Unawareness about use of fungicides.	7420	Gangapur Kharosa Bhoisamudraga	CFLD, Training
4	Bengalgram	Low yield due to incidence of wilt disease Use of susceptible varieties Unaware about use of fungicides and insecticides Unaware about use of biofertilizers.	112770	Bhada Kharosa,	OFT, CFLD,Training
5	Safflower	Less productivity due to incidence of pest Labour problem at the time of harvesting Imbalance use of fertilizers	18750	Bhada Gangapur Kharosa,	CFLD,Training
6	Linseed	Low area under cultivation Farmers are not aware about cultivation and marketing of crop Low yield in crop due to unawareness about cultivation practices.	450	Bhada Gangapur Kharosa,	CFLD,Training
7	Soybean	Pest and disease occurrence	259210	Bhoisamudraga	Training, Group discussion,

		Heavy infestation of girdle beetle, leaf eating caterpillar, soybean mosaic Non Judicious use of pesticides		Ankoli, Bhada, Kharosa	Diagnostic visits
8	Pigeonpea	High residue problem, heavy infestation of pod borer complex Low yield in Redgram due to attack of wilt disease. Use of wilt susceptible variety BSMR-736 in the micro situation. Incidence of pest attack.	81900	Bhoisamudraga Bhada,	FLD, Training
9	Green gram	Low yield due to attack of powdery mildew disease. Use of old varieties Non sprayings of fungicides.	7980	Kharosa, Bhada	Training, Diagnostic visits
10	Black gram	Low yield due to attack of powdery mildew disease. Use of old varieties Non sprayings of fungicides.	7420	Bhoisamudraga Kharosa, Ankoli	Training, Diagnostic visits
11	Chickpea	Low yield due to incidence of wilt disease Use of susceptible varieties Unaware about use of fungicides Unaware about use of biofertilizers.	112770	Bhada, Bhoisamudraga	FLD, Training, Diagnostic visits
12	Safflower	Less productivity due to incidence of pest Labour problem at the time of harvesting	18750	Bhada, Bhoisamudrga	Diagnostic visits Training
13	Rabi Sorghum	Heavy infestation of fall army worm Less awareness about new pest fall army worm	25900	Bhada, Bhoisamudraga	OFT, Diagnostic visits Training
14	Sugarcane	Yield loss due to white grub during onset of Yield loss in sugarcane	550	Jevali Nandgaon	OFT, Diagnostic visits Training
15	Onion	Low yield due to incidence of blight disease and thrips	750	Halki Bhoisamudrga	FLD, Training
16	Tomato	Heavy infestation of late blight, leaf curl and low yielding cultivars	450	Janwal, Shirur anantpal	Group discussion, Training
17	Sericulture	Low yield of cocoon per 100 dfls	220	Chikurda, Almala	OFT
		More labor and time required for cocoon harvesting	260	Almala, Gondegaon Gategaon	FLD, Method Demonstrations`

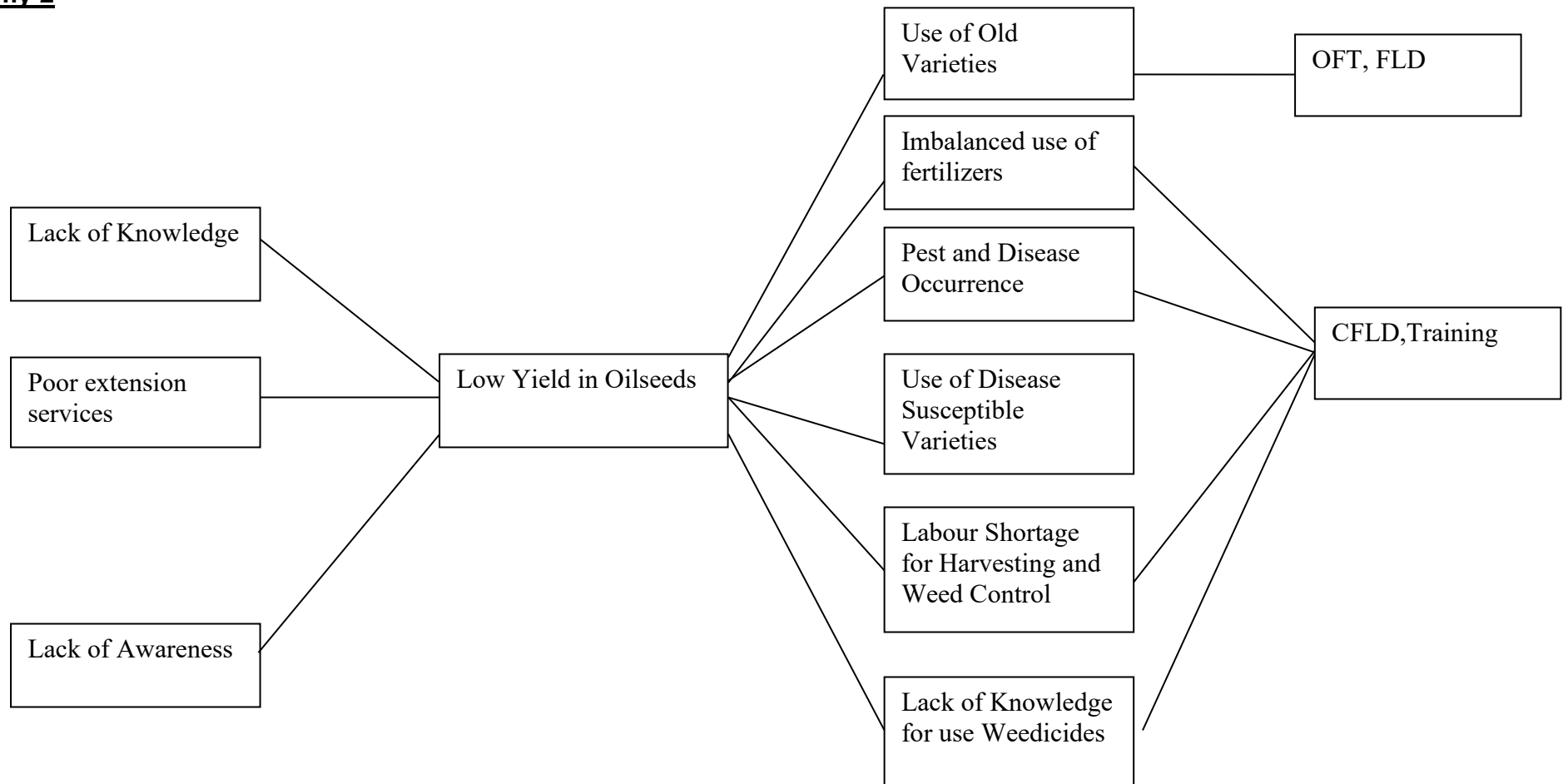
18	Chilli	low yield due to leaf curl virus incidence	375	Bhoisamudraga, Halki	Training, Group discussion
19	Manual seedling transplanter& sapling carrier for drudgery reduction	Drudgery prone activity & complain in back & legs	70%	Nagarsoga	FLD
20	Solar dryer for dehydration of vegetables	Wastage of perishable vegetables due to unaware about proper post-harvest management	60	Gangapur, Vasangaon	FLD
21	Nutritional gardens	Consumption of fruits & vegetables are less	50	Bhoisamudraga, Harangul&Gangapur	FLD
22	Farming system for nutrition	Unavailability of nutrition rich millets Unavailability of seasonal vegetables rich in micronutrients and vitamins throughout the year	50	Bhoisamudraga, katgaon&Harangul	FLD
23	Value addition in bajara flour	Poor keeping quality of bajara flour	75	Bhoisamudraga&Haragul	OFT
24	Dairy	Low milk yield Longer inter calving period Shading of body weight after calving Repeat breeding and anoestrous Scarcity of green fodder	75 % population	Akharwaie Gangapur	OFT, FLD, method demonstration, trainings
25	Backyard poultry	Low egg production Low body weight High mortality Less returns	90 % population	Bhoisamudraga Akharwaie	OFT, FLD and training
26	Goat	Mineral deficiency Late maturity Poor weight gain, High mortality	90 % population	Akharwaie Ramegaon Khandapur Gangapur Manjari	FLD, training

