

ANNUAL PROGRESS REPORT 2024

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)



INDEX

SN	Content	Page no.
	DETAIL REPORT OF APR	
1	General information about KVK	03
2	Details of district	07
3	Operational area/villages	12
4	Technical achievements	22
5	Problem Cause diagram	26
6	Technology assessment & refinement	39
7	Frontline Demonstrations	100
8	Training Programmes	119
9	Extension Programmes	136
10	Production of seed/planting material & Byproducts	139
11	Literature Developed/Published	140
12	Success Stories	141
13	Linkages	160
14	Technical Feedback	165
15	Cases of large-scale adoption	174
16	Performance of infrastructure in KVK	182
17	Financial performance	186
18	Details of HRD, DFI and SAP	188
19	APR Summary	190

ICAR-ATARI, Pune
DETAILS OF ANNUAL PROGRESS REPORT OF KVK LATUR DURING 2024
(January 2024 to December 2024)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
Krishi Vigyan Kendra Latur, Addl. MIDC, Plot No. P-160, Barshi Road, Post- Gangapur, Tq.Dist Latur (MH) 413531	Office	FAX	kvklaturms@gmail.com	www.kvklatur.in 3297
	9404957511	-		

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

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

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

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

1.4. Date and Year of sanction: 20.05.2005

1.5. Staff Position (as on December, 2024)

Sl. No.	Sanctioned post	Name of the incumbent	Mobile No.	Discipline	If Permanent, please indicate		Date of joining	If Temporary, pl. indicate the consolidated amount paid (Rs./month)
					Current Pay Band	Current Grade Pay		
1.	Senior Scientist and Head	Dr. Digraze S.S.	9404957511	Horticulture	(131400-217100)	166400	14.10.2016	-
2.	Subject Matter Specialist	Bedre S.B.	9422469021	Agril.Extension.	(56100-177500)	92700	11.07.2006	-
3.	Subject Matter Specialist	Deshmukh S.B.	9404957510	Entomology	(56100-177500)	92700	11.07.2006	-
4.	Subject Matter Specialist	Smt.Gunjal A.A.	9404957515	Home Science	(56100-177500)	92700	13.10.2006	-
5.	Subject Matter Specialist	Matai P.D.	7899357261	Agronomy	(56100-177500)	67000	03.05.2018	-
6.	Subject Matter Specialist	Dr.Shinde S.P.	9421618790	Agril Engg.	(56100-177500)	59500	1.10.2022	-
7.	Subject Matter Specialist	Dr. Ulemale P.D.	9921048008	Horticulture	(56100-177500)	59500	1.10.2022	-
8.	Programme Assistant	Dr. Salunke S.B.	9404957517	Veterinary	(35400-112400)	64100	01.10.2006	-
9.	Computer Programmer	Suryawanshi V.M.	9404957520	Computer	(35400-112400)	58600	19.01.2009	-
10.	Farm Manager	Vacant	-	-	-	-	-	-
11.	Accountant/Superintendent	Deshmukh A.J.	9850614733	-	(35400-112400)	64100	11.07.2006	-
12.	Stenographer	Smt.Adgaonkar M.M.	9834020867	-	(25500-81100)	43500	01.04.2006	-
13.	Driver 1	Pitale N.B.	9822964401	-	(21700-69100)	36100	01.04.2006	-
14.	Driver 2	Shaikh W.M.	9657667082	-	(21700-69100)	26000	17.12.2018	-
15.	Supporting staff 1	Vacant	-	-	-	-	-	-
16.	Supporting staff 2	Jadhav V.H.	9763621672	-	(18000-56900)	31500	01.04.2006	-

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

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

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Year	Plinth area (Sq. m)	Expenditure (Rs.)	Starting year	Plinth area (Sq. m)	Status of construction
1.	Administrative Building	ICAR	22.02.2012	550	65,00,000	-	-	-
2.	Farmers Hostel	ICAR	22.02.2012	305	42,70,000	-	-	-
3.	Staff Quarters	ICAR	22.02.2012	400	50,00,000	-	-	-
4.	Fencing	ICAR	31.03.2011	2800 Rgm	7,00,000	-	-	-
5	Rain Water harvesting system	-	-	-	-	-	-	-
6	Threshing floor	-	-	-	-	-	-	-
7	Farm godown	-	-	-	-	-	-	-
8	Soil and water testing lab	-	-	-	-	-	-	-
9	Mini soil testing Kit	-	-	-	-	-	-	-
10	Sell Contour	-	-	-	-	-	-	-
11	Demo unit	ICAR	26.03.2009	80	5,00,000	-	-	-
12	ICT lab	-	-	-	-	-	-	-
13	Solar Panel	-	-	-	-	-	-	-
14	counter seal	-	-	-	-	-	-	-
	Other pl mention	-	-	-	-	-	-	-

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Running	Present status
Jeep (MH-24-AW-3105)	2019-2020	8,00,000	124099	Under working
Motor Cycle (MH-24-Q-1404)	2006-2007	50,714	144441	Needs replacement
Motor Cycle (MH-24-Q-1405)	2006-2007	50,714	124348	Needs replacement

C) Equipment & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Tractor (45 hp)	2006-07	5,09,002.00	Tractor needs replacement
Mold Board Plough	2006-07	42,019.00	Needs replacement
Spring Tyne cultivator	2006-07	26,434.00	Needs replacement
Tractor operated Sprayer HTP	2019-20	60,714	Under working
Reaper	2019-20	1,23,214	Under working
Bund former	2019-20	17,857	Under working
Seed cum fertilizer drill (BBF) (03 Nos.)	2019-20	1,80,000	Under working
Sugarcane trash shredder	2019-20	1,78,571	Under working
Reversible two bottom plough	2019-20	35,714	Under working
Mulching Machine	2019-20	35,714	Under working
Sugarcane Set cutter planter	2019-20	1,74,107	Under working
Sugarcane seedling trans planter	2019-20	1,29,464	Under working
Subsoiler	2019-20	35,000	Under working
Minitractor	2019-20	3,75,000	Under working
Minitractor operated cultivator	2019-20	13,392	Under working
Rotary Tiller	2019-20	42,200	Under working
Boom Sprayer	2022-23	1,20,000	Under working
Drone	2022-23	8,00,000	Under working
Poultry mini hatchery unit	2019-20	5,82,400	Under working
Fodder Chaffcutter	2017-18	40,000	Under working
Fruits and vegetable Processing unit	2019-20	15,68,220	Under working
Computer with projector	2006-07	1,21,900.00	Needs replacement
Genset (Generator)	2011-12	2,50,000.00	Under workings
Computer (02 Nos) & Printer, Tab	2016-17	1,20,000.00	Need to replacement

1.8. Details of SAC meeting conducted in the year:

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

2. DETAILS OF DISTRICT / JURISDICTION AREA OF KVK

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

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

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

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

a) Topography

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

2.3 Soil Types

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

2.4. Area, Production and Productivity of major crops cultivated in the area of jurisdiction of KVK (2024)

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

Source: Statistic Department SAD Latur

2.5. Weather data (2024)

Month	Average RF (mm)	Normal RF(mm)	Normal Rainy days (number)	Temperature (0 C)		Relative Humidity (%)	
				Maximum	Minimum	Maximum	Minimum
January	-	-	-	11.78	26.17	92.07	61.09
February	-	-	-	14.10	31.90	60.64	36.25
March	-	1.60	-	16.05	33.80	61.00	28.42
April	-	82.2	7	14.50	34.82	58.42	38.05
May	-	35.80	2	24.60	34.20	57.14	37.18
June	-	266.0	13	22.70	29.01	85.42	44.40
July	-	218.4	18	20.30	29.40	92.00	34.60
August	-	146.4	9	19.80	29.47	79.10	41.60
September	-	224.9	9	23.16	31.13	66.14	34.86
October	-	29.6	3	20.16	30.5	85.85	44.29
November	-	-	-	20.33	26.89	98.00	40.29
December	-	13.00	-	14.06	21.99	90.71	52.00
Total		1017.9	61				

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

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

2.7. Details of Operational area / Villages

Taluka / Block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Latur	Chikurda	Pigeon pea	• Labor Shortages: Farmers face difficulties due to the unavailability of labor during critical periods such as harvesting. • Pest and Disease Infestations: The crop is susceptible to various pests and diseases, leading to reduced yields. • Limited Knowledge of Improved Practices: A lack of awareness regarding advanced agricultural techniques hinders productivity. • High Input Costs: The elevated prices of essential inputs such as seeds, fertilizers, and pesticides pose financial challenges to farmers. • Weed Management: Effective control of weeds remains a significant concern, affecting crop health and yield. • Environmental Factors: While drought is a common issue, some farmers also report waterlogging as an adverse factor affecting pigeon pea production.	• Promotion of Mechanization, Encouraging for Custom Hiring Centers, Training Farmers in efficient labour Management. • Development and promotion of disease-resistant pigeon pea varieties. • Conducting regular training programs on improved cultivation practices. • Strengthening agricultural extension services through Krishi Vigyan Kendra • Adoption of herbicide-tolerant pigeon pea varieties. • Promotion of integrated weed management using mulching and cover crops • Promoting agroforestry and intercropping systems to improve resilience.

	Ankoli	Pigeon pea	• Labor Shortages: Farmers face difficulties due to the unavailability of labor during critical periods such as harvesting. • Pest and Disease Infestations: The crop is susceptible to various pests and diseases, leading to reduced yields. • Limited Knowledge of Improved Practices: A lack of awareness regarding advanced agricultural techniques hinders productivity. • High Input Costs: The elevated prices of essential inputs such as seeds, fertilizers, and pesticides pose financial challenges to farmers. • Weed Management: Effective control of weeds remains a significant concern, affecting crop health and yield. • Environmental Factors: While drought is a common issue, some farmers also report waterlogging as an adverse factor affecting pigeon pea production.	• Promotion of Mechanization, Encouraging for Custom Hiring Centers, Training Farmers in efficient labour Management. • Development and promotion of disease-resistant pigeon pea varieties. • Conducting regular training programs on improved cultivation practices. • Strengthening agricultural extension services through Krishi Vigyan Kendra • Adoption of herbicide-tolerant pigeon pea varieties. • Promotion of integrated weed management using mulching and cover crops • Promoting agroforestry and intercropping systems to improve resilience.
		Chickpea	• Chickpea production in Latur district faces challenges such as soil degradation • Groundwater depletion • Erratic rainfall and diseases like collar rot etc	• Thrust areas for improving chickpea production in Latur district include soil health restoration • Water conservation techniques • Promotion of drought-tolerant and disease-resistant varieties • Adoption of integrated disease management, and sustainable farming practices.
		Farm Machinery and implements	• Low level of mechanization • Use of improved implements • On farm conservation practices • Unavailability of labour for farm work	• Use of improved sowing/planting equipment's Precision Rotary Dribbler and • BBF technology • Improved farm equipment's
		Spraying Equipment's	• Improved farm equipment's • Higher cost of Spraying operation	• Use of drone technology and Boom sprayer for spraying crops.
		Micro Irrigation	• Poor irrigation • Management Poor water holding Capacity	• Use of drip and sprinkler irrigation during dry spell

	Gondegaon,	Value addition	• Post harvest losses.	• Post harvest management for loss reduction
	Babhalgaon Murud	Mango	• Unavailability of quality planting materials • Impact of climate change on fruiting • Unaware about use of fungicides insecticides and PGR • Fruit drops due to physiological changes in plats.	• Unavailability of quality planting materials • Imbalanced application of fertilizers • Lack of knowledge of maturity indices • Unaware about management practices to control flower and fruit drop
	Harangul	Mango	• Unavailability of quality planting materials • Impact of climate change on fruiting • Unaware about use of fungicides insecticides and PGR • Fruit drops due to physiological changes in plats.	• Unavailability of quality planting materials • Imbalanced application of fertilizers • Lack of knowledge of maturity indices • Unaware about management practices to control flower and fruit drop
		Custard apple	• Time & stage of training pruning • Imbalance use of fertilizers • Less aware about bahar treatment • Heavy infestation of fruit fly in early bahar fruits specifically on NMK cultivar	• Lack of knowledge of training pruning • Imbalanced application of fertilizers
		Marigold	• Low yield and quality of flower • Poor vase life of flower	• Use of old released varieties • Imbalanced application of fertilizers
		Farm Machinery and implements	• Low level of mechanization • Use of improved implements • On farm conservation practices • Unavailability of labour for farm work	• Use of improved sowing/planting equipment's Precision Rotary Dibbler and • BBF technology • Improved farm equipment's
		Micro Irrigation	• Poor irrigation • Management Poor water holding Capacity	• Use of drip and sprinkler irrigation during dry spell