Problem Cause interventions diagrams

Agronomy 1

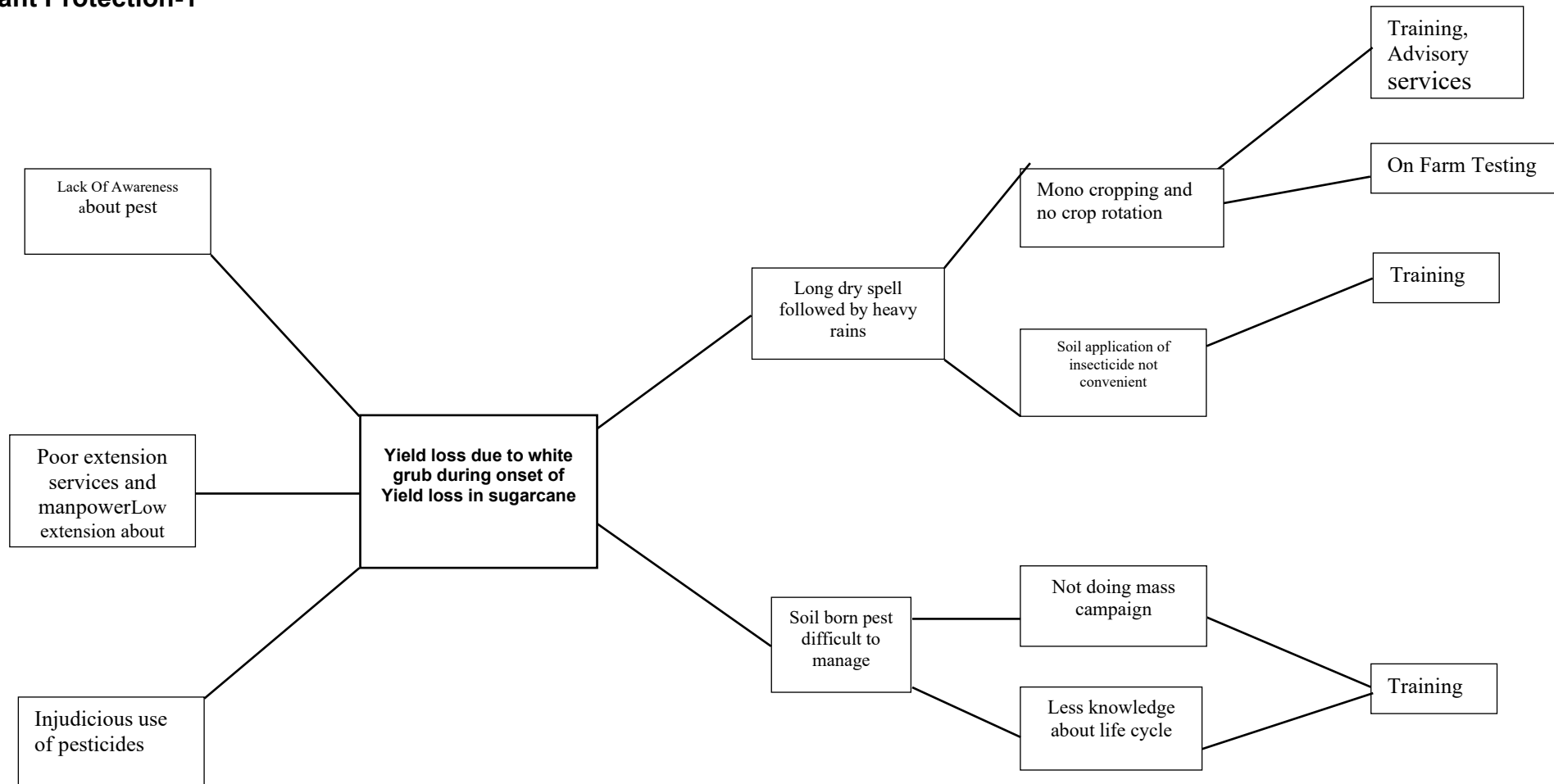


Agronomy 2

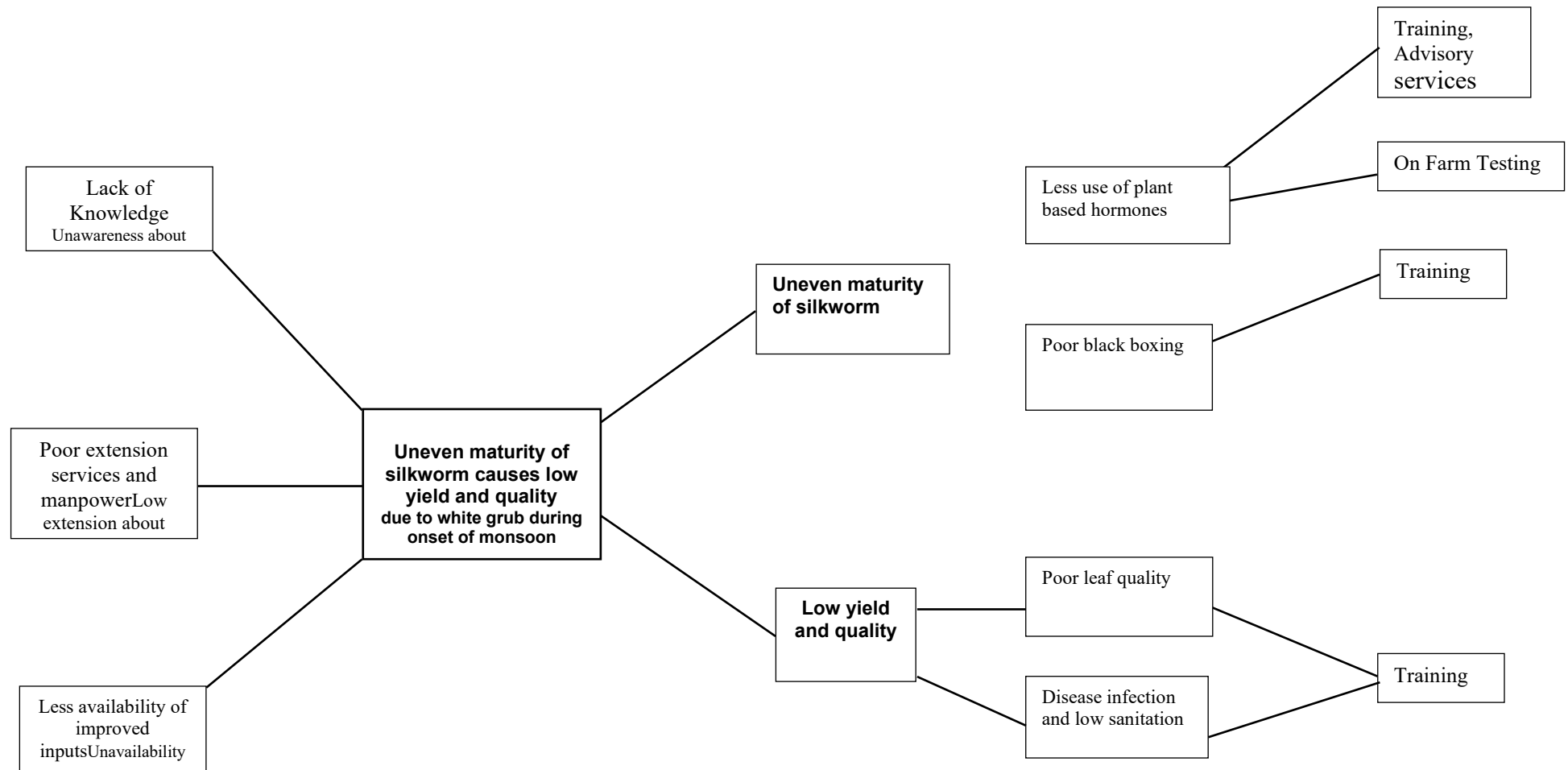


Problem-cause and interventions diagram

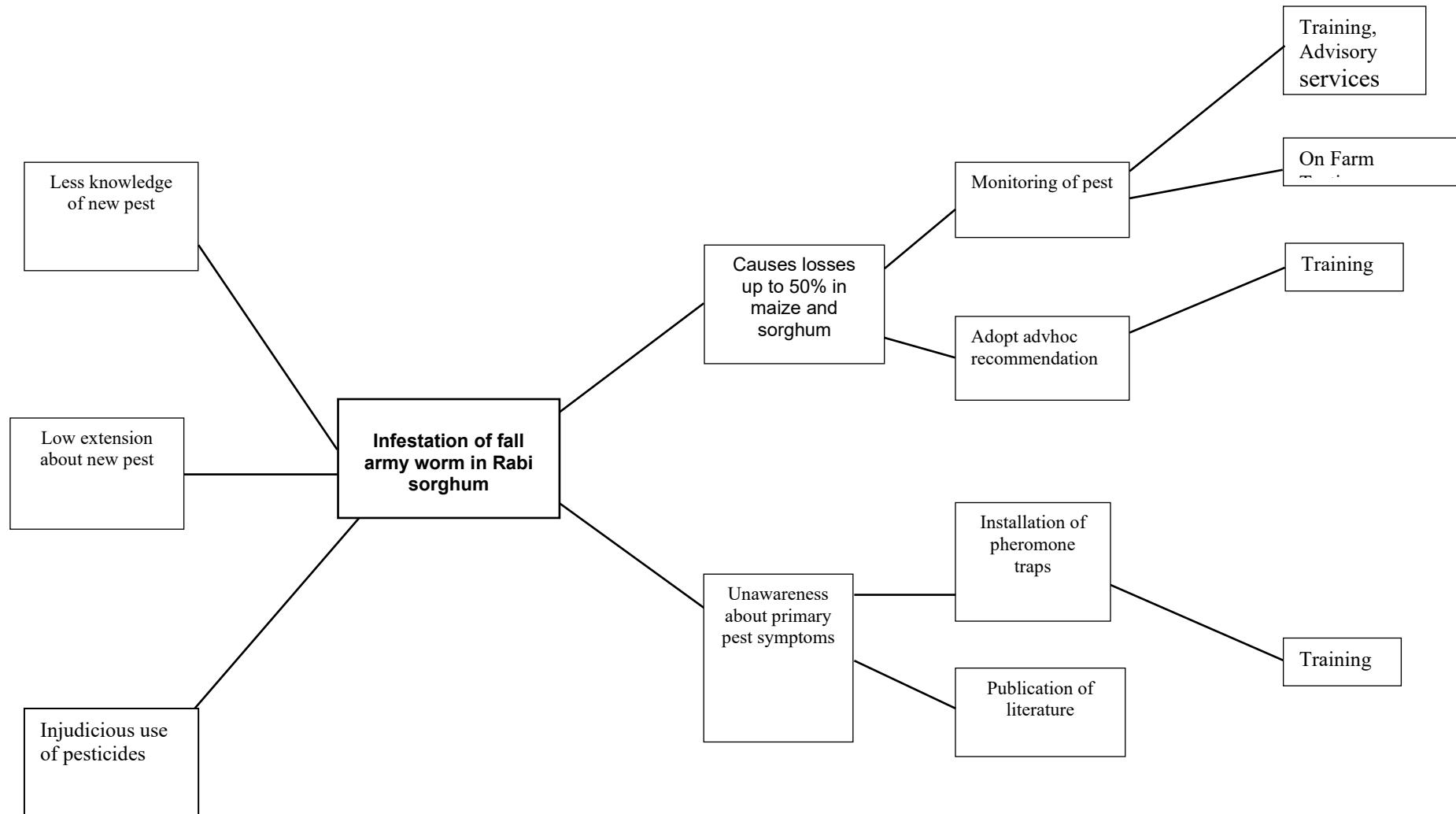
Plant Protection-1



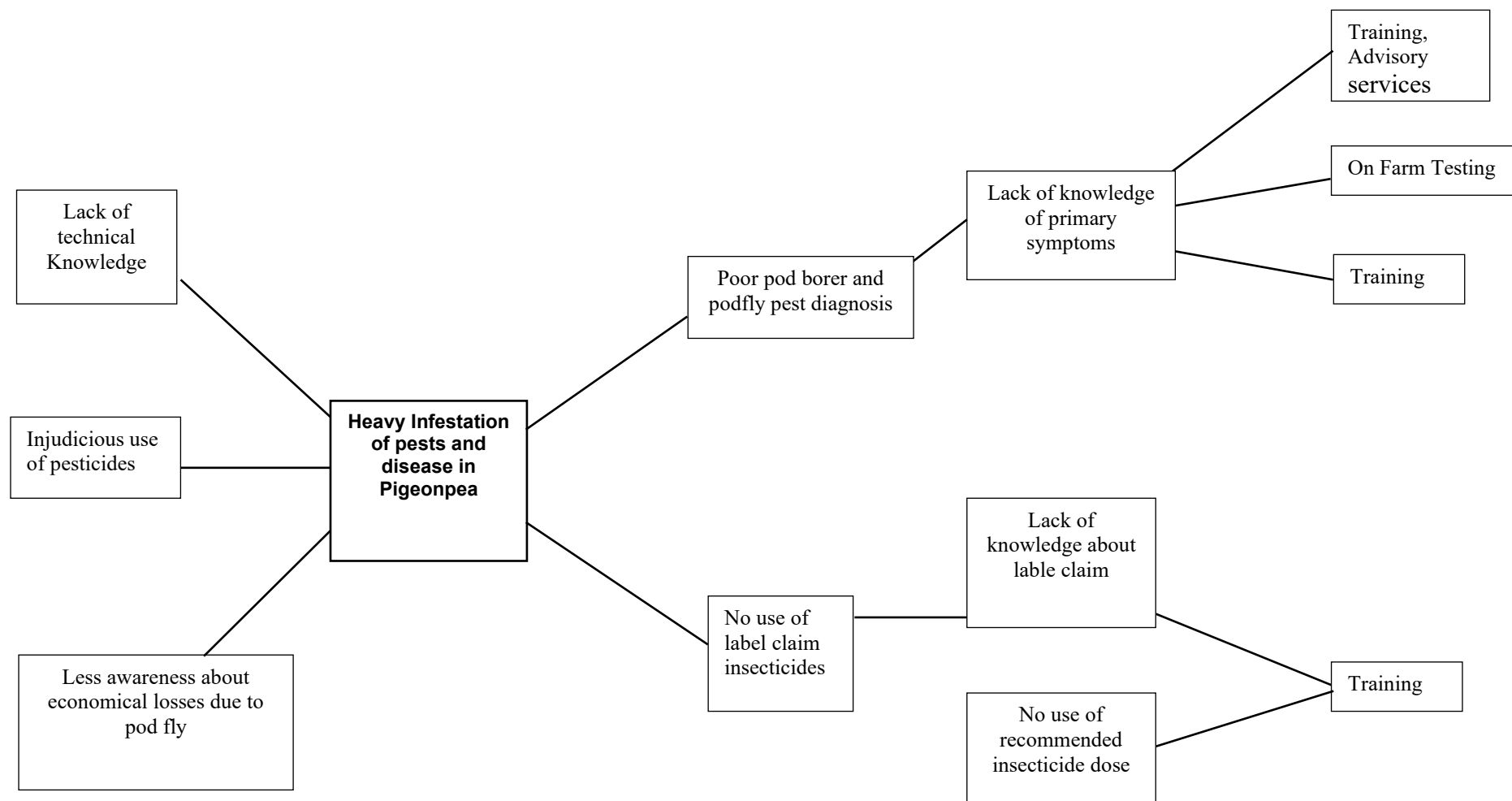
Plant Protection-2

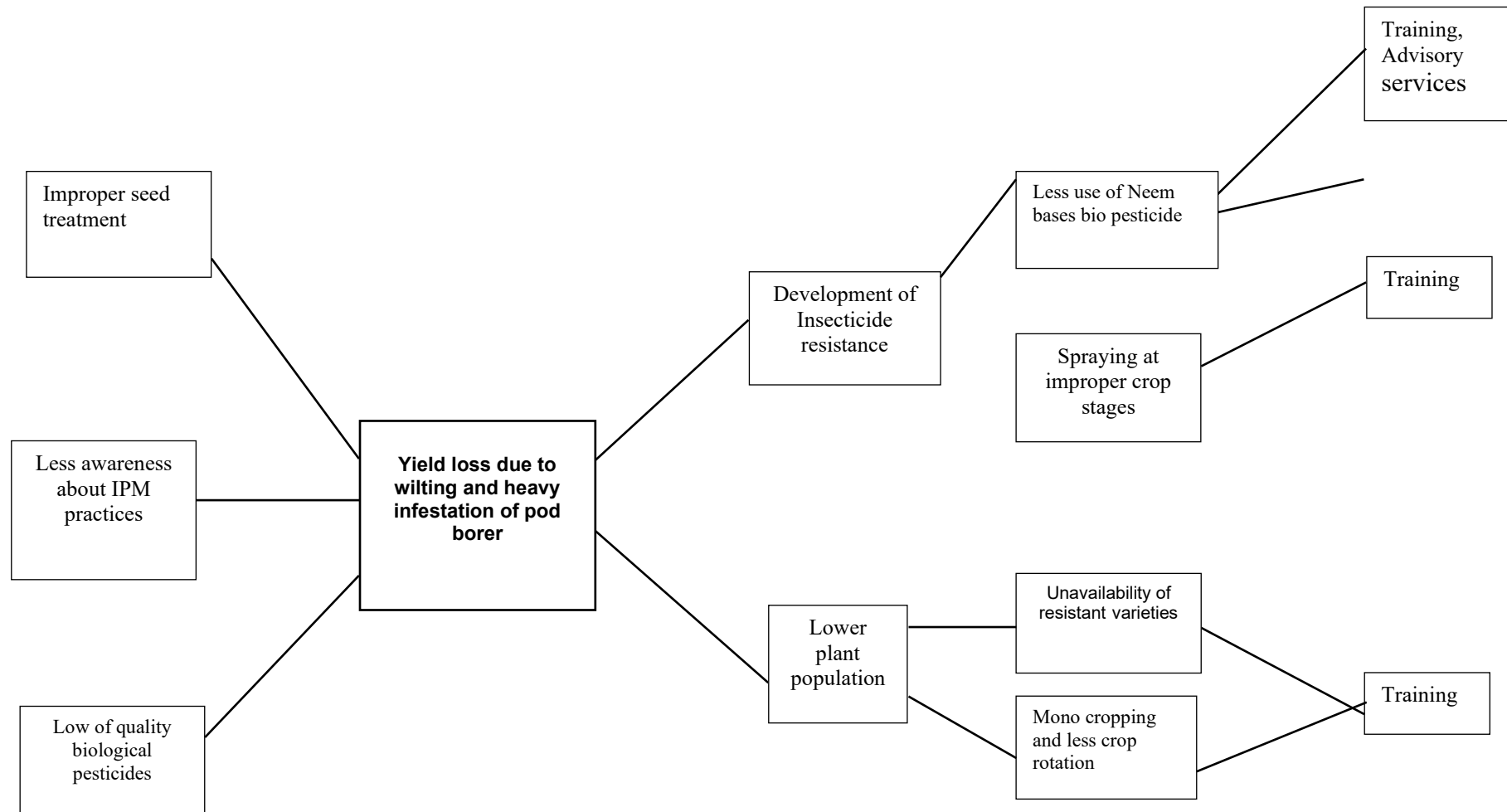


Plant Protection-3

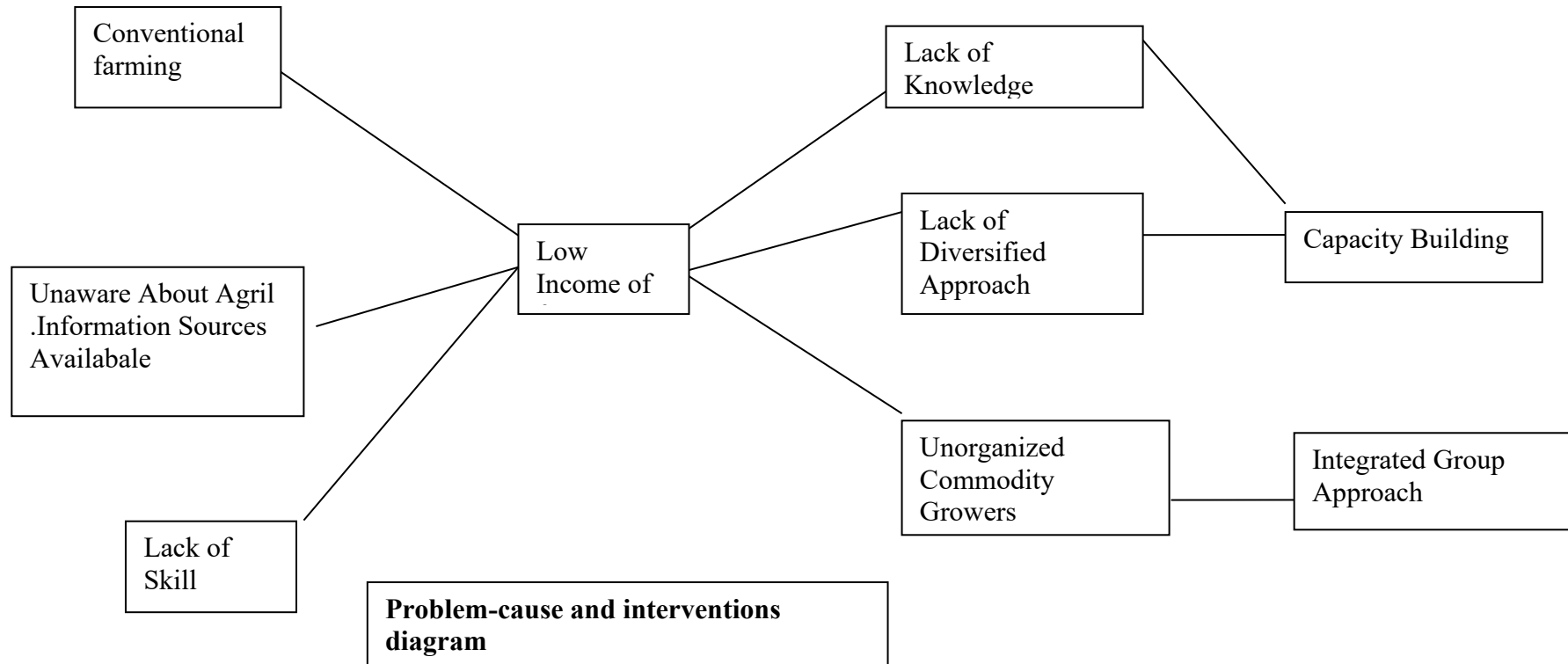


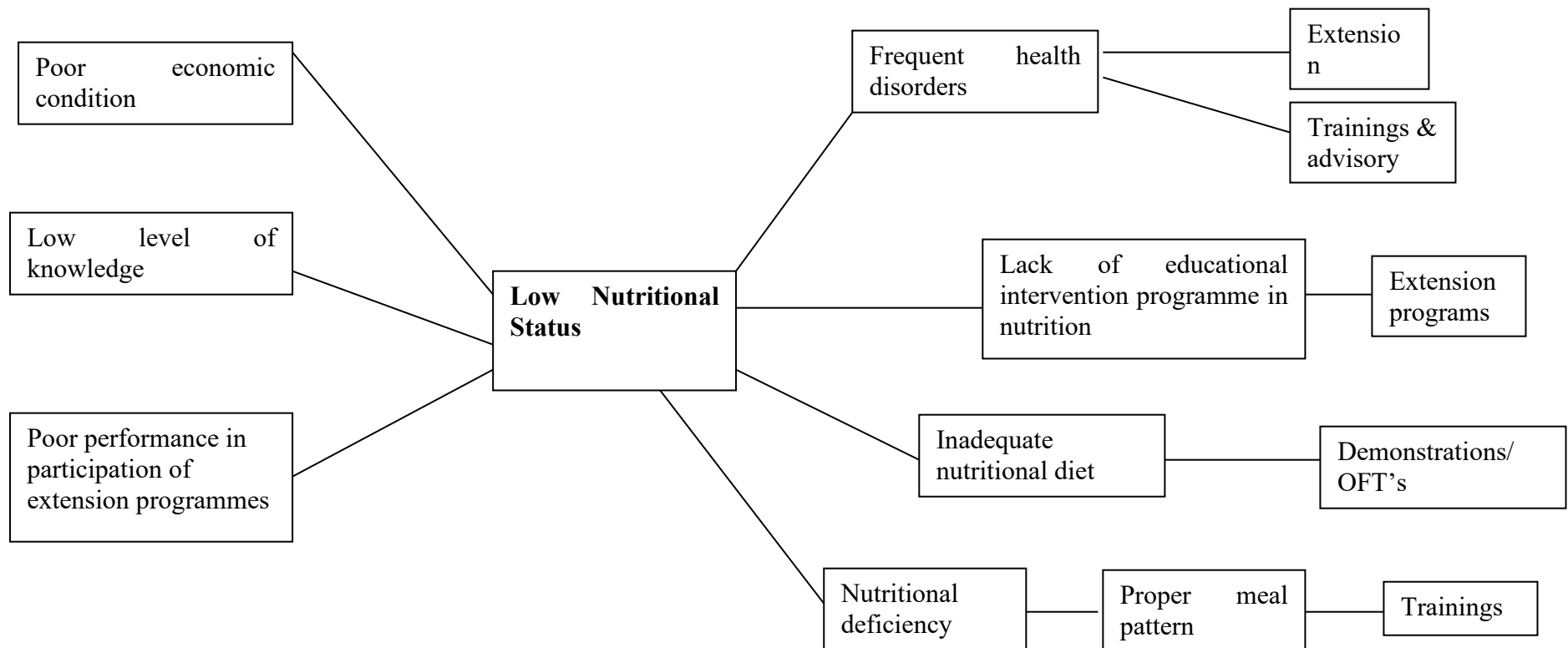
Plant Protection:4



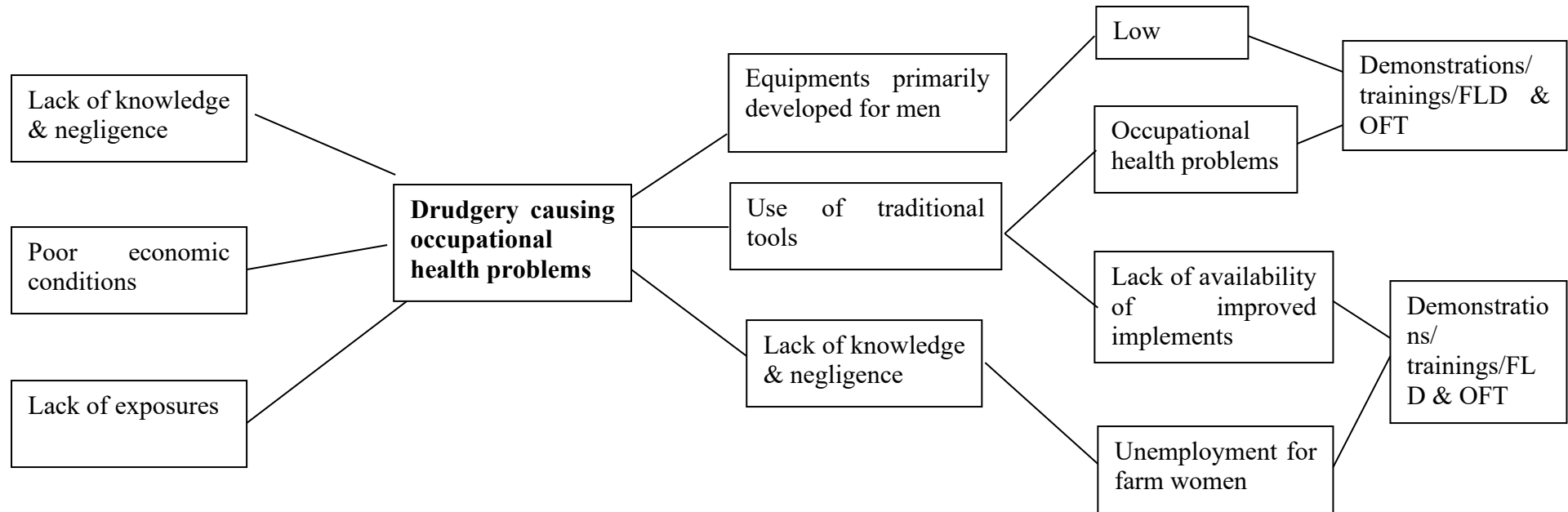


Agri.Extension-1

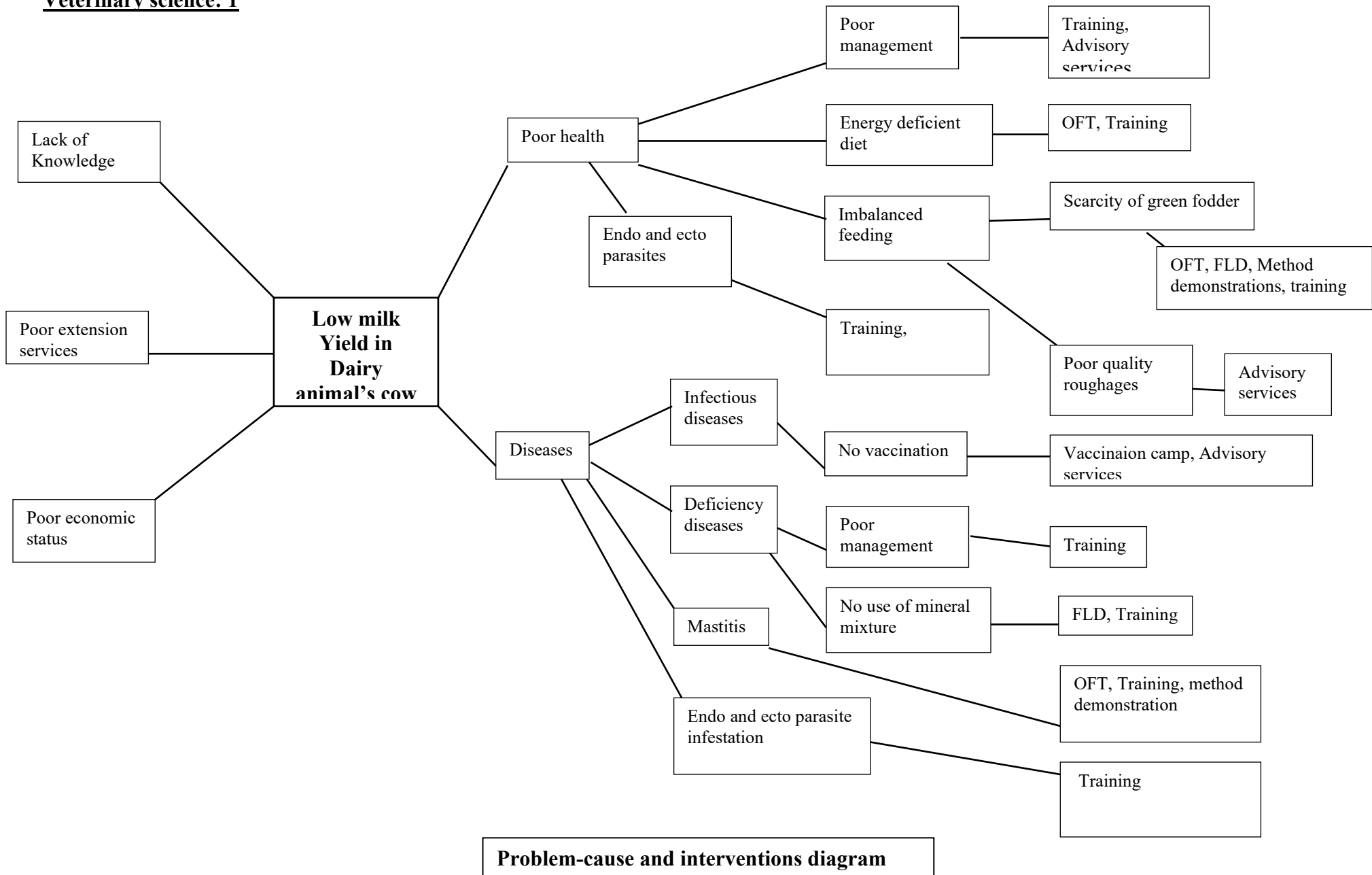


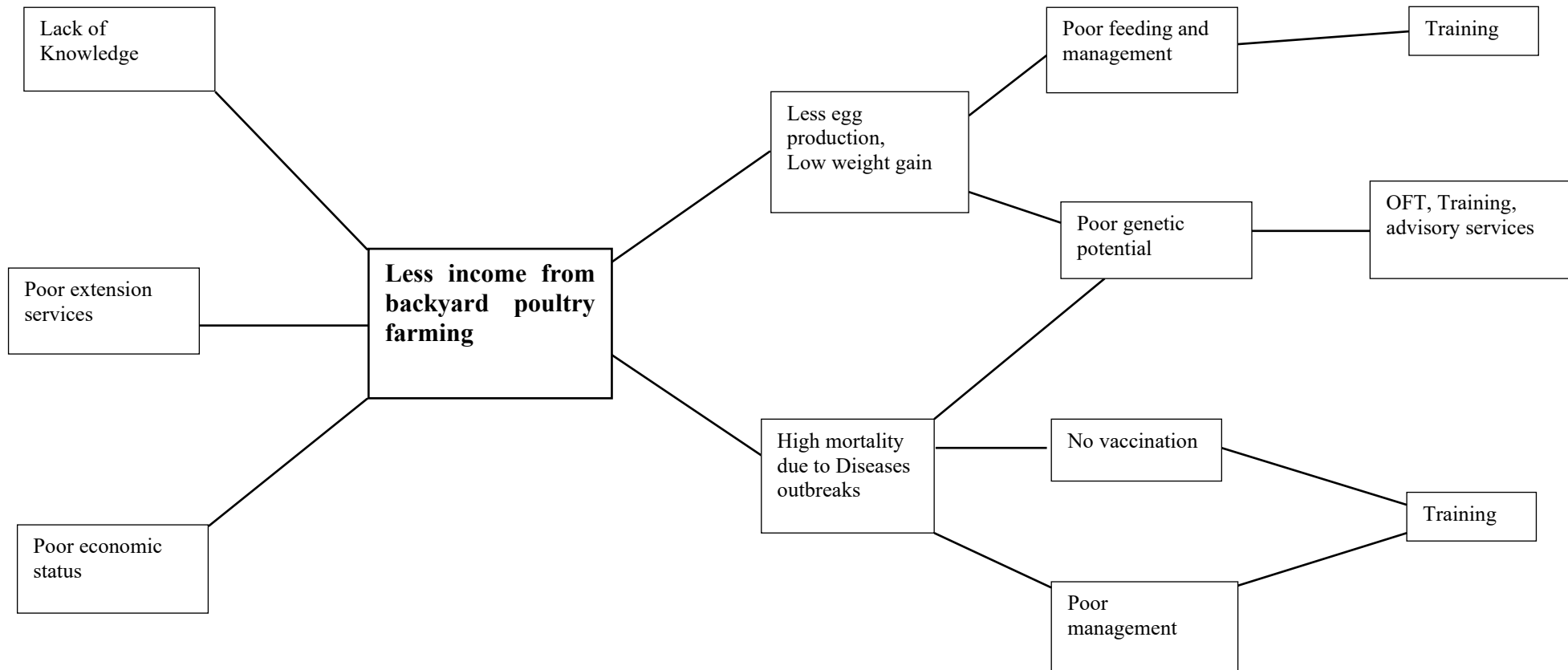


Home Science: 2



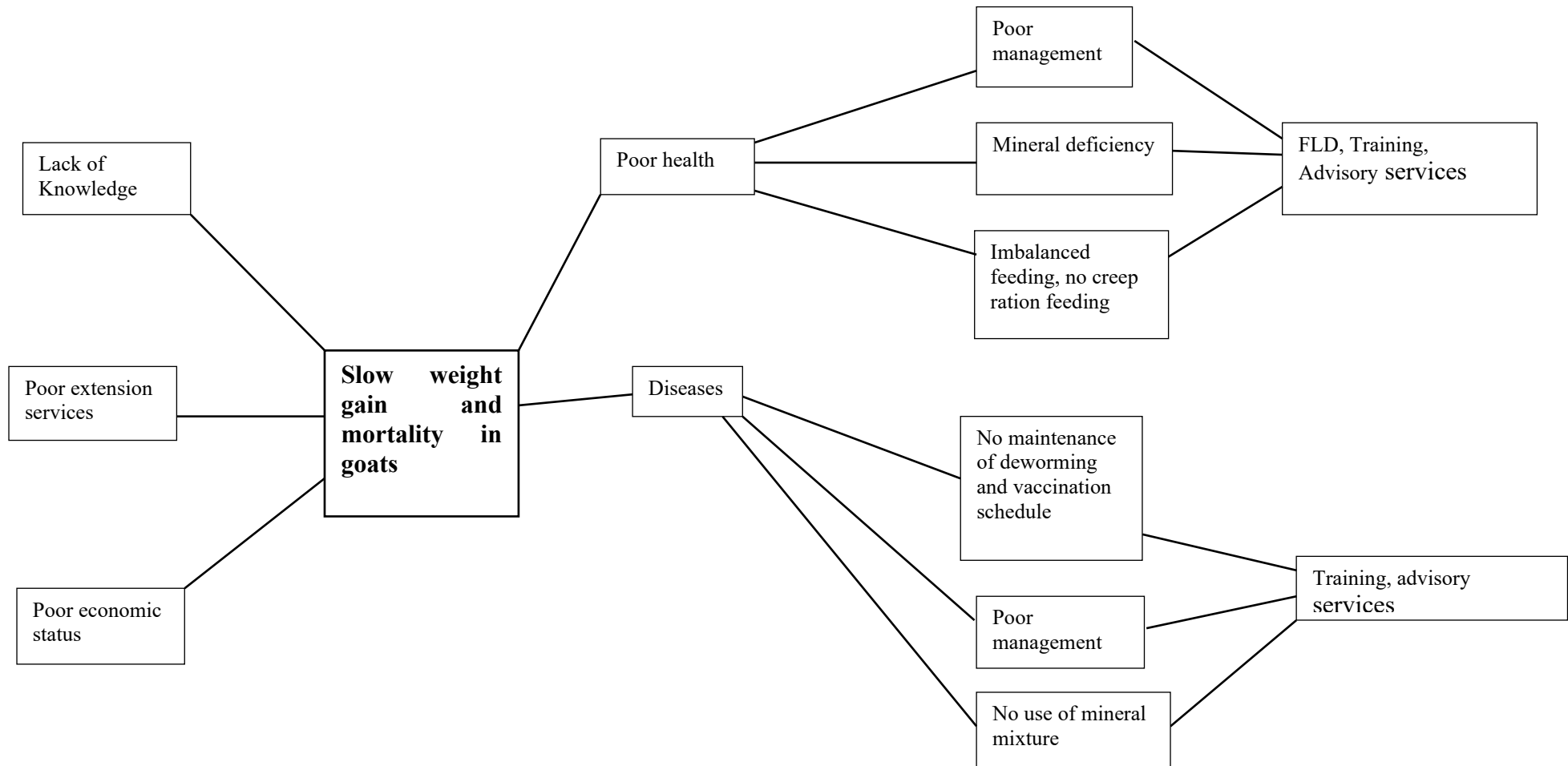
Veterinary science: 1





Problem-cause and interventions diagram

Veterinary science: 3



Problem-cause and interventions diagram

3.2. Technology Assessment (Kharif 2020, Rabi 2019-20, Summer 2020)

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			1							1
Varietal Evaluation	1	1								2
Integrated Pest Management	1			1						
Integrated Crop Management										
Integrated Disease Management										
Small Scale Income Generation Enterprises										
Weed Management										
Resource Conservation Technology										
Farm Machineries										
Integrated Farming System				1						
Seed / Plant production										
Value addition										
Drudgery Reduction										
Storage Technique										
Mushroom cultivation										
Total	2	1	1	2						3

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

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

B. Achievements on technologies Assessed

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (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 Jowar	Assesment of different varieties of Rabi Jowar	10	10	1.20
	Soybean	Assesment of different varieties of Soybean	10	10	1.20
Integrated Pest Management	Sugarcane	Assessment on use of Entomopathogenic nematode for management of white grub(Phyllophaga spp.) in sugarcane	10	10	1.20
	Rabi Sorghum	Assessment on management of fall army worm in rabi Sorghum	10	10	1.20
Integrated Crop Management					
Integrated Disease Management					
Small Scale Income Generation Enterprises					
Weed Management					
Resource Conservation Technology Farm Machineries					
Integrated Farming System	Sericulture	Assessment on use of ecdysteriod growth hormone sampoorina on silkworm for uniform maturity of silkworm	10	10	1.20
Seed / Plant production					
Value addition	Bajara	Assessments of heat treatments in improving the shelf life of pearl millet flour -Bajara	10	10	
Drudgery Reduction					
Storage Technique					
Mushroom cultivation					
Total			70	70	7.2

B.2. Technologies assessed under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds	Poultry	Shrinidhi and Grampriya birds	10	10
Nutrition management				
Disease management	Dairy	Mastiguard teat protect spray and Herbal teat dip	10	10
Value addition	Nutrition	Assessment of heat treatment in improving the shelf life of pearl millet flour- Bajara	10	10
Production and management				
Feed and fodder				
Small scale income generating enterprises				
Total			30	30

C1.Results of Technologies Assessed

OFT:1

Results of On Farm Trial

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 Jowar	Rainfed with Protective Irrigation	Low yield Sowing on Rainfed Situation Non adoption of seed treatment High cost of cultivation	Assesment of different varieties of Rabi Jowar	10	T1: Variety –Dagadi (Local)	Plant Height (cm)	T1	T2	T3	The result showed that variety T3 provided 29.97% higher yield over Farmer Practice .T3 provided hogher yield (24.45q/ha) which was superior over variety T2 (24.15 q/ha) and T1(21.12 q/ha).	Grain and Fodder quality of Phule Vasudha is better as compared to other varieties as well having good bread making quality. Plant height for assesment varieties is less as cpmared to local so lodging risk is low.	-	-
					Yield (q/ha)	208	183	196					
						T2: Variety- Parbhani Moti	21.12	24.15	27.45				
					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	BC Ratio
13	14	15	16	17	18
T1: Variety –Dagadi (Local)	Farmer's practice	21.12	Q/ha	33584	1.98
T2: Variety- Parbhani Moti	VNMKV,Parbhani	24.15	Q/ha	43030	2.25
T3: Variety- Phule Vasudha	MPKV, Rahuri	27.45	Q/ha	53590	2.56



OFT on Assesment of different varieties of Rabi Jowar

OFT:2**Results of On Farm Trial**

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Chickpea	Irrigated	Low yield due to incidence of wilt disease Use of susceptible varieties Unaware about use of fungicides and insecticides Unaware about use of biofertilizers.	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 variety T2 performed well and provided higher yield 15.8 q/ha which was about 30.36% higher over farmer practice. Net income of Rs 43576/h a was realized by participating farmers.	Application of foliar fertilizer with basal dose gives better results to increase No. of branches and pods per plant. Spraying at 30 and 45 DAS performed better results in crop lusture and yield as compared to local practice.	-	-
					T2: RDF + 1% KNO ₃ (30 Days)+ 2% DAP (45 Days)	Yield (q/ha)	4	9	6				
							12.12	15.8	14.62				
					T3: RDF + 3% Urea @ Folwering and 10 Days after Flowering								

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	BC Ratio
13	14	15	16	17	18
T1: RDF	Farmer's practice	12.12	Q/ha	22255	1.90
T2: RDF + 1% KNO ₃ (30 Days)+ 2% DAP (45 Days)	MPKV,Rahuri	15.8	Q/ha	43576	2.75
T3: RDF + 3% Urea @ Folwering and 10 Days after Flowering	VNMKV,Parbhani	14.62	Q/ha	33504	2.35



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

OFT:3

Results of On Farm Trial

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 occurrence Non availability of labours for weed management.	Assesment of different varieties of soybean	10	T1: Variety –Js-335	No. of Pods/plant	T1	T2	T3	Result observed that T3 gave higher yield 22.6 q/ha which was about 26.96% higher over farmer practice. Increased no of pods/plant by 11.89% results to increase in yield.	T3 survived in moisture stress condition and gives better results as compared to other treatments. T2 having early maturity as compared to T3 Close bearing of pods in T2.	-	-
						31.45	33.75	35.19					
					T2: Variety- MAUS- 612	Yield (q/ha)	17.8	19.55	22.6				
T3: Variety- MAUS- 158													

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	BC Ratio
13	14	15	16	17	18
T1: Variety –Js-335	JNKVV,Jabalpur	17.8	Q/ha	30850	1.62
T2: Variety- MAUS-612	VNMKV,Parbhani	19.55	Q/ha	38175	1.76
T3: Variety- MAUS-158	VNMKV,Parbhani	22.6	Q/ha	51900	2.04



OFT on Assesment of different varieties of soybean

Results of On Farm Trial – (Plant Protection- 01)

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
Sugarcane	Irrigated	Significant damage to the crop . No effective molecule for management of whole pest.	Assessment on use of Entomopathogenic nematode for management of white grub(Phyllophaga spp.) in sugarcane	10	Soil application of Talc based Entomopathogenic nematode during June-July @3 kg per acre	% clumps mortality after 15 DAT	T1 20.16	T2 10.05	T3 8.49	The results of assessment showed that the percent clumps mortality after 15 DAT was 20.16 % in farmers practice, 10.05, 8.49 % in T1 and T2 respectively. After 30 days of treatment percent clumps mortality was 11.25, 10.62 % in T1 and T2 respectively. These figures indicates that percent clump mortality is significantly decreased in both interventions as compare to farmers practice. The increase in yield by 9.71 and 16.23 % over farmers practice in T1 and T2 respectively	Collection and destruction of grubs near root zone is very labourious. Most of the insecticides are not gives significant results for management of grubs.
						% clumps mortality after 30 DAT	22.44	11.25	10.62		
						Yield/ha	81.3	89.2	94.5		

Contd..

Technology Assessed	Source of Technology	Production	Unit.	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers practice	81.3	Tons/ha	104260	1.90
Technology option 2	Directorate of Plant protection, Faridabad	89.2	Tons/ha	120625	2.00
Technology option 3	MPKV, Rahuri	94.5	Tons/ha	134150	2.10

C2. Details of On Farm Trial (Assessment) – (Plant Protection- 01)

1. Title of Technology Assessed:

Assessment on use of Entomopathogenic nematode for management of white grub (Phyllophaga spp.) in sugarcane

2. Problem Definition :