	Gangapur	Custard apple	• Time & stage of training pruning • Imbalance use of fertilizers • Less aware about bahar treatment • Heavy infestation of fruit fly in early bahar fruits specifically on NMK cultivar	• Lack of knowledge of training pruning • Imbalanced application of fertilizers
		Value addition	• Post harvest losses.	• Post harvest management for loss reduction
		Drudgery reducing implement	• Drudgery prone activities at farm & home	• Drudgery reducing technologies for loss reduction
		Nutrition	• Nutritional inadequacy	• Family nutrition & livelihood security
		Poultry	• Low egg production • Low weigh gain • High mortality	• Breed improvement • Feed management • Disease management
	Shirala	Poultry	• Low egg production • Low weigh gain • High mortality	• Breed improvement • Feed management • Disease management
	Parkharsangavi	Marigold	• Low yield and quality of flower • Poor vase life of flower	• Use of old released varieties • Imbalanced application of fertilizers
	Bhoisamudraga,	Value addition	• Post harvest losses.	• Post harvest management for loss reduction
		Drudgery reducing implement	• Drudgery prone activities at farm & home	• Drudgery reducing technologies for loss reduction
		Nutrition	• Nutritional inadequacy	• Family nutrition & livelihood security

Ausa	Kharosa	Pigeon pea	• Labor Shortages: Farmers face difficulties due to the unavailability of labor during critical periods such as harvesting. • Pest and Disease Infestations: The crop is susceptible to various pests and diseases, leading to reduced yields. • Limited Knowledge of Improved Practices: A lack of awareness regarding advanced agricultural techniques hinders productivity. • High Input Costs: The elevated prices of essential inputs such as seeds, fertilizers, and pesticides pose financial challenges to farmers. • Weed Management: Effective control of weeds remains a significant concern, affecting crop health and yield. • Environmental Factors: While drought is a common issue, some farmers also report waterlogging as an adverse factor affecting pigeon pea production.	• Promotion of Mechanization, Encouraging for Custom Hiring Centers, Training Farmers in efficient labour Management. • Development and promotion of disease-resistant pigeon pea varieties. • Conducting regular training programs on improved cultivation practices. • Strengthening agricultural extension services through Krishi Vigyan Kendra • Adoption of herbicide-tolerant pigeon pea varieties. • Promotion of integrated weed management using mulching and cover crops • Promoting agroforestry and intercropping systems to improve resilience.
		Safflower	• Safflower production is hindered by low agricultural productivity due to water scarcity • Lack of improved technology adoption • Economic challenges faced by farmers.	• Thrust areas for improving safflower production in Latur district include enhancing water management practices. • Promoting high-yielding and drought-resistant varieties
		Soybean	• Soybean production in Latur district faces challenges such as labor shortages during harvesting • Lack of technical knowledge among farmers, Erratic weather patterns • Limited access to market information, • Price volatility • Inadequate financial services • Insufficient post-harvest infrastructure.	• Thrust areas for addressing soybean production challenges in Latur district include promoting mechanization • Use of newly released improved pest and disease resistant varieties • Enhancing farmer training on improved practices • Developing climate-resilient varieties, improving market access and price stability, strengthening financial support systems, Upgrading post-harvest infrastructure.

		Onion	• Low yield use of local varieties • Unknown about right maturity indices • Poor storage life • Pest disease occurrence specially thrips & blight	• Use of old/ local varieties • Imbalance use of fertilizers • Lack of knowledge about proper curing/ pre-cooling • Unavailability of storage structure
	Borgaon (N.)	Soybean	• Soybean production in Latur district faces challenges such as labor shortages during harvesting • Lack of technical knowledge among farmers, Erratic weather patterns • Limited access to market information, • Price volatility • Inadequate financial services • Insufficient post-harvest infrastructure.	• Thrust areas for addressing soybean production challenges in Latur district include promoting mechanization • Use of newly released improved pest and disease resistant varieties • Enhancing farmer training on improved practices • Developing climate-resilient varieties, improving market access and price stability, strengthening financial support systems, Upgrading post-harvest infrastructure.
		Soybean	• Soybean production in Latur district faces challenges such as labor shortages during harvesting • Lack of technical knowledge among farmers, Erratic weather patterns • Limited access to market information, • Price volatility • Inadequate financial services • Insufficient post-harvest infrastructure.	• Thrust areas for addressing soybean production challenges in Latur district include promoting mechanization • Use of newly released improved pest and disease resistant varieties • Enhancing farmer training on improved practices • Developing climate-resilient varieties, improving market access and price stability, strengthening financial support systems, Upgrading post-harvest infrastructure.
		Chickpea	• Chickpea production in Latur district faces challenges such as soil degradation • Groundwater depletion • Erratic rainfall and diseases like collar rot etc	• Thrust areas for improving chickpea production in Latur district include soil health restoration • Water conservation techniques • Promotion of drought-tolerant and disease-resistant varieties
		Dairy	• Low milk yield	• Feed, Fodder and nutrient production • Disease and Reproductive management

		Goat	• High mortality • Low weight gain	• Nutrient management • Disease management
		Poultry	• Low egg production • Low weigh gain • High mortality	• Breed improvement • Feed management • Disease management
		Farm Machinery and implements	• Low level of mechanization • Use of improved implements • On farm conservation practices • Unavailability of labour for farm work	• Use of improved sowing/planting equipment's Precision Rotary Dibbler and • BBF technology • Improved farm equipment's
		Natural Resource Management	• Depletion of Water level and heavy exploitation of ground water • Lack of Soil and Water conservation & Ground water recharge and unavailability of water to crop	• Implementation of open well and borewell recharge to enhance the ground water level.
		Spraying Equipment's	• Improved farm equipment's • Higher cost of Spraying operation	• Use of drone technology and Boom sprayer for spraying crops.
		Micro Irrigation	• Poor irrigation • Management Poor water holding Capacity	• Use of drip and sprinkler irrigation during dry spell
		Sugarcane	• Low yield, Less infiltration rate, Less adoption of micro irrigation system its care & maintenance	• Use of Mole Plough for enhancing crop yield under waterlogged areas.
	Lodga	Safflower	• Safflower production is hindered by low agricultural productivity due to water scarcity • Lack of improved technology adoption • Economic challenges faced by farmers.	• Thrust areas for improving safflower production in Latur district include enhancing water management practices. • Promoting high-yielding and drought-resistant varieties
		Onion	• Low yield use of local varieties • Unknown about right maturity indices • Poor storage life • Pest disease occurrence specially thrips & blight	• Use of old/ local varieties • Imbalance use of fertilizers • Lack of knowledge about proper curing/ pre-cooling • Unavailability of storage structure

Chakur	Janwal	Tomato	• Low yield and quality of fruit • Deficiencies of micro nutrients • Fruit quality affected by physiological disorders • Fruit and flower drop due to extreme climatic conditions • Improper use of fertilizers leads to low quality fruit	• Imbalanced application of fertilizers specially micronutrients • Use of old released varieties • More infestation of pest and disease
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2.8. Priority thrust areas:

Soybean	• Promoting high-yielding and climate-resilient varieties, • Enhancing soil health management, • Adopting integrated pest and weed control, • Improving mechanization, and strengthening market access and price stability • Seed production programme to supply good quality seed
Pigeon pea	• Developing drought-resistant and high-yielding varieties • Implementing integrated pest and disease management, • Improving soil fertility, and strengthening market linkages for better profitability. • Use of growth regulators to reduce excess vegetative growth. • Use of biofertilizers for seed treatment
Chickpea	• Promotion of drought and disease-resistant varieties, • Improving soil health and water conservation practices, • Adopting integrated pest and disease management, • Strengthening market and financial support systems. • Seed production programme to supply good quality seed
Safflower	• Promotion of drought-tolerant and high-yielding varieties, • Improving soil and water conservation practices

	• Adopting integrated pest and disease management, • Enhancing mechanization • Strengthening market and value chain support
Rabi Sorghum	• Improved high yielding varieties for Grain and Stover • Balanced application of fertilizers • Protective irrigation at critical growth stages • Introduction of Newly Released Improved Varieties of Rabi Sorghum
Dairy animals	• Integrated approaches for enhancing production and reproduction • Animal health and care – (Timely vaccination, deworming and insemination) • Fertility management in dairy animals. • Balanced/ supplement feeding in livestock
Poultry	• Scientific management of poultry birds • Health management • Introduction of improved breeds poultry birds for backyard poultry farming
Goatery	• Animal health and care • Balanced/ supplement feeding in livestock • Fertility management of goats • Round the year availability of green fodder
Mango	• Inflorescences management through plant protection measures and PGR application • Integrated nutrients management
Onion	• Integrated nutrient management • Introduced high yielding varieties with good keeping quality
Custard Apple	• Integrated nutrient management • Improved pruning techniques as per bahar treatment

Marigold	• Introduced high yielding varieties with good keeping quality • Follow pinching special horticulture practices to improved yield
Farm Machinery and Implements, Micro irrigation, Soil and Water Conservation and Processing and value addition.	• Improvement in tillage practices and reduction in labour requirement by using improved implements. • Resources conservation techniques in crops and care and Maintenance of Micro Irrigation Systems. • Reduction in post-harvest losses, value addition to agricultural produce, processing and utilization of by-products. • Improved farm machinery and equipment's for specialized operations like mulch laying, bed shaper, bed maker etc. • Drudgery reducing technology and production of small tools and equipment • Post harvest technology • Small scale processing and value addition • Soil and water conservation & Insitu moisture conservation
Value addition	• Post harvest management for loss reduction • Empowering farm women through small scale processing & value addition
Drudgery reducing equipment's	• Drudgery reducing technologies for farm women • Entrepreneurship development
Foods and Nutrition	• Establishment of Nutritional gardens & production of nutria millets. • Family nutrition & livelihood security
Entrepreneurship Development	• Entrepreneurship development for income generation

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
15	15	150	150	17	17	544	544

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
61	66	1525	2704	125	144	12500	13971

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
900	929.31	40000	72718

Livestock, poultry strains and fingerlings (No.)		Bio-products (Kg)	
7		8	
Target	Achievement	Target	Achievement
3000	3255	-	-

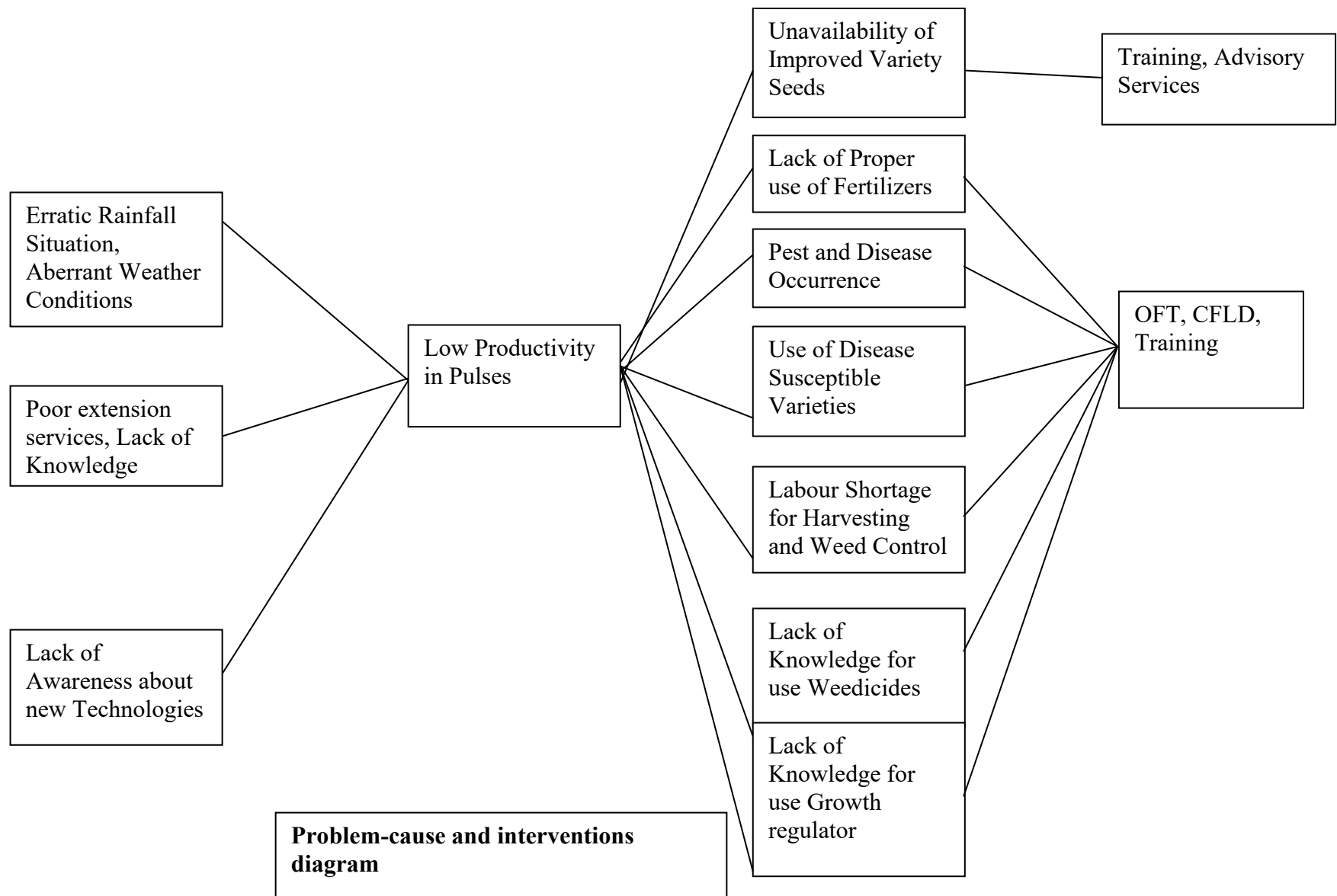
3.1. B. Operational areas details during 2024

S.No.	Major crops & enterprises being practiced in cluster villages	Prioritized problems in these crops/ enterprise	Extent of area (ha/No.) affected by the problem in the district	Names of Cluster Villages identified for intervention	Intervention (OFT, FLD, Training, extension activity etc.)*
1	Soybean	• Uneven Distribution of Rainfall • Labour Shortage from sowing to harvesting • Use of old & local varieties • Imbalance application of fertilizers • Pest and disease occurrence • Unavailability of labours for harvesting and threshing.	235872	Ankoli, Gondegaon, Borgaon Chikhurda	OFT, CFLD
2	Pigeon pea	• Low yield in Redgram due to attack of wilt disease. • Use of wilt susceptible variety BSMR-736 in the micro situation. • Imbalance use of fertilizers • Incidence of pest attack.	75840	Ankoli Chikhurda Kharosa	FLD, 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.	7845	Killari Matola Gangapur	CFLD, Training
4	Chickpea	• Use of same cropping pattern continuously. • Low yield due to incidence of wilt disease • Use of susceptible varieties • Unaware about use of fungicides and insecticides • Unaware about use of biofertilizers.	118690	Ankoli, Borgaon	OFT, Training
5	Safflower	• Less productivity due to incidence of pest and diseases • Labour problem at the time of harvesting • Imbalance use of fertilizers • Unaware about use of fungicides and insecticides	23840	Lodga Kharosa	CFLD, Training
6	Mango	• Unavailability of quality planting materials • Impact of climate change on fruiting	650	Babhalgaon	Training, Provide quality planting

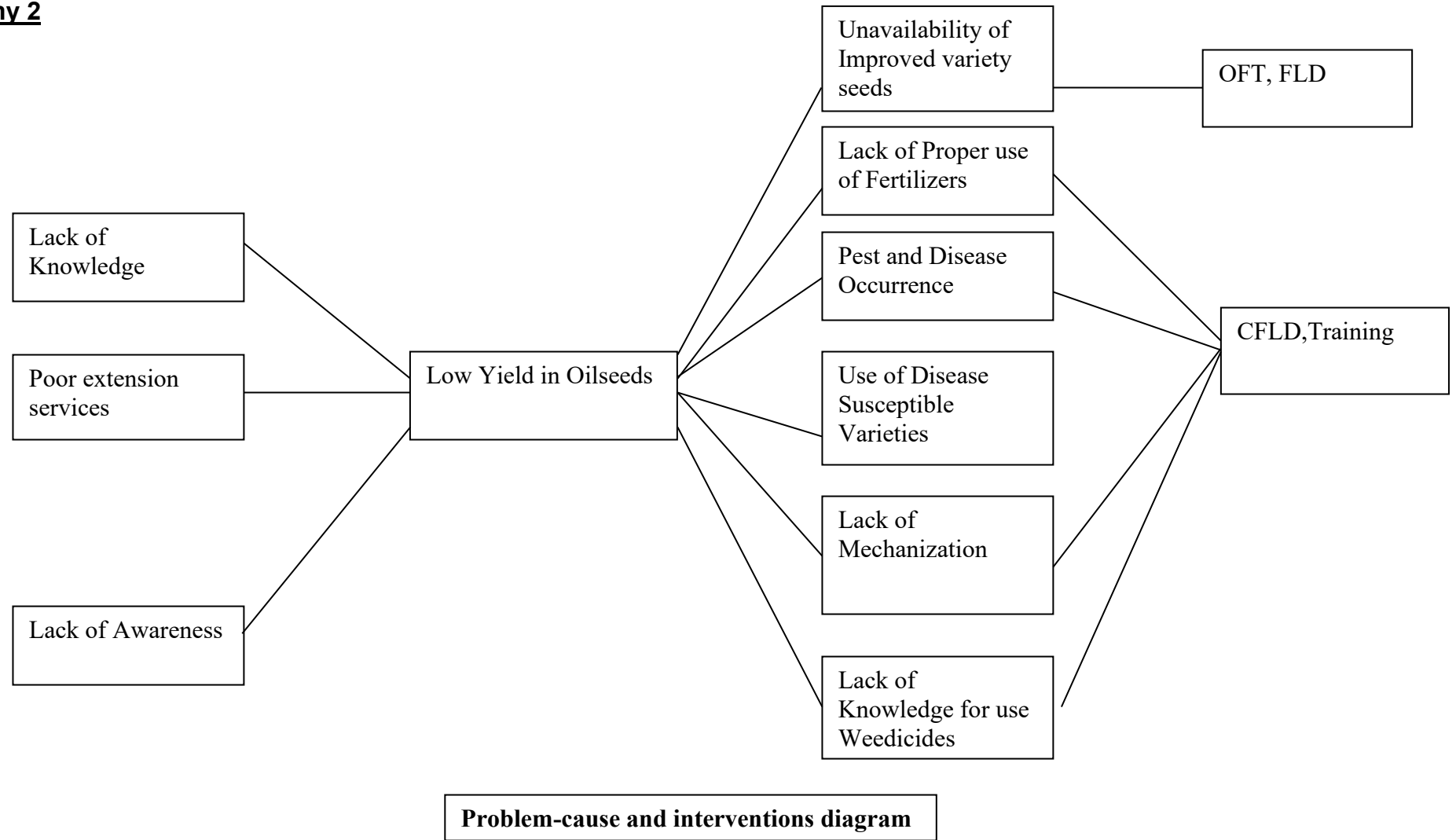
		- Unaware about use of fungicide, insecticides and PGR - Fruit quality and yield affected due to imbalance use of fertilizers specially micronutrients		Harangul Murud	materials FLD Demonstration
7	Custard Apple	- Time & stage of training pruning - Imbalance use of fertilizers - Less aware about bahar treatment - Heavy infestation of fruit fly in early bahar fruits specifically on NMK cultivar	50	Gangapur Renapur	FLD, Training
8	Onion	- Low yield use of local varieties - Unknown about right stage of maturity indices - Poor keeping quality due to no pre cooling / curing - Pest disease occurrence specially thrips & blight	95	Lodga Kharosa Bhoisumundra	OFT, Training
9	Tomato	- Low yield due to occurrences of pest and disease - Deficiencies of micro nutrients - Fruit quality affected by physiological disorders - Fruit and flower drop due to extreme climatic conditions - Improper use of fertilizers leads to low quality fruit	105	Janval Wadval Boregaon	OFT FLD Training
10	China aster	- Low yield and quality due to use local/old varieties - Imbalance use of fertilizers	80 %	Pakharsangi	FLD, Training
11	Dairy	- Low milk yield. - Scarcity of green fodder - Poor body condition	65 % population	Borgaon N	OFT, FLD, trainings
12	Backyard poultry	- Low egg production - Low body weight - High mortality - Less returns	80 % population	Gangapur Shirala Borgaon N	OFT, trainings
13	Goat	- Mineral deficiency - Late maturity - Poor weight gain,	90 % population	Borgaon N	OFT, FLD, training, Health camp

		High mortality			
14	Improved farm implements	Less productivity & Labour shortage, Poor germination/crop stand, Less area Coverage, Lack of Labour, High cost of Sowing and waterlogged areas.	70%	Borgaon (N.)	OFT, FLD, Training
15	Improved farm spraying equipment.	Lack of Labour, Less area Coverage, High cost of Spraying and Pesticide poisoning, Drudgery-prone activity.	85%	Ankoli	OFT, Training
16	Natural Resources Management	Depletion of ground water level, unavailability of irrigation to crop.	75%	Borgaon (N.)	FLD, Training
17	Post harvest techniques	Post harvest management for grain loss reduction	60%	Harangul (B.)	FLD, Training
18	Post harvest losses.	- Absence of proper processing techniques - Post harvest management for loss reduction	50%	Bhoisamudraga, Gangapur	OFT, FLD, Trainings & Extension activities
19	Drudgery prone activities at farm.	- Unaware about improved tools & techniques - Drudgery reducing technologies for loss reduction	65%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities
20	Malnutrition, deficiency of micronutrients.	- Unaware about nutritional requirement of family - Family nutrition & livelihood security	50%	Bhoisamudraga, Gangapur & Borgaon	OFT, FLD, Trainings & Extension activities
21	Post harvest management & value addition	- Unemployment youths & women - Entrepreneurship development through Processing and value addition in farm produce	65%	Bhoisamudraga, Gangapur & Akarwai	OFT, FLD, Trainings & Extension activities

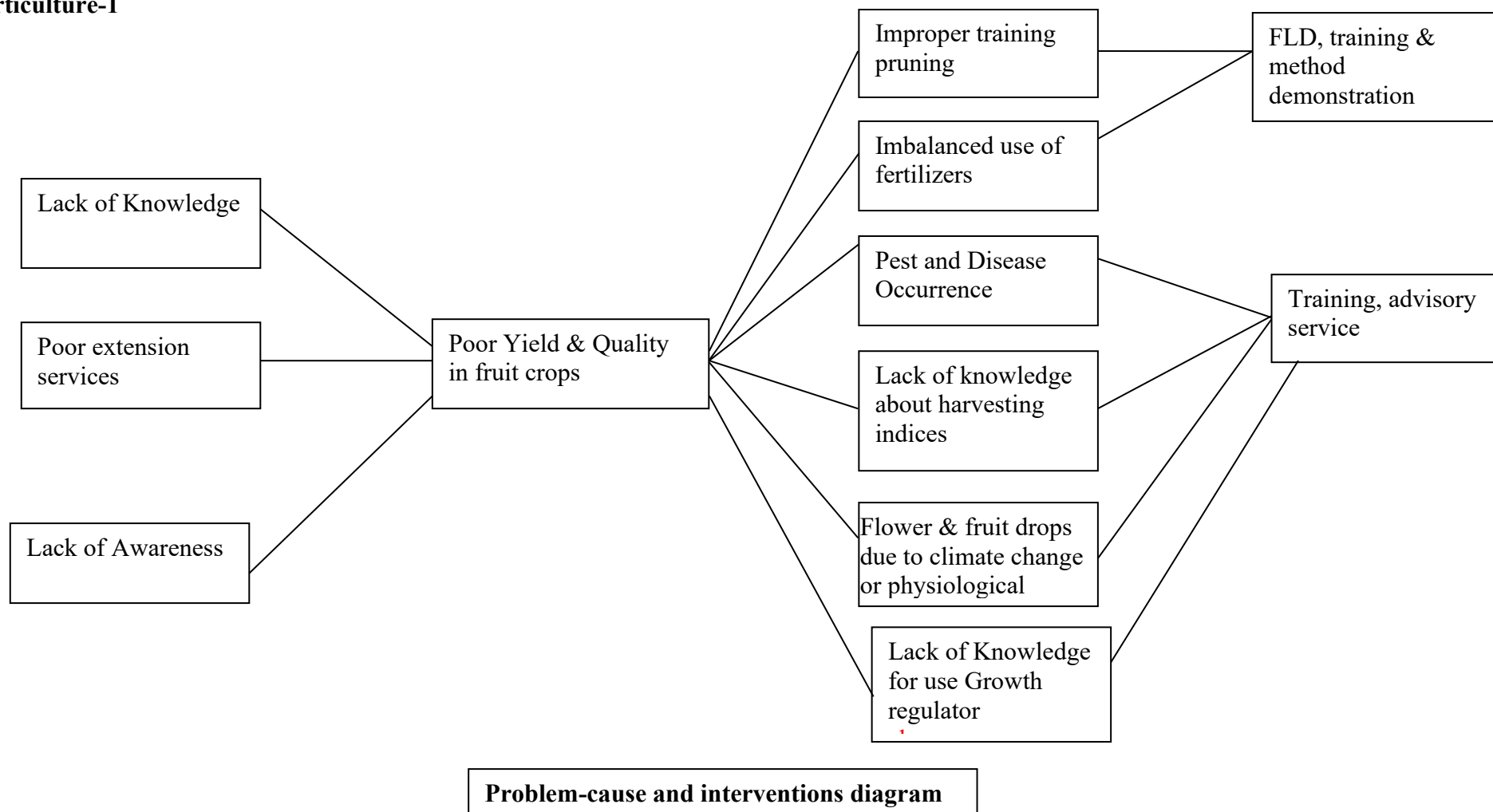
Problem Cause interventions diagrams
Agronomy 1