Sugarcane is being cultivated on large area in Latur district and since last year the crop is being heavily infested by white grub in Kharif season. Application of chemical pesticides is the only method adopted by the farmers for management of this pest but could not get satisfactory control and heavy crop losses were reported near Manjara river basin areas.

3. Details of technologies selected for assessment

T1 - Soil application of Methyl parathion, Phorate, Drenching of chlorpyrifos

T2 - Destruction of larvae at weeding. Soil application of Imidacloprid 40% + Fipronil 40% w/w WG (80 WG) @ 100 gm/ ha through fertigation or soil drenching under sugarcane clump

T3 - Soil application of Talc based Entomopathogenic nematode during June-July @3 kg per acre

4. Source of technology: Directorate of Plant protection, Faridabad and MPKV, Rahuri

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
% clumps mortality after 15 DAT	20.16	10.05	8.49
% clumps mortality after 30 DAT	22.44	11.25	10.62
Yield/ha	81.3	89.2	94.5

The results of assessment showed that the percent clumps mortality after 15 DAT was 20.16 % in farmers practice, 10.05, 8.49 % in T1 and T2 respectively. After 30 days of treatment percent clumps mortality was 11.25, 10.62 % in T1 and T2 respectively. These figures indicates that percent clump mortality is significantly decreased in both interventions as compare to farmers practice. The increase in yield by 9.71 and 16.23 %.over farmers practice in T1 and T2 respectively

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

Collection and destruction of grubs near root zone is very laborious. Most of the insecticides are not gives significant results for management of grubs.

8. Final recommendation for micro level situation :

The application of the chemical insecticide for the management of white grub in sugarcane fields near river basins can causes the water pollution to the next villages and also creates the chances of resistance development in the pest. So utilization of bio-pesticides like entomopathogenic nematode for management of white grub can increase the efficiency of control by reduction of the amount of applied insecticides, minimizing pest resistance and environmental contamination hazards.

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

-

10. Process of farmers participation and their reaction :

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



Assessment on use of Entomopathogenic nematode for management of white grub(*Phyllophaga spp.*) in sugarcane

Results of On Farm Trial - (Plant Protection- 02)

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
Rabi Sorghum	Irrigated	Spodoptera frugiperda is major problem for maize, rabi sorghum causes 25-30 % yield loss	Assessment on Management of <i>Spodoptera frugiperda</i> -(Fall Armyworm) in Rabi Sorghum	10	1. Planting Napier grass in border and intercropping sorghum with pigeon pea, cow pea 2. Deploy pheromone traps at 10/ha 3. Hand collection and destruction of larvae and egg in patchy incidence 4. Spray (Whorl application) Beauveria bassiana @ 5 liter at 5-10% infestation. Repeat the spray based on weekly scouting at >10% fresh infestation 5. If 10 -20 % Spraying of Thiamethoxam 12.6 + Lambda viz. cyhalothrin 9.5 % ZC @.0.25 ml/l		T1	T2	. The results of present assessment revealed that the recommended practice got highest grain yield (24.5 Qtls/ha) and good fodder quality with low infestation of Fall army worm (85.14 %) over farmers practice. Overall yield was increase by 17.78 % over farmers practice with slightly increase in average plant protection cost (Rs.700/ha).	Spraying of Azadirachtin 1500 ppm @ 5 ml/ liter + Emamectin benzoate@ 0.5 gm/liter at early whorl stage (30-35 days) followed by spraying of Azadirachtin 1500 ppm @ 5 ml/ liter + Thiamethoxam 12.6 + Lambda cyhalothrin 9.5 % ZC @.0.25 ml/liter at late whorl to boot stage (50- 70 day old crop) found to be effective for control of <i>Spodoptera frugiperda</i>
						Percent infested plants (5 spots/Acre) 7 leaf stage to flowering	29.3	15.8		
						Average Number of catches/trap	0	7		
						Average Plant protection Cost (Rs./ha)	2950	3650		
						Yield /ha	20.8	24.5		

Contd..