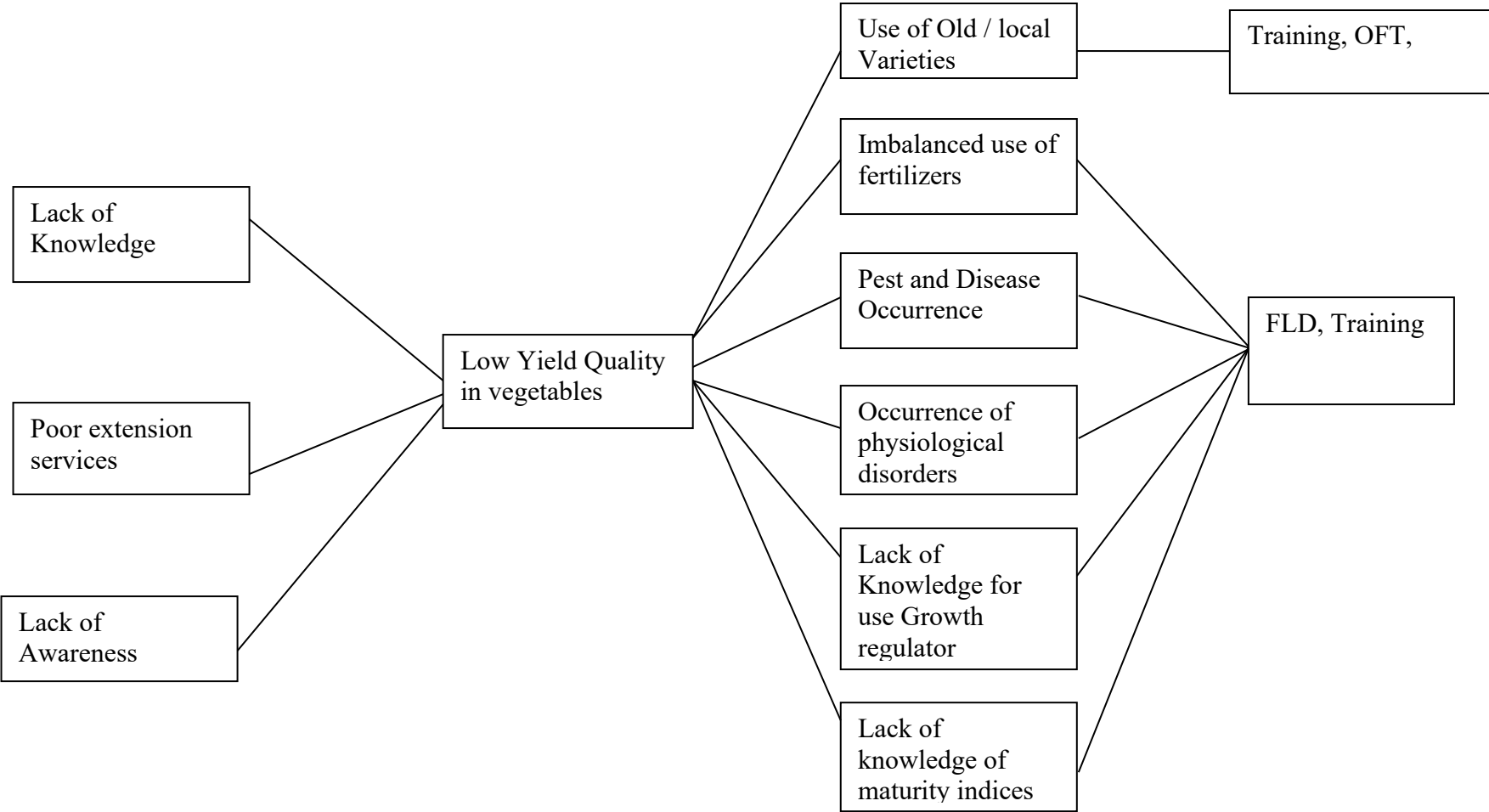


Agronomy 2



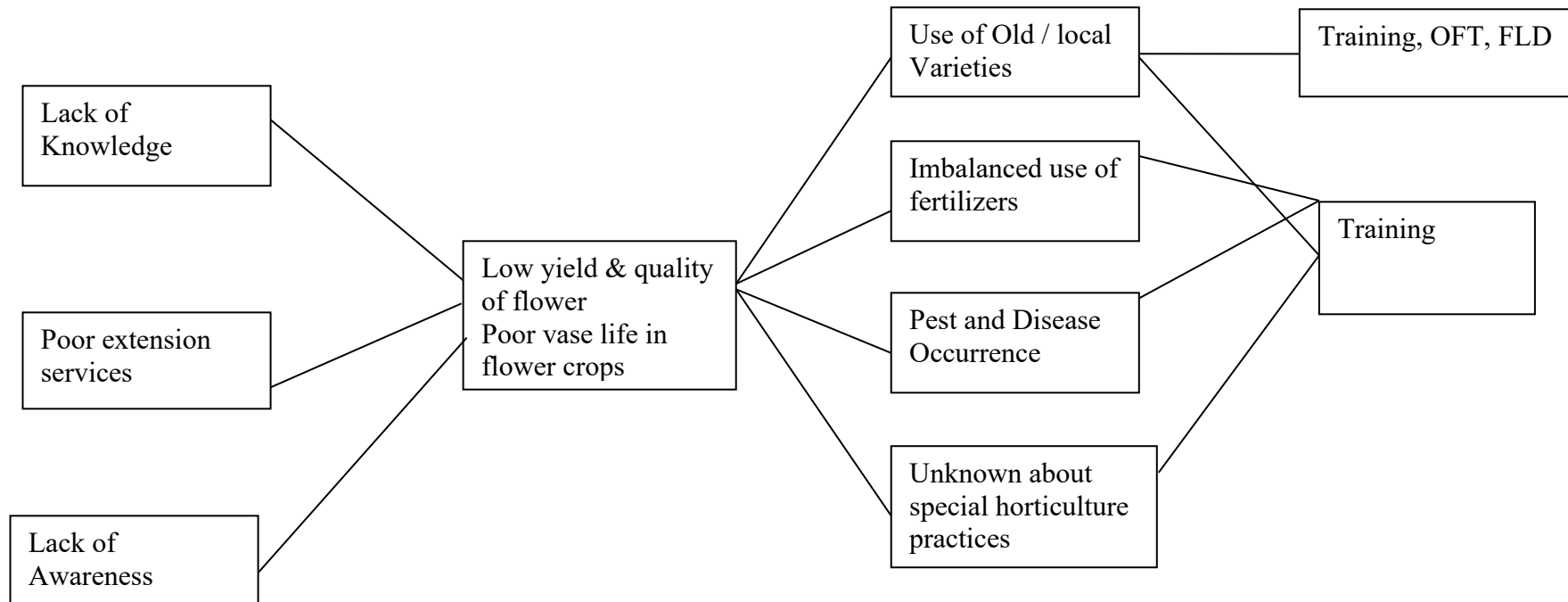
Horticulture-1





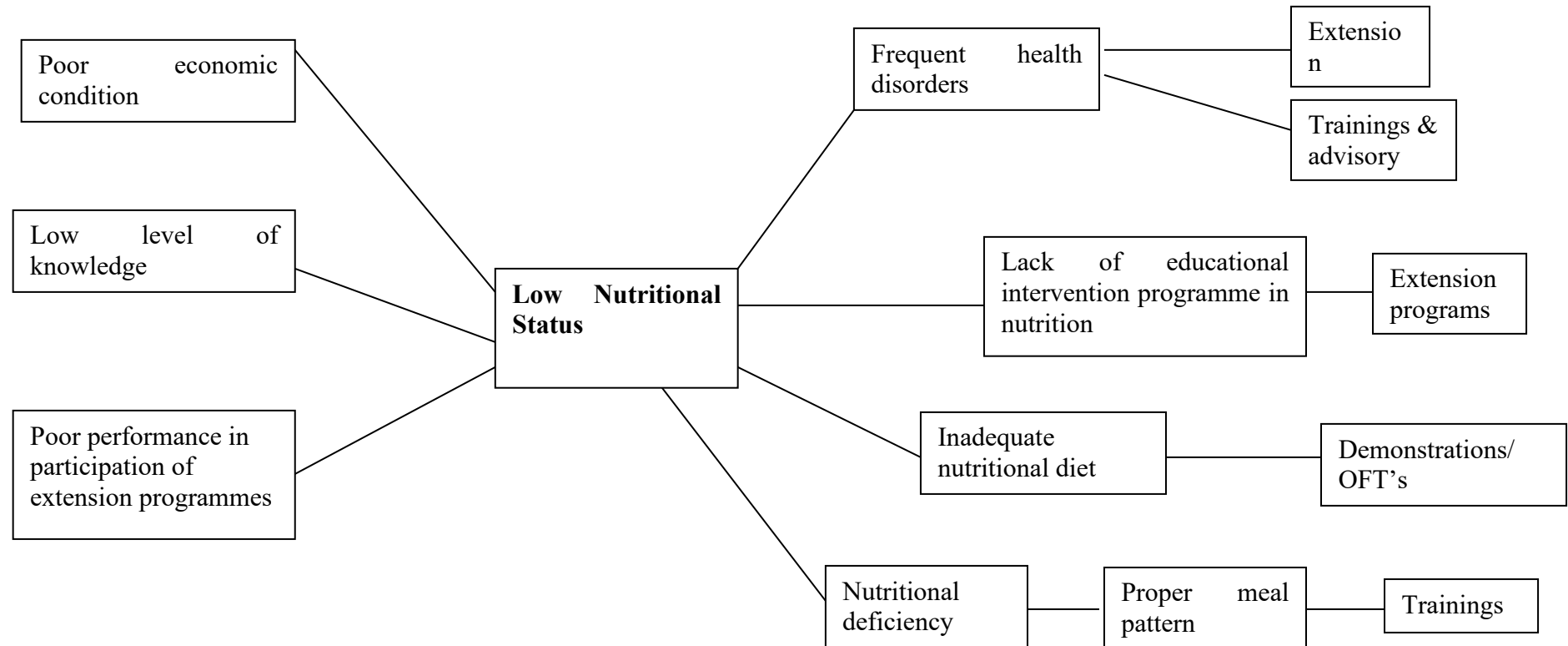
Problem-cause and interventions diagram

Horticulture-3

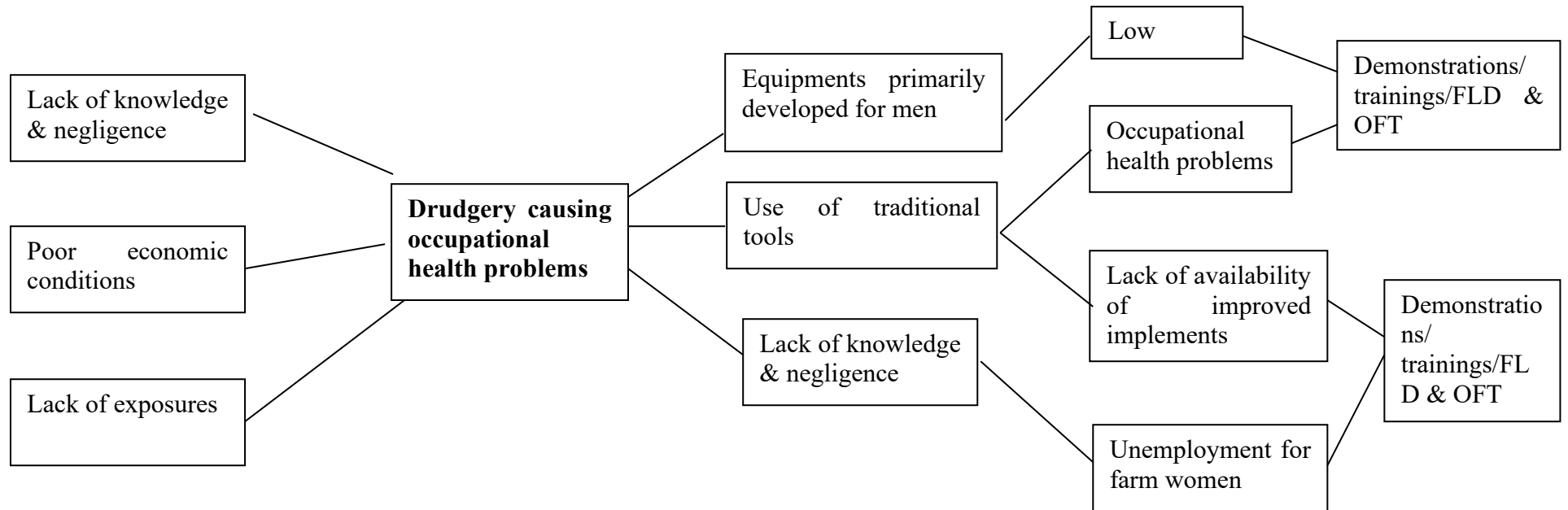


Problem-cause and interventions diagram

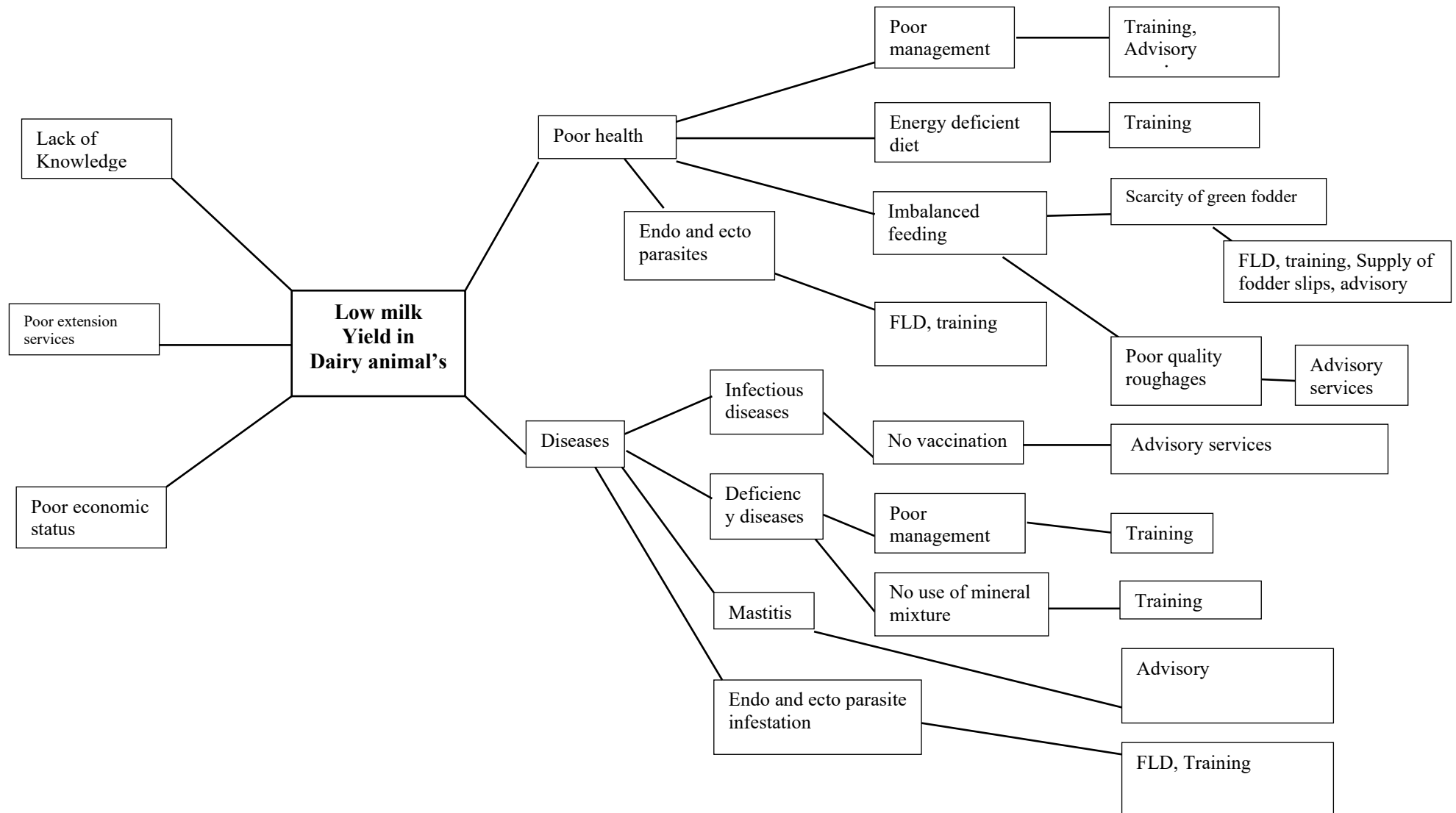
Home Science :1

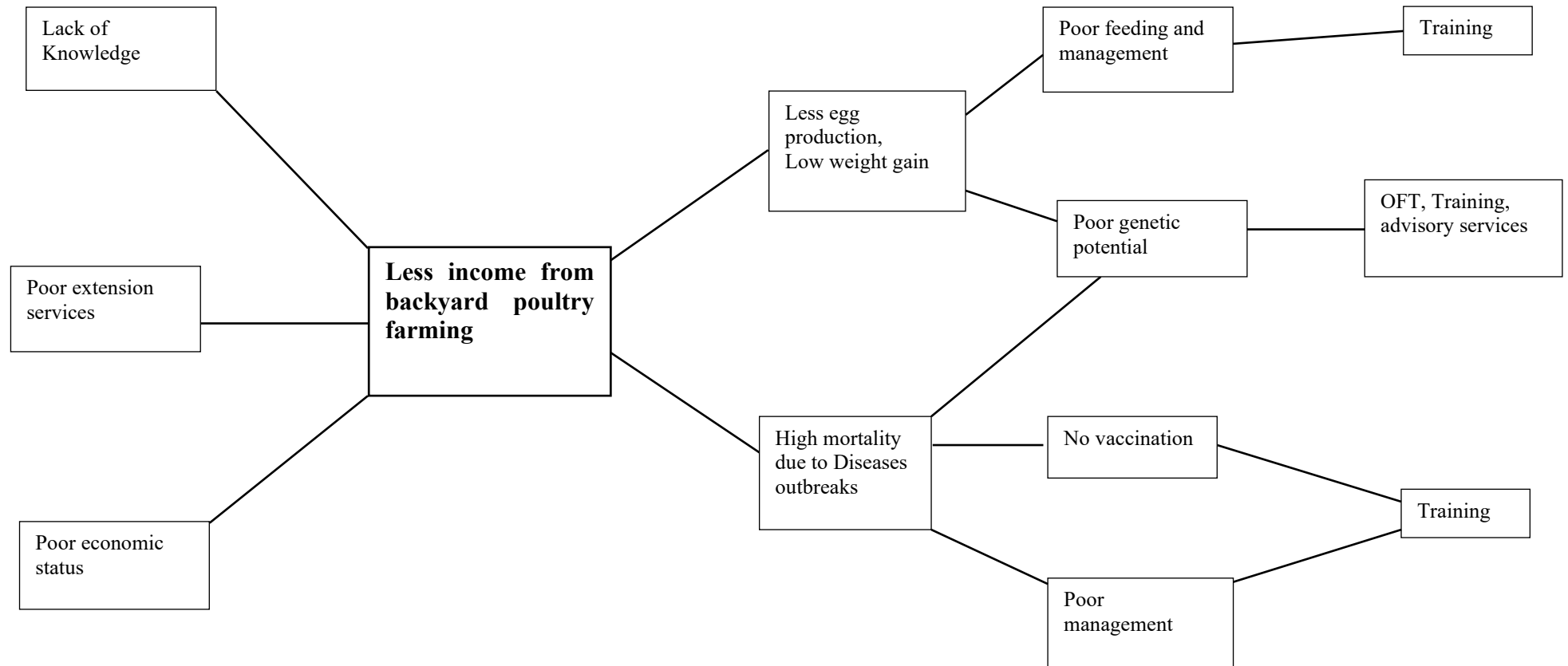


Home Science: 2

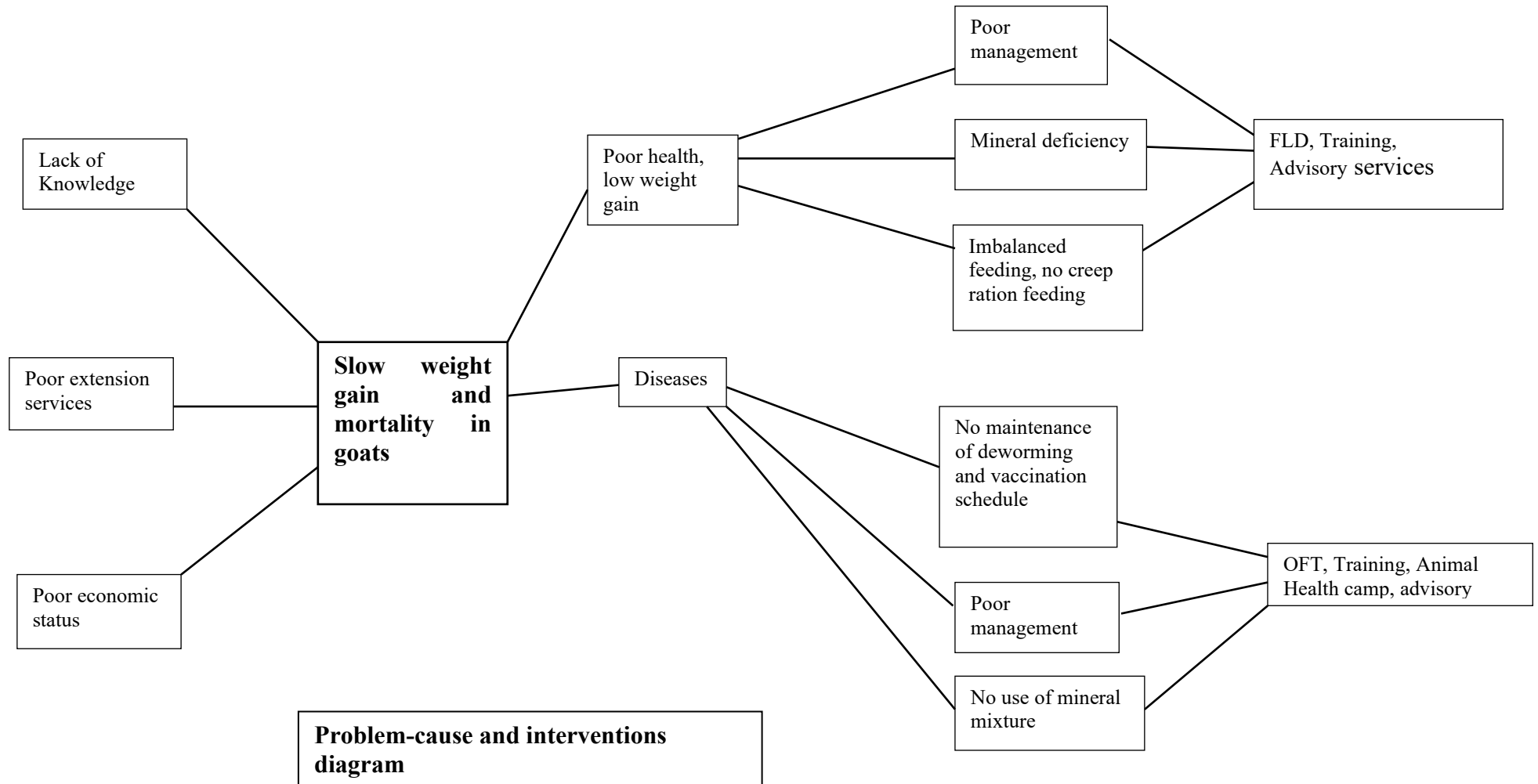


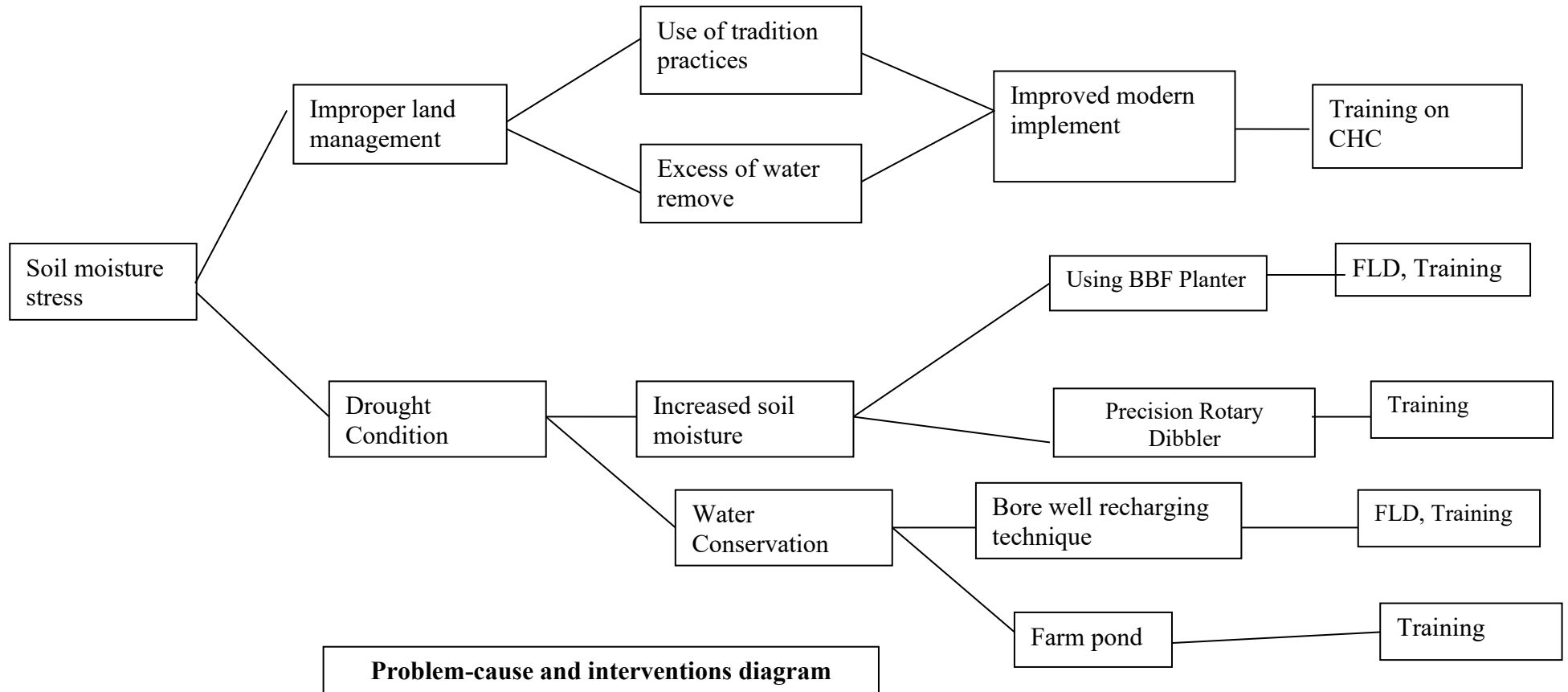
Veterinary Science: 1

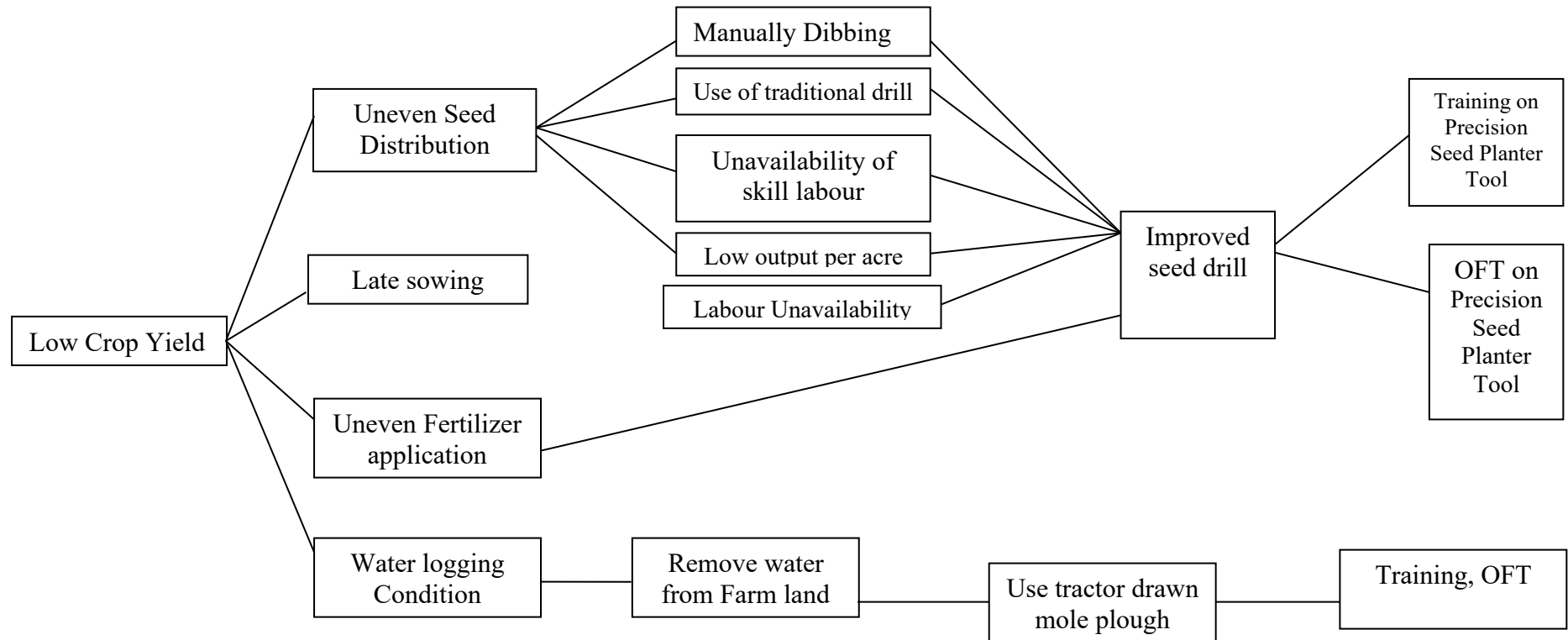




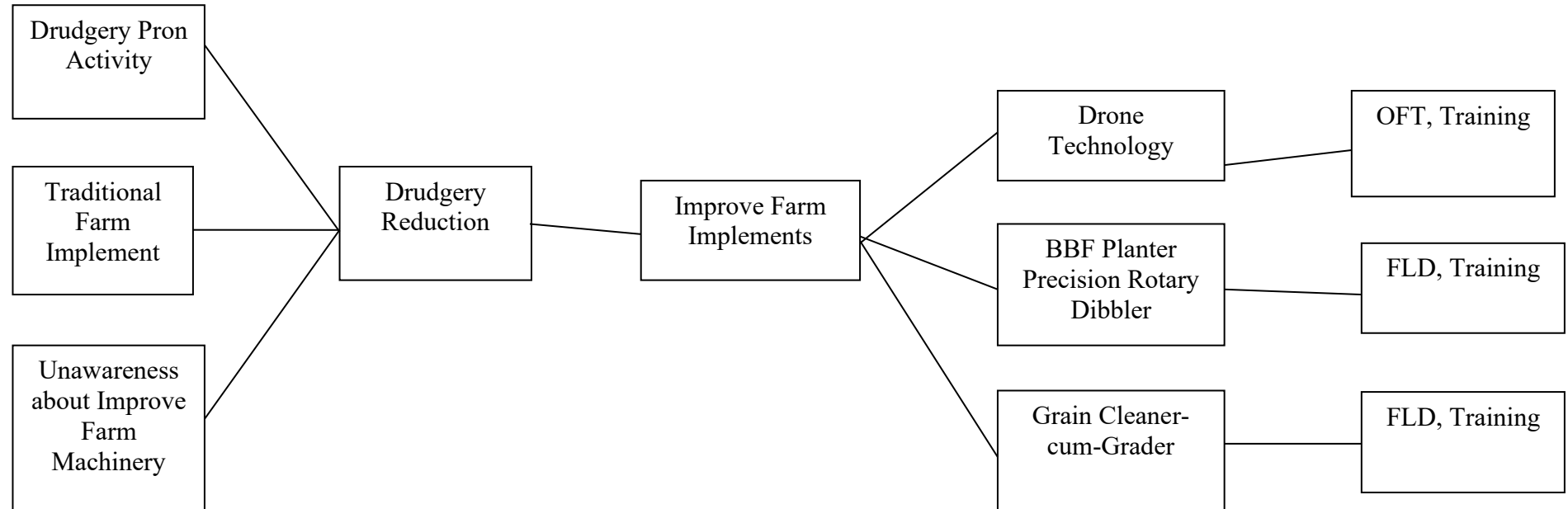
Problem-cause and interventions diagram