Technology Assessed	Source of Technology	Production	Unit.	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers practice	20.8	Qtls/ha	66625	2.28
Technology option 2	Directorate of Plant protection, Faridabad	24.5	Qtls/ha	84500	2.57

C2. Details of On Farm Trial (Assessment) – (Plant Protection- 02)

1. Title of Technology Assessed:

Assessment on Management of *Spodoptera frugiperda*-(Fall Armyworm) in Rabi Sorghum

2. Problem Definition :

In Latur district large scale incidence was observed on Rabi sorghum crop throughout the rabi season causes 25-35 % yield losses. Also the incidence was observed on maize and fodder crops. Farmers are not aware about effective control measures for fall army worm. Farmers used to spray the various pesticides without the ETL level, pest infestation level etc. that results in increased cost of cultivation due increase in number of sprays of costly molecules, high pesticide resistance in the pest etc. Farmers were depends on suggestions from local agri input providers.

3. Details of technologies selected for assessment

T1 - Spraying of Quinolpos, Eamectin benzoate, Cloranthriniprole, Flubendamaide at heavy incidence of pest without seeing the the ETL levels

T2 - 1. Planting Napier grass/hybrid Napier in border and intercropping sorghum with pigeon pea, cow pea 2. Seed treatment with Cyantraniliprole + Thiamethoxam 19.8 % FS 6 ml/ kg seed 3. Deploy pheromone traps at 10/ha soon after sowing and monitors the pest incidence at weekly interval 4. Hand collection and destruction of larvae and egg in patchy incidence 5. Spray (Whorl application) Beauveria bassiana @ 5 liter at 5-10% infestation. Repeat the spray based on weekly scouting

at>10% fresh infestation. 6. If 10 -20 % any of the recommended synthetic pesticides viz., Spinetoram 7 % SC @ 0.5 ml/l or Chlorantraniliprole 18.5 SC @ 0.4 ml/ l or Thiamethoxam 12.6 + Lambda cyhalothrin 9.5 % ZC @.0.25 ml/l

4. **Source of technology:** Directorate of Plant protection, Faridabad
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
Percent infested plants (5 spots/Acre) 7 leaf stage to flowering	29.3	15.8
Average Number of catches/trap	0	7
Average Plant protection Cost (Rs./ha)	2950	3650
Yield /ha	20.8	24.5

The results of present assessment revealed that the recommended practice got highest grain yield (24.5 Qtls/ha) and good fodder quality with low infestation of Fall army worm (85.14 %) over farmers practice. Overall yield was increase by 17.78 % over farmers practice with slightly increase in average plant protection cost (Rs.700/ha).

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

Spraying of Azadirachtin 1500 ppm @ 5 ml/ liter + Emamectin benzoate@ 0.5 gm/liter at early whorl stage (30-35 days) followed by spraying of Azadirachtin 1500 ppm @ 5 ml/ liter + Thiamethoxam 12.6 + Lambda cyhalothrin 9.5 % ZC @.0.25 ml/liter at late whorl to boot stage (50- 70 day old crop) found to be effective for control of *Spodoptera frugiperda*. Application of dry sand in to the whorl of affected maize plants soon after observation of FAW incidence in the field shows significant results.

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

The protocol advised Directorate of Plant protection, Faridabad found effective for management of *Spodoptera frugiperda*-(Fall Armyworm) in Rabi Sorghum. Need to adopt maximum practices at critical stages of the pest with ETL.

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

Most of the farmers are not applying insecticides in the whorls due to no adjusting nozzle of sprayer. In the protocol, recommendation of nozzle adjustment and use of recommended dose of water per acre in spraying is to be included.

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

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



Assessment on Management of Fall Armyworm (*Spodoptera frugiperda*) in Rabi Sorghum

Results of On Farm Trial - (Plant Protection- 03)

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, 84.4 % of the silkworms were ready for mounting by 18 hrs whereas in farmers practice only 41.2 % silkworms were ready for mounting. There is no significant difference in economic characters of cocoons i.e. cocoon weight (3.25%) and shell ratio percentage (0.21%) 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.
						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		

Contd..

Technology Assessed	Source of Technology	Production	Unit.	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers practice	4.19 (419)	Qtls/ha (Kgs/500 Dfls)	76325	2.54
Technology option 2	Central Sericultural Research & Training Institute (CSRTI), Mysore	4.25 (425)	Qtls/ha (Kgs/500 Dfls)	84500	2.57

C2. Details of On Farm Trial (Assessment) – (Plant Protection- 03)

1. Title of Technology Assessed:

Assessment on use of ecdysteriod growth hormone Sampoorna on silkworm for uniform maturity of Mulberry silkworm

2. Problem Definition :

The maturation and spinning activities in silkworms is 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 also 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 litre 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 hrs of treatment, one more feed- ing 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 Sampoorana ecdysteriod growth hormone, 84.4 % of the silkworms were ready for mounting by 18 hrs whereas in farmers practice only 41.2 % silkworms were ready for mounting. There is no significant difference in economic characters of cocoons i.e. cocoon weight (3.25%) and shell ratio percentage (0.21%) 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 Sampoorana 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 Sampoorana 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 :

-

10. Process of farmers participation and their reaction :

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



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

Results of On Farm Trial

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
Bajara	Rainfed	Poor keeping quality	Assessment of heat treatment in improving the shelf life of pearl millet flour- Bajara	10	T1: Traditional method of milling of bajara	Shelf life in days	09	Processing method ie blanching & heat treatment significantly ie 28 & 31 days improves the flour's keeping quality respectively. overall acceptable for domestic purpose.	Blanching treatment is suitable at domestic while commercially heat treatment can be adapted.		
						Organoleptic acceptability	Unpleasant off odor, bitter taste at 9 th day				
					T2: Blanching of seeds 98C, 30-120 secs before milling of bajara	Shelf life in days	28				
						Organoleptic acceptability	Positively accepted in taste & texture				
					T3: Dry heat treatment at 100 C, 2 hrs before milling of bajara	Shelf life in days	31				
						Organoleptic acceptability	Positively accepted in aroma, taste & texture				

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	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Farmers Practice				
Technology option 2	MPKV, Rahuri				
Technology option 3	CCS, Haryana, Agriculture University, Hisar				



Results of On Farm Trial OFT-1

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Poultry	Backyard poultry farming	Low egg lying capacity of desi breeds. Low body weight of desi breeds in back yard Less return from the desi birds	Assessment of Improved Poultry breeds for backyard poultry farming	10	T1 – Farmers practice – Rearing of desi poultry birds	No. of eggs/bird/year	63	-	Birds adopted well to the condition, Egg produced are having brown color and larger in size than deshi birds, Predators catch easily to these birds. Sometimes pecking problem noticed.		
						Body weight at maturity, Kg.	1.45				
						Egg Weight, gms	44				
						age at first egg, days	200				
						Survival rate, %	93				
					T2 – Technology Assessed- Shrinidhi poultry birds	No. of eggs/bird/year	154	Rearing of Shrinidhi poultry birds for backyard poultry farming increased egg production by 144 % and net income by 185 % than the deshi poultry birds.			
						Body weight at maturity, Kg.	2.66				
						Egg Weight, gms	53				
						age at first egg, days	167				
						Survival rate, %	96				
					T3 – Technology Assessed- Grampriya poultry birds	No. of eggs/bird/year	158	Rearing of Grampriya poultry birds for backyard poultry farming increased egg production by 151 % and net income by 193 % than the deshi poultry birds.			
						Body weight at maturity, Kg.	2.5				
						Egg Weight, gms	54				
						age at first egg, days	163				
						Survival rate. %	98				

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 (!0 birds unit)	BC Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice) Rearing of Deshi birds	-	63	No. of eggs/bird/year	2232	1.59
Technology option 2- Rearing of Shrinidhi poultry birds	Directorate of poultry research, Hyderabad	154	No. of eggs/bird/year	6364	2.16
Technology option 3- Rearing of Grampriya poultry birds	Directorate of poultry research, Hyderabad	158	No. of eggs/bird/year	6543	2.19



OFT-2

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the paramet er	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Dairy	-	Incidence of sub clinical and clinical mastitis	Assessment of Post milking teat dips to reduce incidence of clinical mastitis	10	1.Farmers Practice- No use of teat germicidal after milking	Milk yield, lit/animal/day	11.5		Easy to apply disinfectant on teats and there is increase in milk production and animal staying calm during the milking.	-	-
						Fat, %	3.6				
						Incidence of Sub clinical mastitis, %	60				
						Incidence of clinical mastitis, %	20				
						Incidence of cracks, wounds on teats, %	50				
					T2- Technology assessed- Use of chemical disinfectant after milking as teat dip (Dipal)	Milk yield, lit/animal/day	12.4	Application of chemical teat dip (Dipal) increased milk yield by 7.82 %, reduced incidence of subclinical mastitis by 83 %, clinical mastitis by 100 %, cracks and wound on teat by 60 % than the farmers practice			
						Fat, %	3.8				
						Incidence of Sub clinical mastitis, %	10				
						Incidence of clinical mastitis, %	0				
						Incidence of cracks, wounds on teats, %	20				
					T3- Technology assessed- Use of Herbal disinfectant after milking as teat dip (Mastidip)	Milk yield, lit/animal/day	12.2	Application of chemical teat dip (Dipal) increased milk production by 6 %, reduced incidence of subclinical mastitis by 83%, clinical mastitis by 100 %, cracks and wound on teat by 80 % than the farmers practice			
						Fat, %	3.7				
						Incidence of Sub clinical mastitis, %	10				
						Incidence of clinical mastitis, %	0				
						Incidence of cracks, wounds on teats, %	10				

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
1.Farmers Practice- No use of teat germicidal after milking	-	11.5	Milk yield, liter/animal/year	119	1.69
T2- Technology assessed- Use of chemical disinfectant after milking as teat dip (Dipal)	TNAU	12.4	Milk yield, liter/animal/year	139	1.76
T3- Technology assessed- Use of Herbal disinfectant after milking as teat dip (Mastidip)	GADUVAS	12.2	Milk yield, liter/animal/year	133	1.74



Photographs of Assessment of Post milking teat dips to reduce incidence of clinical mastitis

C2. 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 Jowar
2. **Problem Definition:** Low yield, Sowing on Rainfed Situation, Non adoption of seed treatment ,High cost of cultivation
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 Grain and Fodder quality of Phule Vasudha is better as compared to other varieties as well having good bread making quality. Plant height for assessed varieties is less as compared to farmers practice so lodging risk at time of harvesting is low.

The variety Phule Vasudha gives (27.45 q/ha) 29.97% higher yield over farmers practice (21.12q/ha).

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:**

Need to available in bulk good quality improved variety seed.

Adoption of technology on basis of climatic situation and soil health.

Protective irrigation at critical growth stages

Balanced application of fertilizers

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.

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: Low yield due to incidence of wilt disease, Use of susceptible varieties, Unaware about use of fungicides and insecticides ,Unaware about use of biofertilizers.

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 (15.8q/ha) 30.36% higher yield over T1 (12.12q/ha). Application of foliar fertilizers with RDF @ branching stage increased no. of branches and results to increase 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 30.36% compared to local practice.

Increase in No. of branches due to foliar spray

8 Final recommendation for micro level situation:

Application of RDF according to soil health card reports.

Use of foliar fertilizers on right time and right method

Protective irrigation at critical growth stages

9 Constraints identified and feedback for research:

Unawareness among farmers about foliar fertilizers.

Unawareness about application of RDF according soil health card reports.

Need to promote for right time and right method 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.

OFT-3

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

2. **Problem Definition:** Low yield due to use of old varieties, Susceptible to pest and disease cultivars, 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:**

The 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. Variety also shows significant tolerance to stem fly and girdle beetle. Results showed that MAUS-158 gives 26.96 % higher yield over Farmers practice as well increased No. of pods/plant by 11.89%.

The variety MAUS-612 shows early maturity compared to Farmers practice. Close bearing of pods is special characters observed in variety. Results showed that MAUS-158 gives 9.83 % higher yield over Farmers practice as well increased No. of pods/plant by 7.3 %.

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

Increased No. of pods/plant

Increase in yield

Resistant to pest and diseases as compared to farmers practice.

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

In district continuously since from 3-4 years receiving less than average rainfall with long dry spell. Ultimately productivity is decreasing in soybean crop due to unavailability of moisture at critical stages of irrigation. So, in view of that MAUS-158 variety is suitable for district due to its character tolerant to water stress.

Adoption of improved varieties by using technology results to reduce cost of cultivation, increase in yield and economic returns.

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.

Home Science

- 1 **Title of Technology Assessed:** Assessment of heat treatment in improving the shelf life of pearl millet flour- Bajara
- 2 **Problem Definition:** Pearl millet flour turns bitter & rancid during storage
- 3 **Details of technologies selected for assessment:** T1: Traditional method of milling of bajara
 T2: Blanching of seeds 98C, 30-120 secs before milling of bajara
 T3: Dry heat treatment at 100 C, 2 hrs before milling of bajara
- 4 **Source of technology:** MPKV, Rahuri&CCS, Haryana, Agriculture University, Hisar
- 5 **Production system and thematic area:** Processing & cooking
- 6 **Performance of the Technology with performance indicators:**
 Blanching treatment of pearl millet grains before milling to flour significantly ie up to 28 days improves the flour keeping qualities with improvement in taste & colour.
 Heat treatment of pearl millet grains before milling to flour significantly ie up to 31 days improves the flour keeping qualities with Improvement in taste & colour.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques**
 During the technology assessment study observed parameters i.e. improvement of shelf life in days. Performance of Blanching & dry heat treatment gives 28&31 days respectively.
- 8 **Final recommendation for micro level situation**
 For encouraging the consumption nutria bajara flour at domestic as well as commercial level, it is necessary to use processing methods before milling of bajara.
- 9 **Constraints identified and feedback for research and developmental departments**
 Dry heat treatment needs oven/electric dryer for heating grains suitable for commercial level.
- 10 **Process of farmers participation and their reaction**
 Farm women participated through trainings, group discussions, visits, etc.

Veterinary

OFT: 1

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.

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

Srinidhi, and Grampriya are new promising dual purpose variety for rural poultry production. They have optimum body weight and better egg production capacity. These breed are developed by PDP, Hyderabad for rural poultry farming.