Problem-cause and interventions diagram



Problem-cause and interventions diagram

3.2. Technology Assessment (Kharif 2024, Rabi 2023-24, Summer 2024)

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	other	Total
Integrated Nutrient Management	-	-	-	-	-	-	-	-	-	-	-
Varietal Evaluation	1	1	1	-	2	-	1	-	-	-	6
Integrated Pest Management	-	-	-	-	-	-	-	-	-	-	-
Integrated Crop Management	-	-	-	-	-	-	-	-	-	-	-
Integrated Disease Management	-	-	-	-	-	-	-	-	-	-	-
Small Scale Income Generation Enterprises	-	-	-	-	-	-	-	-	-	-	-
Weed Management	-	1	-	-	-	-	-	-	-	-	1
Resource Conservation Technology	-	-	-	-	-	-	-	-	-	-	-
Farm Machineries	-	3	-	-	-	-	-	-	-	-	3
Integrated Farming System	-	-	-	-	-	-	-	-	-	-	-
Seed / Plant production	-	-	-	-	-	-	-	-	-	-	-
Value addition	-	-	1	-	-	-	-	-	-	-	1
Drudgery Reduction	-	-	-	-	1	-	-	-	-	-	1
Storage Technique	-	-	-	-	-	-	-	-	-	-	-
Mushroom cultivation	-	-	-	-	-	-	-	-	-	-	-
Other (specify)	-	-	-	-	-	-	-	-	-	-	-
Total	1	5	-	-	3	-	1	-	-	-	12

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

Thematic areas	Cattle	Poultry	Goatery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds	-	1	-	-	-	1
Nutrition Management	1	-	-	-	-	1
Disease of Management	-	-	1	-	-	1
Value Addition	-	-	-	-	-	-
Production and Management	-	-	-	-	-	-
Feed and Fodder	-	-	-	-	-	-
Small Scale income generating enterprises	-	-	-	-	-	-
TOTAL	1	1	1	-	-	3