Breed	Shrinidhi	Grampriya
Economic traits		
Body weight at 20 week, g	1700-2000	1600-1800
Egg weight, g	52-55	57-58
Age at first egg, days	165-170	160-165
Annual egg production	140-150	160-180

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

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

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

Shrinidhi birds: Birds started giving eggs at the age of 167 days and gives 154 eggs per hen with 53 gm egg weight. Bird's weight at maturity was avg. 2.66 kg. The net return from these birds Rs 636 / bird with BCR 2.16.

Grampriya birds: Birds started giving eggs at the age of 163 days and gives 158 eggs per hen with 54 gm egg weight. Bird's weight at maturity was avg. 2.5 kg. The net return from these birds was Rs. 654/ bird with BCR 2.19.

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

1. Annual egg production increased
2. Body weight at maturity is more
3. Age at first egg laid-reduced
4. Survival rate- increased
5. Net return- increased

8. Final recommendations for micro level situation: Looking to the results performance of the Shrinidhi and Grampriya poultry birds are far superior than the deshi poultry birds and are very economical to rear 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

OFT-2

Veterinary

1 Title of Technology Assessed: Assessment of Post milking teat dips to reduce incidence of clinical mastitis

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:**
 Use of chemical disinfectant after milking as teat dip (Dipal)
 Use of Herbal disinfectant after milking as teat dip (Mastidip)
- 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 chemical disinfectant after milking as teat dip (Dipal):** Application of chemical teat dip (Dipal) increased milk yield by 7.82 %, reduced incidence of subclinical mastitis by 83 %, clinical mastitis by 100 %, cracks and wound on teat by 60 % than the farmers practice.
 2. **Use of Herbal disinfectant after milking as teat dip (Mastidip):** Application of chemical teat dip (Dipal) increased milk production by 6 %, reduced incidence of subclinical mastitis by 83%, clinical mastitis by 100 %, cracks and wound on teat by 80 % than the farmers practice.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**
 Milk production of the animal and fat %- Increased
 Incidence of subclinical mastitis- Reduced
 Incidence of clinical mastitis- reduced
- 8 **Final recommendations for micro level situation:**
 Looking to the results application of teat dips after milking reduces the incidence of subclinical and clinical mastitis and increased milk yield of dairy animals.
- 9 **Constraints identified and feedback for research:** No constraint identified
- 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 2020 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	10	80	35
2	Pigeonpea	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	95	120
3	Pigeonpea	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Pigeon pea	Farmers rally, group discussion, agro advisory,	16	35	14
4	Okra	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Okra	Popular article, SMS, pomplet, Group discussion, training, field day and demonstration	10	55	65
5	NCOF-Waste Decomposer	Organic Farming	Use of NCOF waste decomposer for rapid decomposition	Popular article, SMS, pomplet, Group discussion, training, field day and demonstration	32	125	60
6	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	06	28	35
7	Fodder	Fodder production	DHN-6	Large scale demonstration and supply of planting material	18	33	12
8	Fodder	Fodder management	Silage making in bags	Large scale demonstration preparation and distribution of folder, supply of silage bags	19	24	-
9	Poultry	Poultry management	Vanaraja Poultry birds	Large scale demonstration	08	22	-

B. Details of FLDs implemented during 2020 (Kharif 2020, Rabi 2019-20, Summer 2020) (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	Pigeon pea	IPDM	Integrated Pest and Disease Management in Pigeon pea	Kharif 2020	10	10	0	25	25	-
2	Chickpea	IPDM	Integrated Pest and Disease Management in Chickpea	Rabi 2019-20	08	08	0	20	25	-
3	Soybean	INM	Introduction of Zinc Solubilizing Bacteria and Zinc Sulphate to increase productivity of Soybean	Kharif 2020	10	10	02	23	25	-
4	Pigeonpea	ICM	Introduction of Mepiquat Chloride 5% (Growth Regulator) on Pigeonpea to reduce vegetative growth and increase flowering and fruiting	Kharif 2020	10	10	04	21	25	-

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Soybean	Kharif	Rainfed	Black Soil	Medium	Low	High	Bengalgram	15 June	15 Sep	-	-
Pigeonpea	Kharif	Irrigated	Black Soil	Medium	Low	High	Soybean	15-30 June	15-30 January	-	-
Pigeon pea	Kharif	Irrigated	Medium	Medium	Low	Medium	Bengal gram	1-305 June 2020	15 – 30 Jan 2021	890	-
Chickpea	Rabi	Partial Irrigation	Medium	Medium	Low	Medium	Soybean	15-30 Oct 2019	15 -30 Feb 2019	-	-

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Soybean- Farmers are unaware about use of improved varieties according to varietal characteristics depends on soil type Technology helps to know difference between improved varieties and local varieties Improved varieties having special characters according to region and climatic situations. Increase in yield by 20.61% over farmer practice with 1.8 B:C ratio
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 19.70% over farmer practice with 2.2 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	Need to develop wilt disease resistant variety in Bengal gram

Farmers' reactions on specific technologies

S. No	Feed Back
1	Soybean- Improved varieties which are suitable for climatic situation are helps to increase in yield and economic returns. Varieties are resistant to pest and diseases attack as compared to local varieties. Realized difference in yield and economic returns by adoption of technology.
2	Pigeonpea- 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 are major constraint. By applying fungicides for seed treatment and using good seed problem of wilting is not effectively managed
4	IPDM technology in Bengal gram is effective but wilting disease problem is not effectively managed

Extension and Training activities under FLD

Sl.No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	1	2.12.2020	31	Pigeonpea BDN-716
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																		
	INM	Introduction of improved variety SSF-708 with INM aspect	SSF-708	25	10	8.25	6.75	7.5	6.2	20.97	19740	37087	17347	1.87	18240	30659	12419	1.68
Linseed																		
	INM	Introduction of improved variety NL-260 with INM aspect	NL-260	25	10	5.2	4.6	4.9	4.1	19.51	14817	27930	13113	1.88	13317	23370	10053	1.75
Sunflower																		
Soybean																		
	INM	Introduction of Zinc Solubilizing Bacteria and Zinc Sulphate to increase productivity of Soybean	MAUS-158	25	10	26.9	20.5	23.7	19.65	20.61	49250	106650	57400	2.16	49250	88425	39175	1.79
	INM	Cultivation of improved variety MAUS-158 with INM aspect	MAUS-158	125	50	22.5	20.75	21.62	18.25	18.47	39100	90804	51704	2.32	36250	76650	40400	2.11
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	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Pigeon pea	BSMR-716	25	10			15.4	13.2	16.67	40200	103180	62980	2.56	39400	88440	49040	2.24
	ICM	Introduction of Mepiquat Chloride 5% (Growth Regulator) on Pigeonpea to reduce vegetative growth and increase flowering and fruiting	BDN-716	25	10	14.3	17.3	15.8	13.2	19.70	40500	105860	65360	2.6	40200	88440	48240	2.2
	INM	Cultivation of Wilt and S.M. Resistant variety of Redgram with INM aspect	BDN-716	25	10	14.75	12.12	13.43	11.5	16.78	27250	89981	62731	3.3	25125	77050	53925	3.0
Blackgram																		
	INM	Introduction of Yellow Mosaic Variety of Blakgram	AKU-15	25	10	8.2	6.5	7.35	6.2	18.55	19450	51450	32000	2.64	17000	43400	26400	2.55
Greengram																		
Chickpea	Integrated Pest and Disease Management	Integrated Pest and Disease Management in Chickpea	Jacky-9218	20	8			13.1	11.2	16.96	24500	62880	38380	2.56	23700	53760	30060	2.26
	INM	Introduction of improved variety of Chickpea	BDNG-797	50	20	14.5	11.3	12.9	10.5	22.86	20925	59598	38673	2.84	18925	48510	29585	2.56
Fieldpea																		
Lentil																		
Horsegram																		
Cowpea																		



Frontline Demonstration (FLD) on Soybean



Frontline Demonstration (FLD) on Pigeonpea



Integrated Pest and disease Management in Pigeonpea



Integrated Pest and disease Management in Soybean



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



Cluster Frontline Demonstration (CFLD) on Linseed

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)			% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)				
					Demo						Check	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																			
Commercial Crops																			
Sugarcane																			
Potato																			
Cotton																			
Medicinal & aromatic plants																			
Mentholment																			
Kalmegh																			
Ashwagandha																			
Any other (Pl. specify)																			
Fodder Crops																			
Sorghum (F)																			
Cowpea (F)																			
Maize (F)																			
Lucern																			
Berseem																			
Oat (F)																			
Napier																			
Grasses																			

Frontline Demonstration on Nutri cereals

Fortnightly Demonstration on Kharif Cereals																		
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										

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Dairy																	
	Feed management	Silage making and feeding to dairy animals	10	10	12.4 Milk production lit/day	11.2 Milk production lit/day	10.71	3.8 fat %	3.7 fat %	67160	114245	47085	1.70	70810	105120	34310	1.48
	Nutrient management	Feeding of bypass fat and mineral mixture to dairy animals	10	10	12.28 Milk production lit/day	10.86 Milk production lit/day	13.08	3.8 fat %, 1.4 insemination for conception	3.6 fat %, 1.9 insemination for conception	68620	116070	47450	1.69	66065	100375	34310	1.51
Sheep & Goat																	
	Feed management	Feeding of kid starter ration to goat kids	10	20	20.4 kg/animal	16 kg/animal	27.50	Daily weight gain, gm- 92.2, Mortality %- 10	69.9 Daily weight gain, gms, Mortality %- 25	1547	5971	4424	3.85	1300	3932	2632	3.02
	Nutrient management	Mineral lick brick	10	40	17.19 kg/animal	14.3 kg/animal	20.21	2.1, Birth weight of kids.Kg	1.9, Birth weight of kids.Kg	1445	6016	4571	4.16	1429	5005	3576	3.5

			
FLD on silage making	FLD on kid starter ration feeding	FLD on Mineral lick brick Feeding	FLD on Bypass fat and mineral mixture 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)
Oyster Mushroom																
Button Mushroom																
Apiculture																
Maize Sheller																
Value Addition																
Vermi Compost																
Sericulture																

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Drudgery reduction	Manual vegetable seedling transplanter & sapling carrier	10	1. No of seedlings transplanted Seedlings/ hr	960	540
			2. Area covered R / hr	6.40	3.60
			3. No of labors employed Woman/ ha	1.95	3.47
Income generating activity	Dehydration of vegetables & fruits by solar dryer	10	1. Dehydration time in hrs		
			Onion	8.4	13.7
			Tomato	9.6	15.7
			Potato	11.6	21.1
			Spinach	5.6	9.9
			Pomegranate	13.3	26.6



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
Sericulture	Use of CSRTI-Cocoon Harvester for Cocoon harvester	20	20	Labour Required for Harvesting of 4.14 Qtls cocoon - 10 Numbers	Labour Required for Harvesting of 4.14 Qtls cocoon - 25 Numbers	Labour requirement reduced by 150 % for cocoon harvesting over check	Time required for Harvesting of 4.14 Qtl Cocoon - 16 hrs	Time required for Harvesting of 4.14 Qtl Cocoon - 20 hrs	53625	127500	73875	2.37	57375	127500	70125	2.22



Use of CSRTI-Cocoon Harvester for Cocoon harvester

FLD on Other Enterprise: Kitchen Gardening

Category and Crop	Thematic area	Name of the technology demonstrated	No. of Farmer	No. of Units	Yield (Kg)		% change in yield	Frequency of consumption of vegetables %		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demonstration	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Nutritional garden	Nutritional Security	Establishment of Nutritional Gardens for Enhancing Nutritional Security	50	50	534	240	55.06	90	40	16,020	22,940	9,100	1.43	4520	6200	1680	1.37
Nutritional farming	Nutritional food security	Demonstration on Farming System for Nutrition	50	50	1955	1800	7.92	85	55	25,120	79,620	54,500	3.16	24,000	73,000	49,000	3.04



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	1	17	0	17	0	0	0	17	0	17
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	5	2515	263	2778	0	0	0	2515	263	2778
Soil & water conservatioin										
Integrated nutrient management	3	3467	300	3767	0	0	0	3467	300	3767
Production of organic inputs	1	301	35	336	10	5	15	311	40	351
Others (pl specify)										
Total	10	6300	598	6898	10	5	15	6310	603	6913
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume 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)										
GT (a-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	2	240	55	295	0	10	10	240	65	305
Poultry Management	2	15	15	30	0	0	0	15	15	30
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management										
Feed & fodder technology	3	3227	12	3239	10	0	10	3237	12	3249
Production of quality animal products										
Others (pl specify)										
Total	7	3482	82	3564	10	10	20	3492	92	3584
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	0	37	37	0	17	17	0	54	54
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	1	5	3	8	2	1	3	8	3	11
Storage loss minimization techniques										
Value addition	1	0	14	14	0	3	3	0	17	17
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	3	5	54	59	2	22	23	8	74	82
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	2	14	4	18	1	0	1	15	4	19
Integrated Disease Management	2	56	0	56	2	0	2	58	0	58
Bio-control of pests and diseases										
Production of bio control agents and bio										

pesticides										
Others (pl specify)										
Total	4	70	4	88	3	0	3	73	4	77
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	1	76	2	78	2	0	2	78	2	80
Others (pl specify)										
Total	1	76	2	78	2	0	2	78	2	80
X CapacityBuilding 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	25	9933	740	10687	27	37	63	9961	775	10736

Farmers' Training including sponsored training programmes (off campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production										

Nursery management										
Integrated Crop Management										
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs										
Others (pl specify)										
Soil Health and Fertility Management	1	122	62	184	0	0	0	122	62	184
Total	1	122	62	184	0	0	0	122	62	184
II Horticulture										
a) Vegetable Crops										
Production of low value and high volume 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)										
GT (a-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	1	11	0	11	0	0	0	11	0	11
Feed & fodder technology	1	13	0	13	0	0	0	13	0	13
Production of quality animal products										
Others (pl specify)										
Total	2	24	0	24	0	0	0	24	0	24
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	3	0	62	62	0	28	28	0	90	90
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	2	0	25	25	0	4	4	0	29	29
Minimization of nutrient loss in processing	1	0	15	15	0	2	2	0	17	17
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	1	0	13	13	0	11	11	0	24	24
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care	1	0	8	8	0	4	4	0	12	12
Others (pl specify)										
Total	8	0	123	123	0	49	49	0	172	172
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	16	0	16	0	0	0	16	0	16
Integrated Disease Management	1	17	0	17	0	0	0	17	0	17
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	2	33	0	33	0	0	0	33	0	33
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	1	24	0	24	0	0	0	24	0	24
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total	1	24	0	24	0	0	0	24	0	24
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	14	203	185	388	0	49	49	203	234	437