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)
Varietal Evaluation	Chickpea	Assessment on Productivity of Chickpea through Improved Varieties	10	10	8.0
	Jowar	Assessment of different varieties of Jowar	10	10	8.0
	Soybean	Assessment on Improved Varieties of Soybean	10	10	8.0
	Onion	Assessment of onion varieties- Bhima raj and Bhima shakti	10	10	1.00
	Tomato	Assessment of tomato varieties- Arka Vishesh and Arka Abhed	10	10	1.00
	Marigold	Assessment of marigold varieties- Arka Bhanu and Arka Abhi	10	10	1.00
Weed Management	Soybean	Assessment on Pre & Post Emergence of Herbicide for effective weed management in Sole Soybean	10	10	8.0
Farm Machineries	Soybean	Assessment of Kisan Drone for spraying crops	10	10	4.0
	Soybean	Assessment of Manual Operated Precision Rotary Dibbler (Token Yantra)	10	10	4.0
	Soybean	Assessment of Mole plough to enhance crop yield in waterlogged soils	10	10	4.0
Total			100	100	47.0

B. 2. Technologies assessed under Livestock & fishery assessment

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Evaluation of breeds	Poultry	Vanashree and Nicobari Poultry birds	10	10
Health Management	Goat	Broad Spectrum Closantel	10	10
Dairy Management	Dairy	Probiotic (Em Solution)	10	10
Total			30	30

B.3 Technologies assessed under other enterprises

Name of Enterprises	Name of the technology assessed	No. of trials	No. of farmers
Mushroom	-	-	-
Vermicompost	-	-	-
other	-	-	-

B 4. Technologies assessed under Women empowerment assessment

Name of Enterprises	Name of the technology assessed	No. of trials	No. of farmers
Drudgery Reduction	Assess the efficiency of drumstick harvester for harvesting drumstick pods	10	10
value addition	Assess the use of custard apple seed powder for storage of pulses	10	10

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

OFT: 1

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technolo gy Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refineme nt needed	Justificati on for refinemen t
1	2	3	4	5	6	7	8			9	10	11	12
Chickpea	Irrigated	Low yield due to uneven distribution of rainfall, prolonged dry spells, evapotranspiration losses in low rainfall conditions, imbalanced fertilizer application, lack of awareness about foliar fertilizers, and limited knowledge of biofertilizers.	Assessment on Productivity of Chickpea through Improved Varieties	10	T1: Variety Jaki-9218	Days to Maturity	T1	T2	T3	The results showed that Treatment T3 performed well, providing a higher yield of 20.46 q/ha, which was approximately 55.35% higher than the farmer's practice and 23.40% higher than T2.	Phule Vishwaraj having higher yield potential compared to older varieties, resistance to common chickpea diseases like Ascochyta blight and Fusarium wilt, favored for its relatively early maturity, quality is often described as superior which leads to better market demand and prices and also farmers have noted that Phule Vishwaraj exhibits better drought tolerance compared to some other chickpea varieties.	-	-
					T2: Variety Phule Vikrant	Yield (q/ha)	100-105	110-115	115-120				
					T3: Variety Phule Vishwaraj		13.57	16.58	20.46				

Contd.

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: Variety Jaki-9218	PDKV, Akola	13.17	Q/ha	24785	1.49
T2: Variety Phule Vikrant	MPKV, Rahuri	16.58	Q/ha	44052	1.88
T3: Variety Phule Vishwaraj	MPKV, Rahuri	20.46	Q/ha	65974	2.32

OFT: 2

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinem ent needed	Justificatio n for refinement	
1	2	3	4	5	6	7	8			9	10	11	12	
Jowar	Rainfed with Protective Irrigation	Unawareness about improved varieties. Low yield Sowing on Rainfed Situation Unaware about seed treatment. High cost of cultivation	Assessment of different varieties of Jowar	10	T1:	Plant Height (Cm)	T1	T2	T3	Result observed that T3 gave higher yield 22.40 q/ha which was about 28.80% higher over farmer practice and 12.78% increased over T2	Parbhani moti Variety Suitable for Medium soils and Rainfed Areas whereas Phule Revti required deep soils and Irrigation Availability. Parbhani moti tolerant to shoot fly and charcoal rot and responsive to fertilizers.	-	-	
					Variety– Dagdi		292	230	196					
					T2: Variety- Phule Revti	Yield (q/ha)	17.39	19.86	22.40					
					T3: Variety- Parbhani Moti									

Cont...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	BC Ratio
13	14	15	16	17	18
T1: Variety – Dagdi	Indigenous	17.39	Q/ha	16425	1.42
T2: Variety- Phule Revti	MPKV, Rahuri	19.86	Q/ha	28687	1.83
T3: Variety- Parbhani Moti	VNMKV, Parbhani	22.40	Q/ha	41052	2.36

OFT: 3

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	Late onset of monsoon, dry spells during critical crop growth stages, low productivity, labor shortages, and the use of the old JS-335 variety, which is susceptible to pests and diseases, resulting in low yields. Additionally, imbalanced fertilizer use further affects crop performance.	Assessment on Improved Varieties of Soybean	10	T1: Variety – Js-335	No. of Pods/plant	T1	T2	T3	Result observed that T ₃ gave higher yield 21.7 q/ha which was about 34.62% higher over farmer practice. Increased no of pods/plant by 41.59% results to increase in yield by using improved high yielding variety of soybean.	MAUS 725 is having four seeded pods and moderately to highly resistant to stem tunneling, girdle beetle, defoliators, aphids, and white fly. As well having high yielding variety as compared to other varieties.	-	-
					28.47		37.44	40.31					
					T2: Variety- MAUS-612	Yield (q/ha)	16.12	18.77	21.7				
T3: Variety- MAUS-725													

Cont..

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	16.12	Q/ha	28100	1.53
T2: Variety- MAUS-612	MPKV,Rahuri	18.77	Q/ha	41350	1.78
T3: Variety- MAUS-725	VNMKV,Parbhani	21.7	Q/ha	56000	2.06

OFT: 4

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parame ters of assessm ent	Data on the parameter			Results of assessment	Feedback from the farmer	Any refineme nt needed	Justificati on for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Soybean	Rainfed with Protective Irrigation	Labor shortages for hand weeding during the Kharif season, yield losses of up to 30% due to weeds in soybean crops, and lack of awareness about integrated weed management practices.	Assessment of Pre & Post emergence of Herbicide for Effective Weed Management in Sole Soybean	10	T1: Control (Hand Weeding)	No. of Pods/pl ant	T1	T2	T3	The results showed that Treatment T3 performed the best, achieving the highest yield of 24.64 q/ha, followed by Treatment T2 with 21.39 q/ha, and Treatment T1 with 16.74 q/ha. This indicates that T3 (47.19%) outperformed over T1 and (15.20%) over T2 in terms of yield improvement.	Preemergence herbicides are highly effective at controlling a wide variety of weeds before they emerge, reduce the need for manual weeding, generally have less risk of causing damage to the crops compared to post-emergence herbicides, appreciated the long-lasting effects of preemergence herbicides.	-	-
					T2: Post Emergence Herbicide (Propaquizafop @0.050 kg.a.i +Imazethapyr @0.075 kg.a.i/ha at 21 DAS)	Yield (q/ha)	28.37	39.72	61.03				
					T3: Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha)		16.74	21.39	24.64				

Cont..

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: Control (Hand Weeding)	PDKV, Akola (2020)	16.74	Q/ha	31917	1.63
T2:) Post Emergence Herbicide (Propaquizafop @0.050 kg.a.i +Imazethapyr @0.075 kg.a.i/ha at 21 DAS)		21.39	Q/ha	51664	1.97
T3: Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha)		24.64	Q/ha	67563	2.27

OFT:5

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7		8		9	10	11	12
Onion	Irrigation	Low yield and quality	Assessment of onion varieties- Bhima Raj and Bhima Shakti	10	T1- Local variety	Weight of bulb (g)	T1	T2	T3	The comparison data showed that the maximum yield (388.67q/ha) with marketable bulb yield 90.34 % was recorded in T3 (Arka Abhed) which was increased (32.85%) and (21.80 %) respectively over check. While T3 (Arka Abhed) noted highest bulb weight (83.35g) which was (29.39%) increase over check.	Bhima shakti having attractive colour which accepted in local market with (5-6 months) good keeping quality. Also obtained highest marketable yield. The Bhima shakti and Bhima Raj both are suitable for late kharif as well as rabi season	Nil	-
							64.42	72.17	83.35				
					T2- Bhima raj	Yield (q/ha)	292.57	323.84	388.67				
					T3-Bhima shakti	Marketable bulb yield (%)	74.17	85.49	90.34				

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1- Local variety	Farmer's practice	292.57	Qui/ha	249599	2.45
T2- Bhima raj	DOGR, Pune	323.84	Qui/ha	323600	2.88
T3-Bhima shakti	DOGR, Pune	388.67	Qui/ha	340004	2.98

OFT:6

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7		8		9	10	11	12
Tomato	Irrigation	Low yield and quality of fruit	Assessment of tomato varieties- Arka Vishesh and Arka Abhed	10	T1- Local variety	Weight of fruit (g)	T1	T2	T3	The data indicated that, the highest yield (551.82q/ha) and number of fruit (95.72) were recorded in T3 (Arka Abhed) which was increased (10.01) and (13.64%) over check respectively. Whereas, maximum weight of fruit (91.12g) was noted in T3 which was increased (23.74) compared to check	Arka Abhed is high yielding hybrid having multiple diseases resistance. The fruits are firm oblate round with medium large. It is suitable for all round year.	Nil	-
						73.64	85.10	91.12					
					T2- Arka Vishesh	Yield (q/ha)	501.61	529.56	551.82				
					T3-Arka Abhed	Number of fruit/ plant	84.23	90.08	95.72				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1- Local variety	Farmer's practice	501.61	Qui/ha	257092	2.32
T2- Arka Vishesh	IIHR, Bengaluru	529.56	Qui/ha	327001	2.68
T3-Arka Abhed	IIHR, Bengaluru	551.82	Qui/ha	362730	2.86

OFT:7

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7		8		9	10	11	12
Marigold	Irrigation	Low yield and poor keeping quality flowers	Assessment of marigold varieties- Arka Bhanu and Arka Abhi	10	T1- Local variety	Number of flower/plants	T1	T2	T3	The trail data indicate that, the highest yield (91.60q/ha) and no of flower/ plant (40.38) were recorded in T3 (Arka Abhi) which was increased (15.03%) and (33.40%) over check. The maximum vase life of flower (7.10 days) was also noticed in T3, which was increased (45.79%) over check.	Arka Abhi and Arka Bhanu both are high yielding varieties with strong compact yellow colour flowers. Arka Abhi having good keeping quality (7.10 days).	Nil	Nil
					T2- Arka Bhanu	Yield (q/ha)	79.63	88.30	91.60				
					T3- Arka Abhi	Vase life of flower (days)	4.87	6.21	7.10				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1- Local variety	Farmer's practice	79.63	Qui/ha	239890	2.77
T2- Arka Bhanu	IIHR Bengaluru	88.30	Qui/ha	260505	2.92
T3- Arka Abhi	IIHR Bengaluru	91.60	Qui/ha	286300	3.11

OFT: 8

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Improved spraying equipment.	Rainfed with Protective Irrigation	Lack of Labour, Less area Coverage, High cost of Spraying and Pesticide poisoning, Drudgery- prone activity.	Assessment of Kisan Drone for spraying crops	10	T1: Battery operated Knapsack Sprayer	Field capacity (ha/h)	T1	T2	T3	Treatment T ₂ (drone sprayer) demonstrated superior performance with a working efficiency of 1.83 ha/h and a low application rate of 25 L/ha, resulting in a higher yield of 21.7 q/ha. The net income achieved with drone technology was ₹54,165/ha, indicating its efficiency and economic viability.	Drone spraying was suitable over all field conditions such as rainy, flood etc. It is also time saving method and solved the problems of Labour unavailability. It provides Protection from health hazards issues.	-	-
					T2: Drone Sprayer	Field Efficiency (%)	0.26	1.83	1.74				
					T3: Boom Sprayer	Application Rate (l/ha)	76	75.19	81				
						Operating cost Rs/ha	200	25	182				
							472	1017	1262				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
T1: Battery operated Knapsack Sprayer	Farmer's practice	15.4	Q/ha	24114	1.47
T2: Drone Sprayer	SOP, Ministry of Agriculture & Farmers' Welfare, GOI.	21.7	Q/ha	54165	2.04
T3: Boom Sprayer	MPKV, Rahuri	19.2	Q/ha	42386	1.82