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

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming	1	17	0	17	0	0	0	17	0	17
Micro Irrigation/irrigation										
Seed production										
Nursery management										
Integrated Crop Management	5	2515	263	2778	0	0	0	2515	263	2778
Soil & water conservatioin										
Integrated nutrient management	3	3467	300	3767	0	0	0	3467	300	3767
Production of organic inputs	1	301	35	336	10	5	15	311	40	351
Others (pl specify)										
Soil Health and Fertility Management	1	122	62	184	0	0	0	122	62	184
Total	11	6422	660	7082	10	5	15	6432	665	7097
II Horticulture										
a) Vegetable Crops										
Production of low value and high valume 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)										
GT (a-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	2	240	55	295	0	10	10	240	65	305
Poultry Management	2	15	15	30	0	0	0	15	15	30
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management	1	11	0	11	0	0	0	11	0	11
Feed & fodder technology	4	3240	12	3252	10	0	10	3250	12	3262
Production of quality animal products										
Others (pl specify)										
Total	9	3506	82	3588	10	10	20	3516	92	3608

V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	4	0	99	99	0	45	45	0	144	144
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet	2	0	25	25	0	4	4	0	29	29
Minimization of nutrient loss in processing	1	0	15	15	0	2	2	0	17	17
Processing and cooking										
Gender mainstreaming through SHGs	1	5	3	8	2	1	3	8	3	11
Storage loss minimization techniques										
Value addition	2	0	27	27	0	14	14	0	41	41
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care	1	0	8	8	0	4	4	0	12	12
Others (pl specify)										
Total	11	5	177	182	2	70	72	8	246	254
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	3	30	4	34	0	0	0	31	4	35
Integrated Disease Management	3	73	0	73	0	0	0	75	0	75
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total	6	103	4	107	0	0	0	106	4	110
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	1	76	2	78	2	0	2	78	2	80
Others (pl specify)										
Total	1	76	2	78	2	0	2	78	2	80
X CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics	1	24	0	24	0	0	0	24	0	24
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	1	24	0	24	0	0	0	24	0	24
GRAND TOTAL	39	10136	925	11061	27	83	109	10164	1009	11173

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

Area of training	No. of Courses	No. of Participants								
		General			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	1	3	2	5	0	0	0	3	2	5
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying	1	46	02	48	1	0	1	47	2	49
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	2	49	4	53	1	0	1	50	4	54

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

Area of training	No. of Courses	No. of Participants								
		General			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 – CONSOLIDATED (On + Off campus)

Area of training	No. of Courses	No. of Participants								
		General			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	1	3	2	5	0	0	0	3	2	5
Post Harvest Technology										
Tailoring and Stitching										
Rural Crafts										
Production of quality animal products										
Dairying	1	46	02	48	1	0	1	47	2	49
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	2	49	4	53	1	0	1	50	4	54

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

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	83	2	85	3	5	8	86	5	91
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	1	0	43	43	0	9	9	0	52	52
Any other (pl.specify)	1	0	46	46	0	13	13	0	59	59
Entrepreneurship in pulse processing										
Value addition in soybean	1	0	24	24	0	4	4	0	28	28
TOTAL	5	83	115	198	3	31	34	86	144	230

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

Area of training	No. of Courses	No. of Participants								
		General			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			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops	2	83	2	85	3	5	8	86	5	91
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	1	0	43	43	0	9	9	0	52	52
Any other (pl.specify)	1	0	46	46	0	13	13	0	59	59
Entrepreneurship in pulse processing										
Value addition in soybean	1	0	24	24	0	4	4	0	28	28
TOTAL	5	83	115	198	3	31	34	86	144	230

Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops	1	37	2	39	3	2	5	40	4	44
Commercial production of vegetables										
Production and value addition										
Fruit Plants										
Ornamental plants										
Spices crops										
Soil health and fertility management										
Production of Inputs at site	1	301	35	336	10	5	15	311	40	351
Methods of protective cultivation										
Others (pl. specify)										
Total	2	338	37	375	13	7	20	351	44	395
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)										
Total										
Agricultural Extension										
CapacityBuilding and Group Dynamics										
Others (pl. specify)										
Total										
GRAND TOTAL	2	338	37	375	13	7	20	351	44	395

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			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	1	3	2	5	0	0	0	3	2	5
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										
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	1	3	2	5	0	0	0	3	2	5

Training programme Photographs



EF Training Programme



शेतकरी पशुपालकासाठी मागिदशन
विषय: उन्हाळ्याचा दुभत्या जनावरांवर होणार
परिणाम व करावयाच्या उपाययोजना (कृषी विज्ञान
केंद्र लातूर)



169 72 Comments • 6 Shares • 344 Views

शेतकरी पशुपालकासाठी मागिदशन
विषय: वर्षभर हिरवा चारा उत्पादनाचे नियोजन व
प्रमुख चारा पिकांचे उत्पादन तंत्रज्ञान.



69 20 Comments • 9 Shares • 771 Views

Training programme for farmers



Training programme for rural youth



Training for extension functionaries

3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services (Other than KMAS)	152	3289	1309	4598
Diagnostic visits	196	714	7	721
Field Day	6	142	0	142
Group discussions	12	194	11	205
KisanGhoshthi	1	26	3	29
Film Show				
Self -help groups	1	109	3	112
KisanMela	1	124	1	125
Exhibition	1	835	0	835
Scientists' visit to farmers field	25	120	0	120
Plant/animal health camps				
Farm Science Club				
Ex-trainees Sammelan				
Farmers' seminar/workshop	4	909	19	928
Method Demonstrations	3	12	0	12
Celebration of important days	6	389	77	466
Special day celebration	1	86	4	90
Exposure visits	1	30	2	32
Others (pl.specify) Webcasting prog.	7	284	13	297
Farmers scientist interaction				
Lecture delivered as resource person				
Farmers visit to KVK				
Rashtriya Poshan Maah	44	321	5	326
Participation in Farmers Science Congress Bangalore	1	1	1	2
Webcasting on PM interaction programme and International potato conference online farmers interaction, Biofertilizer Laboratory and plant pest Field	74	1649	776	2425
Total	536	9234	2231	11465

Photographs of Extension Activities



Field Day on Bengalgram



Field Day Pigeonpea



Rabi Farmers Rally



Diagnostic visit



**Workshop on Biofertilizer Production with
NIPHM Hyderabad**



Celebration of World Soil Day



**Participation in Farmers Science
Congress, Bangalore 06.01.20**



Group Discussion on FPO promotion

	
Shetkari Mahila Divas	International Women's Day
	
Rashtriya Poshan Maah	Kisan Goshti
	
Field visit	Lecture delivered as resource person

Details of other extension programmes

Particulars	Number
Electronic Media (CD./DVD)	
Extension Literature	4
Newspaper coverage	16
Popular articles	6
Radio Talks	
TV Talks	
Animal health amps (Number of animals treated)	
Social Media (No. of platforms Used)	5
Others (pl. specify)	
Total	31

3.6 Online activities during year 2020

S. No.	Activity Type	Mode of implementation (Video conferencing / Audio Conferencing / Facebook Live / YouTube Live/ Zoom/ Google meet/ Webexetc)	Title of Program	No. of Programmes	No. of Participants/ Views
A	Farmers training				
1		Zoom	Pre Kharif Training Programme	2	221
2		Zoom	Adsali Sugercane Production Technology	1	435
3		Zoom	Soybean Production Technology	1	32
4		Facebook Live	Soybean Production Technology	1	3300
5		Facebook Live	Kharif Pulses Production Technology	1	2500
6		Audio Conference	Soybean Crop Management	1	25
7	Farm women training programme	Zoom meet	Online training on Farming System for Nutrition	1	54
8	Farm women training programme	Zoom meet	Online training on Pulse Processing	1	59
9	Farm women training programme	Zoom meet	Online training on Soybean Processing	1	17
10	Training for farmers	Zoom	Integrated Farming System	1	17
11		Facebook live	Effect of summer temperature on milking animals and their preventive measures	1	245
12		Facebook live	Planning for round the year	2	3176

			green fodder production & cultivation practices of important fodder crops		
13		Facebook live	Silage making	1	73
14		Zoom	Dairy farming	1	60
	Total			16	10214
B	Farmers scientist's interaction programme				
1		Whatsapp group	Lumpy skin disease	2	45
	Total			2	45
C	Farmers seminars				
	Total				
D	Expert lectures				
	Total				
E	Any other (Pl. specify)				
1	Lecture delivered as resource person	Zoom	Green fodder production	1	73
2		Zoom	Backyard poultry farming	1	52
	Total			2	125
	Grand Total (A+B+C+D+E)			20	10384

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	MAUS-162	-	28.45	156475	-
	Soybean	MAUS-158,MAUS-162	-	21.3	190102	49
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
Commercial						
Vegetable seedlings						
Fruits	Mango	Keshar	-	552	33120	7
	Drumstick	Odyssey	-	23305	349575	29
Ornamental plants						
Medicinal and Aromatic						
Plantation						
Spices						
Tuber						
Fodder crop saplings	Fodder crop	DHN-6	Hybrid Napier	7000	7000	12
Forest Species						
Others						
Algae	Fodder	Azolla		18	1800	16
Sugarcane seedling	Sugarcane	86032	-	164250	359562	26
Total						

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Litre		
Bio fertilizers	Phosphate Solublizing Bacteria	1101	330300	297
Bio fertilizers	Rhizobium	1047	314100	305
Bio fungicides	Trichoderma	704	105600	176
Bio pesticides	Metarhizium	23	3450	8
Bio pesticides	Psudomonas	28	8400	13
Total		2903	761850	799

Production of livestock materials

Particulars of Live stock	Name of the breed	Number	Value (Rs.)	No. of Farmers
Dairy animals				
Cows				
Buffaloes				
Calves				
Others (Pl. specify)				
Goat	Osmanabadi	28	131990	12
Poultry				
Broilers				
Layers				
Duals (broiler and layer)	Improved poultry birds	3422	337170	82
Japanese Quail				
Turkey				
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	Gharachya gacchivarch pikava aarogyadai bhajipala (Terryce garden)	Anjali A Gunjal	-
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	Title of social media	Number of Followers/ Subscribers
1	YouTube Channel	-	-
2	Facebook page/ Account	Krishi Vigyan Kendra Latur I	1298
3	Mobile Apps	-	-
4	WhatsApp groups	KVK NIPHM, Agrotech, Adhunik, Katpur, Mahadevwadi, Ashiv Shetakri, Mahatmaphule , Dairy farmers KVK Latur, Goat farmers KVK Latur, Deoni breeders Association, Snedriya Sheti et Latur, Sheti va Gramvikas, Unnat Bharat Abhiyan (Vyankatesh Sendriya Sheti , Sendriya Sheti Gat Itti, Shrushti Krishi Seva Kendra , Organic farming, Reshim Mitra, Morya Shetakri Gat, Borgaon kale Shetakari Group, Manjara KVK Reshim Gat	3682
5	Twitter Account	@KVKLatur	-
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).

Integrated Farming System with Nutrition Approach

Background: Mrs Malan Sambhaji Raut, a woman farmer residing at village Nagarsoga. She has 2 acres 18 R land with 1 well & 1 tube well of irrigation capacity. Mrs Malan adapted integrated nutrition farming system with organic way from 2015 to improve family & soil health. She cultivates mixed cropping such as vegetables, fruits, millets & bamboo. She integrates different allied enterprises such as poultry, goat unit, vermin-compost unit, dairy unit and value addition of surplus vegetables for food security & livelihood of the family.

Interventions

Process: Mrs Malan trained at KVK in organic farming, Farming System for nutrition, Processing & value addition of fruits & vegetables and other enterprises such as poultry and goat unit. She continuously in contact with KVK experts for adaption of innovations. Now she promoted as a master trainer for nutrition & organic farming system.

Technology: With the help of KVK, she always motivated for adoption new technologies at her own field. She is using improved tools for farm operations for reducing drudgery. She prepares organic inputs for application on her field, which helps to minimize cost of inputs. Mrs Malan cultivates her own field with the help of family members.

Impact

Horizontal Spread: Mrs. Malan's methodology in farming influenced neighboring farm families so much and they adapted the integrated nutrition farming system on 20 hectares.

Economic gains:

- **Vegetable nutritional garden:** Established on 40R area & started producing seasonal vegetables, harvested and started selling at doorstep of consumers which helped her to receive higher income nearly about 18 to 20% than regular vegetables.

Annually earns net income of **Rs 2.5 lakh** from last three years in vegetable selling.

- **Fruit crops:** Planted fruit crops like custard apple, guava, sapota, mango, banana and papaya and earned net income of **Rs.0.95 lakh** by selling through regular harvesting round the year.
- **Agri-allied enterprises:** Additional net income of **Rs. 1.50 lakh** is earned through poultry and goat unit.
- **Dairy:** The milk from two cows she mainly used for consumption. She earns an income of **Rs. 0.25 lakh** by selling vermicompost.

- Additionally producing nutri-millets for family consumption.
- Yearly net income of Rs. **5.40** lakh from integrated farming.

Employment Generation

Mrs Malan cultivates her own field with the help of family members. All four members together engaged in farm operations throughout the year due to mixed cropping and integrating different enterprises. Therefore, she curtails the outside labour cost. Mrs Malan makes an example of agriculture as an employer for the farming community.



Vegetable Nutritional Garden



Fruit Orchard



Poultry Unit



Organic inputs preparation



Use of drudgery reducing implements



Master trainer in different programmes of KVK

Empowerment of Rural families through backyard poultry farming by using improved poultry birds

Salunke S. B. and Digraze S.S
Krishi Vigyan Kendra, Latur, kvklaturms@gmail.com

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 become 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 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 offer 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
Total	05	40	04	44	03	100	05	123	20	454	37	761

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

3. 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 (Vanaraja, Grampriya, Shrinidhi)	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 24947 one month birds to 678 families from 219 villages in the district, covering all the blocks in Latur district (**Table No.3**). 37 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. 37 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
	Total	260	24947	678

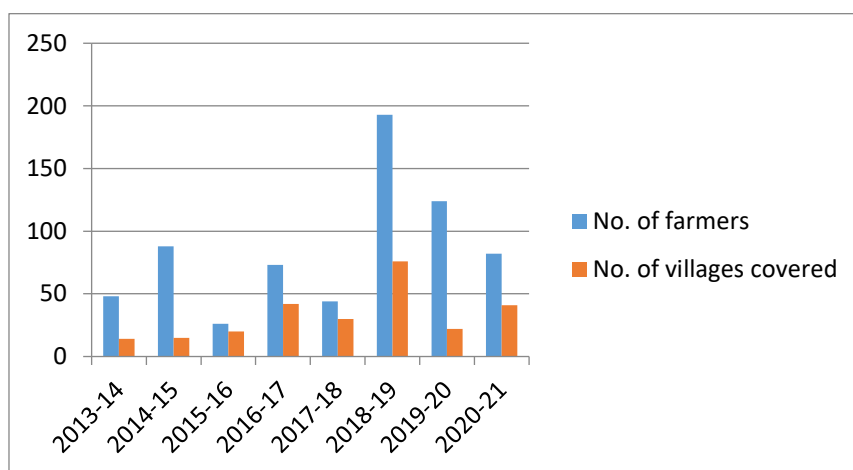


Chart 1: Year wise birds provided to farmers from KVK and no. of villages covered

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.130 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.

Titled photo showing situation

	
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

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 their 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 : 80
- 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 for improved technology in farm implements and machinery's
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 Agri.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

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	Amount (Rs.)

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	Other remarks (if any)
01	Meetings		5		
02	Research projects				
03	Training programmes			1	Training on biofertilizer production
04	Demonstrations				
		Backyard poultry farming		1	(25 demonstrations)
		Integrated farming system for nutrition approach	-	1	Conducted on 25 acres by 25 farm women participants
05	Extension Programmes				
	KisanMela				
	Technology Week				
	Exposure visit				
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Others (Pl. specify)				
06	Publications				
	Video Films				
	Books				
	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 VikasYojana)

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	Cluster demonstration of organic farming	Demonstration	330000	240000	50 vermicompost units are established during this year

Funds received in financial year 2019-20

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. Innovator Farmer's Meet

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

9. Farmers Field School (FFS)

S. No	Thematic area	Title of the FFS	Budget proposed in Rs.	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. Awareness about improved varieties of Soybean
2. Increase in yield and economic returns by adoption of diseases resistant improved varieties.
3. Adoption of improved varieties according to soil type and characteristics.

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

1. Grain and fodder quality is better as compared to local varieties
2. Increase in yield and economic returns by adoption of diseases resistant improved varieties.
3. 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 raised condition

1. Awareness about foliar feeding of fertilizers
2. Application of RDF according to soil test reports
3. Increase in yield by application of foliar fertilizers

Demonstration of Soybean and Pigeonpea

1. Application of multimicronutrients in soybean results to increase in yield and economic returns.
2. Observed that increase in plant height, no. of branches, no. of pods/plant due to application of zinc sulphate.
3. Awareness about use of growth regulators In pigeonpea.
4. Application of growth regulators reduces labour cost, time and increase in yield.

Plant Protection – OFT

1. Collection and destruction of grubs near root zone is very laborious. Most of the insecticides are not gives significant results for management of grubs.
2. Spraying of Azadirachtin 1500 ppm @ 5 ml/ liter + Emamectin benzoate@ 0.5 gm/liter at early whorl stage (30-35 days) followed by spraying of Azadirachtin 1500 ppm @ 5 ml/ liter + Thiamethoxam 12.6 + Lambda cyhalothrin 9.5 % ZC @.0.25 ml/liter at late whorl to boot stage (50-70 day old crop) found to be effective for control of *Spodoptera frugiper*a. Application of dry sand in to the whorl of affected maize plants soon after observation of FAW incidence in the field shows significant results.
3. The use of Sampoorina 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.

Veterinary

1. 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 cached by the predators

2. OFT on Post milking teat dips

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

3. FLD on By pass feeding to dairy animals

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

4. FLD on Silage making in bags and feeding to dairy animals

1. It is very easy and requires less time to make silage in the bag.
2. Due to silage making there is availability of green fodder during shortage time.
3. Due to this technology we are now able to feed quality fodder for the animals during lean period

5. 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

6. FLD on feeding of kid starter ration

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

- Need to release drought resistant varieties because of uneven distribution of rainfall every year.
- Need to be release pest and disease resistance varieties. Due to attack of pest and diseases yield losses are increasing every year.
- Availability of improved varieties good quality seed is major constraints. So, need to produce improved variety seeds in bulk.

Plant Protection – FLD

- To facilitate easy feeding of the mountages into the harvester, 50 mm PVC strips should fix on one side of the mountages
- Need to develop wilt disease resistant variety in Bengal gram

Veterinary

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

11. Technology Week celebration during 2020: 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 Practicals			
Supply of Literature (No.)			
Supply of Seed (q)			
Supply of Planting materials (No.)			
Bio Product supply (Kg)			
Bio Fertilizers (q)			
Supply of fingerlings			

Types of Activities	No. of Activities	Number of Farmers	Related crop/livestock technology
Supply of Livestock specimen (No.)			
Total number of farmers visited the technology week			

12. 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)

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

13. 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 2020	1	216057	
Feb 2020	02	42665	
March 2020			
April 2020			
May 2020			
Jun 2020	3	459801	
Jul 2020	1	216042	
Aug 2020	01	243762	
Sept 2020	2	459800	
Oct 2020	01	243762	
Nov. 2020	01	243762	
Dec. 2020			

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	
Latur	Text only	6	4	1	0	1	0	12
	Voice only							
	Voice & Text both							
	Total Messages	6	4	1	0	1	0	12
	Total farmers Benefitted							459819

14. 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	

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									
Pulses									
Bengalgram	15.11.2019	10.03.2020	0.40	Akash, Rajvijay	Bulk	4 qtl	3950	16800	
Oilseeds									
Safflower	15.11.2019	15.3.2020	0.30	PBNS-12	Bulk	1.40 qtl	1900	4900	
Soybean	1.7.2020	15.10.2020	1.20	MAUS-162	Bulk	24.90	16500	65736	
Fibers					Bulk				
Sugarcane	1.7.2020	28.12.2020	0.80	Co-86032, MS-10001, COVSI-2005	Bulk	63 ton	51500	157500	
Spices & Plantation crops									
Floriculture									
Fruits									
Vegetables									
Others (specify)									
Fodder crop	1.1.2020	26.12.2020	0.70	DHN-6 Dashrath, Subabhul	Bulk	250 qtl	10500	-	Use of goat unit
Nutrition farming	14.7.2020	15.3.2020	0.40	Vegetables & nutri-cereals	Bulk	4 qtl	4500	15425	-

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

Sl. No.	Bio Products	Name of the Product	Qty (kg)	Amount (Rs.)		Remarks
				Cost of inputs	Gross income	
1	Bio-Fertilizers	PSB	1101	330300		
		Rhizobium	1047	314100		
3	Bio-Fungicides	Trichoderma	704	105600		
		Metarhizium	23	3450		
4	Bio-pesticides	Pseudomonas	28	8400		
	Bio-Agents					
5	Vermicompost	Vermi--compost	3655	42,000	36,000	
		Vermi-culture	53		26,500	

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, Shrinidhi Grampriya	One month birds	3422	238121	337170	
2	Goat	Osmanabadi	Kids	28	113507	131990	

Photographs of instructional farm of KVK



KVK farm mango variety - Keshar



KVK farm Pomegranate variety - Bhagwa



Nursery Pomegranate seedlings



KVK farm Floriculture



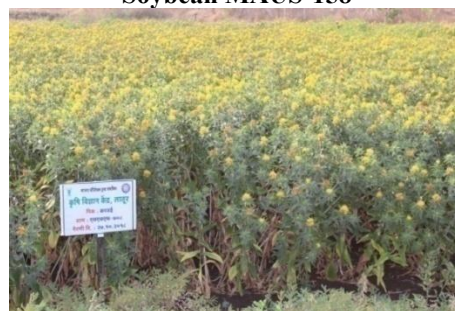
Hybrid Napier DHN-6



Soybean MAUS-158



KVK farm Jowar trial



Safflower PBNS-12



KVK farm kharif crop cafeteria



Soybean MAUS-162



KVK farm Jasmine variety- Singal Mogra



Fodder crop- Hybrid Napier DHN-6



Fodder crop- Dashrath



KVK farm Sugarcane plantation- variety CO-86032



KVK farm Fodder Cafeteria



Nursery Mango Variety –Kehsar



Fodder crop- Lucerne RL-88



Fodder crop- Sorghum Variety Parbhani Moti

E. Utilization of hostel facilities

Accommodation available (No. of beds): 25

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January 2020	17	5	
February 2020	25	4	
March 2020			COVID-19
April 2020			
May 2020			
June 2020			
July 2020			
August 2020			
September 2020			
October 2020			
November 2020			
December 2020			

F. Database management

S. No	Database target	Database created
	-	-

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

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

H. Performance of Nutritional Garden at KVK farm

If Nutritional Garden developed at KVK farm/Village Level? Yes

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
0.4	Vegetable crops	17 species	81
	Fruit crops	06 species	
	Others if any (Nutri cereals)		
	Ragi, Bajara, amaranths rala	Each 1	

Nutritional Garden developed at Village Level

No. of Villages covered	Component of Nutritional Garden	No. of species / plants in nutritional garden	No. of farmers covered
4	Vegetable crops	17 species	125
	Fruit crops	06 species	
	Others if any		
	Nutri cereals	Each 1	

H. Details of Skill Development Trainings organized

S.No.	Name of KVKs/SAUs/ICAR Institutes	Name of QP/Job role	Duration (hrs)	No. of participants					
				SCs/STs		Others		Total	
				Male	Female	Male	Female	Male	Female
1	KVK Latur	Tractor Operator	200	2	0	18	0	20	0
2	KVK Latur	Floriculturist	200	2	2	13	3	15	5

Photographs of Skill training programme

	
Floriculturist training programme	Tractor Operator training programme

15. FINANCIAL PERFORMANCE

A. Details of KVK Bank accounts

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

B. Utilization of KVK funds during the year 2020-21 (Rs. in lakh)(Till Dec, 2020)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	119.00	119.00	88.08
2	Traveling allowances	0.50	0.50	0.00
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	6.00	6.00	0.91
B	POL, repair of vehicles, tractor and equipments			2.90
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	6.50	6.50	0
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			0
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			1.94
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			1.27
G	Training of extension functionaries			0
H	Maintenance of buildings			0
I	Establishment of Soil, Plant & Water Testing Laboratory			0
J	Library			0
TOTAL (A)		132.00	132.00	95.01
B. Non-Recurring Contingencies				
1	Works	0	0	0
2	Equipments including SWTL & Furniture	0	0	0
3	Vehicle (Four wheeler/Two wheeler, please specify)	0	0	0
4	Library (Purchase of assets like books & journals)	0	0	0
TOTAL (B)		0	0	0
C. REVOLVING FUND		0	0	0
GRAND TOTAL (A+B+C)		132.00	132.00	95.01

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

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2018 to March 2019	28.28	44.39	51.85	20.82
April 2019 to March 2020	20.82	35.99	31.30	25.51
April 2020 to December, 2020	25.51	13.36	19.11	19.76

16. 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)	Irrigation management and Mechanization in Sugercane Production according to climate change	MPKV,Rahuri	Online	6-8 July 2020 13-15 July 2020
MATAI.P.D.	SMS (Agronomy)	Organic Farming	VNMKV Parbhani	Online	21 September to 9 October 2020
Anjali A Gunjal	SMS (Home Science)	Advances in smart food processing technologies	MPKV, Rahuri	Online	4/6/2020 to 15/6/2020
Bedre S.B.	SMS (A Extn)	Sustainable economic development through FPO's	MAHAFPO and MPKV Rahuri	Online	22 to 27 May 2020
Bedre S.B.	SMS (A Extn)	Pest Risk Analysis	NIPHM, Hyderabad	Online	29 June to 3 July 2020
Bedre S.B.	SMS (A Extn)	Formation of farmers group and management	RAMETI Aurangabad	Online	7 July 2020
Dr. Salunke S. B	Programme Assistant (Veterinary)	Clinical approach for diagnosis and therapeutic management of metabolic and deficiency disorders in bovines	Maharashtra Gazetted veterinarian Association and Vetrina	Online	24.05.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	NIAFTA workshop	IGFRI, Zansi	Online	23.06.20-26.06.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	Sustainable Livestock rearing	IMAT, Pune	Online	02.08.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	Inland Fishery Farming	IMAT, Pune	Online	06.09.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	International Webinar on Lumpy Skin Disease	MAFSU, Nagpur, PGIVA, Akola	Online	12.09.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	International webinar on Crimean Congo Hemorrhagic Fever	MAFSU, Nagpur, PGIVA, Akola and Alembic Pharma	Online	03.11.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	Freshwater Aquaculture on eve of World fishery Day 20	Department of Fishery	Online	21.11.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	Entrepreneurship in Poultry awareness week (EPAW)	CPDO & TI, Bengaluru	Online	23.11.20-27.11.20
Dr. Salunke S. B	Programme Assistant (Veterinary)	KVK's DOF-Training on Fishery	Department of Fishery	Online	22.12.20

17. 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	After

18. 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

19. 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	

20. 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	Group meetings on use of waste decomposer for plant Waste Management by Vermicomposting	6	110

21. 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	39	10164	1009	11173
Rural youths	2	50	4	54
Extension functionaries	5	86	144	230
<i>Sponsored Training</i>	2	351	44	395
<i>Vocational Training</i>	1	3	2	5
Total	46	10300	1157	11457

2. Frontline demonstrations

Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	25	10	
Pulses	70	28	
Cereals			
Vegetables			
Other crops			
Hybrid crops			
Total	95	38	
Livestock & Fisheries	40	-	80
Other enterprises	140	30	102
Total	180	30	182
Grand Total	275	68	182

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	6	60	60
Livestock	2	20	20
Various enterprises	1	10	10
Total	9	90	90
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	9	90	90

Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	536	11465
Other extension activities	4	31
Total	540	11496

Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						Total
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	
Latur	Text only	6	4	1	0	1	0	12
	Voice only							
	Voice & Text both							
	Total Messages	6	4	1	0	1	0	12
	Total farmers Benefitted							243762

4. Seed & Planting Material Production

	Quintal/Number	Value Rs.
Seed (q)	21.3	190102
Planting material (No.)	7018	8800
Bio-Products (kg)	2903	761850
Livestock Production (No.)	3450	469160
Fishery production (No.)		

5. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value Rs.
Soil		
Water		
Plant		
Total		

6. HRD and Publications

Sr. No.	Category	Number
1	Workshops	1
2	Conferences	
3	Meetings	
4	Trainings for KVK officials	14
5	Visits of KVK officials	
6	Book published	
7	Training Manual	1
8	Book chapters	

9	Research papers	
10	Lead papers	
11	Seminar papers	
12	Extension folder	
13	Proceedings	
14	Award & recognition	
15	On going research projects	