OFT: 9

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
Improved Farm implements	Rainfed with Protective Irrigation	Poor germination/crop stand, Less area Coverage, Lack of Labour, High cost of Sowing.	Assessment of Manual Operated Precision Rotary Dibbler (Token Yantra)	10	T1: Bullock drawn <i>tifan</i>	Field capacity, ha/h	T1	T2	T3	The result showed that Treatment T2 performed well, field capacity of the planter was 0.062 ha/day with a highest field efficiency of 90 % and provided higher yield 21.7 q/ha. It's worth Net income of Rs 62828/ha with Precision Rotary Dibbler.	By using Precision Rotary Dibbler (Token Yantra) the yield of crop increased by 20-25% as compared to Bullock drawn <i>tifan</i> . Also seed rate was reduced to 40-45% which intern helps to save amount of seed and hence reduced cost of cultivation.	-	-
					T2: Precision Rotary Dibbler (Token Yantra)	Field efficiency, %	0.21	0.059	0.42				
						Seed rate, kg/ha	76	90	85				
					T3: Tractor drawn BBF planter	Operating cost, Rs/ha	74.5	29.4	55				
							1105	1176	1385				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: Bullock drawn <i>tifan</i>	Farmer's practice	14.7	Q/ha	22312	1.44
T2: Precision Rotary Dibbler (Token Yantra)	CIAE, Bhopal	23.4	Q/ha	68771	2.50
T3: Tractor drawn BBF planter	Dr. PDKV, Akola	20.5	Q/ha	50394	2.01

OFT: 10

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Improved Farm implements	High rainfall situations, the field remains waterlogged for 3-10 days.	Poor internal drainability, Lack of water management practices, Crop failure due to stagnant water for 3-10 days during high rainfall, Low yield.	Assessment of Mole plough to enhance crop yield in waterlogged soils.	10	T1: No drainage	Field capacity, ha/h	T1	T2	T3	The implementation of mole drainage technology significantly improved soybean yield under waterlogged conditions. Yield increased by 25–30% in fields with mole plough drainage compared to those without drainage, demonstrating its effectiveness in mitigating excess moisture stress and enhancing crop productivity.	Farmers found the mole plough effective in reducing waterlogging, improving soil aeration, and enhancing root development in soybean cultivation. It minimized crop losses, boosted nutrient availability, and increased yields while being a cost- effective solution.	-	-
						0.21	0.24	0.26					
					T2: Mole drains at 2-6 m distance using tractor drawn mole plough	Field efficiency, %	83.33	81	73.28				
						Operating cost, Rs/ha	340	1812	938				
					T3: MB Plough								

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: No drainage	Farmer's practice	15.8	Q/ha	34794	1.81
T2: Mole drains at 2-6 m distance using tractor drawn mole plough	CIAE, Bhopal	22.1	Q/ha	60713	2.28
T3: MB Plough	MPKV, Rahuri	17.6	Q/ha	41099	1.91

OFT : 11

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Drumsticks vegetables	Irrigated	Difficult task & time-consuming activity	Assess the efficiency of Drumstick harvester for harvesting drumstick pods	10	Use of hook & bamboo	Harvesting capacity Kg/hr	14.6	The harvester is most efficient & comfortable during the harvesting. The harvesting capacity is 20.9% more & damage percentage decreased by 72.85% than traditional method.	The harvester was most efficient and comfortable during the harvesting. It is light weight and therefore, can easily be carried from one place to another.	-	-
						Damage drumstick pod percentage (%)	2.1				
					Use of manual drumstick harvester	Harvesting capacity Kg/hr	20.9				
						Damage drumstick pod percentage (%)	0.57				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: Use of hook & bamboo	Farmers Practice	116.8	Kgs/day	-	-
T2: Use of manual drumstick harvester	MPKV,Rahuri	167.2	Kgs/day	-	-

OFT: 12

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Pulses	Irrigated	Damage of pulses during storage period	Assessment of use of custard apple seed powder for storage of pulses	10	No any treatment for storage of pulses	Damage Percentage %	45.4	Applying custard apple seed powder (15 gms/kg) to stored green gram reduces grain damage by 59.91% and increased shelf life of pulses.	This treatment to pulses in pest management strategies significantly superior over farmers' practice. Useful for small scale farmers who store small amounts of pulses for consumption and planting.	-	-
						Shelf life in a day	21				
					Use of custard apple seed powder 15 gm/kg	Damage Percentage %	18.2				
						Shelf life in a day	45				

Contd.....

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1: No any treatment for storage of pulses	Farmers Practice				
T2: Use of custard apple seed powder 15 gm/kg	Dr PDKV Akola				

OFT: 13

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Dairy	Stallfed	Low milk yield and poor health despite of proper feeding	Assessment of use of Pro-biotic (EM Solution) in feed for milk yield improvement in C B cows	10	T1- No use of pro-biotic in animal feed.	Milk Yield, L/Day/animal	12.3	The use of probiotics (EM solution) in feed showed positive results compared to traditional farming practices. In the farmers' practice (T1), milk production was 12.3 liters per day per animal with 3.5% fat, while in the probiotic-fed group (T2), milk production increased to 13.2 liters per day with a slight improvement in fat percentage (3.6%). The cost of production in T2 was marginally higher (Rs. 259 vs. Rs. 255), but the gross returns were significantly better at Rs 434 per animal compared to Rs.400 in T1. Additionally, probiotic use contributed to better general health in animals and reduced odor in the shed, making it a beneficial intervention for dairy farming.	The use of probiotics increased milk production, reduced odor in the shed, improved dung quality, and enhanced the overall health of the animals.	-	-
						Fat %	3.5				
					(T2)-Technology assessed: Use of pro-biotic (EM solution) 20ml/Animal/Day	Milk Yield, L/Day/animal	13.2				
						Fat %	3.6				

Contd...

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice) No use of pro-biotic in animal feed.	-	3813	Milk yield, liter/animal/year	45260	1.56
Technology option 2 (Assessment) Technology assessed: Use of pro-biotic (EM solution) 20ml/Animal/Day	MAFSU, Nagpur	4092	Milk yield, liter/animal/year	54250	1.67

OFT: 14

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
Goat	Free Range	Heavy ecto- and endo- parasitic infestations, leading to weight loss, poor growth, and high mortality, which significantly impact farm productivity and profitability	Assessment of Closantel a broad spectrum dewormer to control ecto and endo parasites in goat kids	10	T1 – Farmers practice – No use of medication for deworming	Weight of kid at 6 months of age, kg	17.9	The use of the broad-spectrum dewormer Closantel significantly improved growth and survival in goat kids. Kids treated with Closantel showed a 17.76% increase in body weight, reaching 21.8 kg at six months, compared to 17.9 kg in untreated kids. Daily weight gain improved, contributing to higher profitability, with a profit increase from Rs.5024 to Rs.6634 per kid. Mortality was reduced by 50%, dropping from 20% to 10%, leading to better overall herd health. Additionally, the treated group showed improved general health, making deworming a beneficial practice for goat farming.	"The use of a broad- spectrum dewormer reduced mortality, increased weight gain in kids, and helped them attain early marketable weight."		
						Mortality, %	20				
						Weight gain/day	87.4				
					T2 – Technology Assessed- Use of closantel oral solution 15 mg/Kg body weight	Weight of kid at 6 months of age, kg	21.8				
						Mortality, %	10				
						Weight gain/day	106.3				

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1 – Farmers practice – No use of medication for deworming	-	17.9	Weight of kid at 6 months of age, kg	2428	1.93
T2: Technology assessed: Use of pro- biotic (EM solution) 20ml/Animal/Day	MAFSU, Nagpur	21.8	Weight of kid at 6 months of age, kg	4018	2.53

OFT: 15

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Poultry	Backyard farming	Low egg production, slow growth rate, high mortality, and low economic returns limit the profitability of backyard poultry with traditional indigenous birds.	Assessment of Nicobari and Vanashree Purebred Native chicken for free range or backyard farming to increase the profitability.	10	T1 – Farmers practice – Rearing of Indigenous poultry birds	Annual Egg production, No.	62	The Nicobari breed outperforms both Desi and Vanashree birds in egg production, laying 132 eggs in 72 weeks, making it the best choice for profitability. Vanashree birds, while slightly behind in egg production (110 eggs), excel in body weight (2.05 kg), making them ideal for both meat and egg production. Desi birds lag in productivity, with only 62 eggs and the lowest body weight (1.22 kg), making them less suitable for commercial farming. Nicobari birds also provide the highest profit (Rs.982 per bird), followed by Vanashree (Rs.743), while Desi birds offer the least (Rs.197). Additionally, Vanashree birds have the lowest mortality rate (3%), indicating better survival. Overall, Nicobari is the best for egg production and profitability, Vanashree is optimal for dual- purpose farming than the desi birds.	"Nicobari and Vanashree breeds produced more eggs and had lower mortality rates compared to Desi birds. Both breeds started laying eggs earlier and produced larger eggs than Desi birds. They adapted well to local conditions. Farmers preferred Nicobari birds over Vanashree due to their appearance and higher egg production, making them a more favorable choice for backyard poultry farming."		-
						Avg body weight at maturity, kg	1.22				
						Mortality, %	14				
						Age at first egg, days.	204				
						Egg Weight, gms	38				
					T2 – Technology Assessed- Rearing of Nicobari poultry birds	Annual Egg production, No.	132				
						Avg body weight at maturity, kg	1.3				
						Mortality, %	8				
						Age at first egg, days.	195				
						Egg Weight, gms	43				
					T1 – Technology Assessed- Rearing of Vanashree poultry birds	Annual Egg production, No.	110				
						Avg body weight at maturity, kg	2.05				
						Mortality, %	3				
						Age at first egg, days.	190				
						Egg Weight, gms	44				

Contd..

Technology Assessed	Source of Technology	Production	Unit	Net Return (Profit) in Rs. / Unit	B:C Ratio
13	14	15	16	17	18
T1 – Rearing of Indigenous poultry birds	-	62	Annual Egg Production, No.	197	1.27
T2 – Rearing of Nicobari poultry birds	Directorate of Poultry Research, Hyderabad	132	Annual Egg Production, No.	982	2.08
T1 – Rearing of Vanashree poultry birds	Directorate of Poultry Research, Hyderabad	110	Annual Egg Production, No.	743	1.77

C. 2. Details of each On Farm Trial for assessment:

OFT: 1

1. Title of Technology Assessed: Assessment on Productivity of Chickpea Through Improved Varieties

2. Problem Definition: Low yield due to uneven distribution of rainfall, prolonged dry spells, evapotranspiration losses in low rainfall conditions, imbalanced fertilizer application, lack of awareness about foliar fertilizers, and limited knowledge of biofertilizers.

3. Details of technologies selected for assessment:

T1: Cultivation of Soybean Variety: Jaki-9218

T2: Cultivation of Soybean Variety: Phule Vikrant

T3: Cultivation of Soybean Variety: Phule Vishwaraj

4. Source of technology: PDKV,Akola & MPKV Rahuri

5. Production system and thematic area: Varietal Evaluation

6. Performance of the Technology with performance indicators:

- Phule Vishwaraj gives 55.35% (20.46 q/ha) higher yield over farmers practice (13.57 q/ha).
- Phule Vikrant shows early maturity compared to Phule Vishwaraj.
- Phule Vishwaraj having higher yield potential compared to older varieties, resistance to common chickpea diseases like Ascochyta blight and Fusarium wilt, favored for its relatively early maturity, quality is often described as superior which leads to better market demand and prices and also farmers have noted that Phule Vishwaraj exhibits better drought tolerance compared to some other chickpea varieties.

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

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

8. Final recommendation for micro level situation:

- ✓ Adoption of improved soybean varieties Phule Vikrant and Phule Vishwaraj which are resistant to pest and disease incidence.
- ✓ Use of foliar fertilizers at vegetative, Flowering and pod formation stages to improve productivity.
- ✓ Use of BBF technology to do intercultural operations easily.
- ✓ 2-3 Irrigations at critical growth stages.

9. Constraints identified and feedback for research:

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

10. Process of farmers participation and their reaction:

- Farmers participated through various extension activities like group discussions, trainings, field visit etc.
- Participation of farmers increased through soybean seed production programme in different villages of jurisdiction.

11. Photographs:



OFT: 2

1. **Title of Technology Assessed:** Assessment of different varieties of Rabi Jowar
2. **Problem Definition:** Unawareness about improved varieties, Low yield, Sowing on Rainfed Situation, Unaware about seed treatment, High cost of cultivation
3. **Details of technologies selected for assessment:**
 - T1: Variety -Dagadi (Local)
 - T2: Variety –Phule Revti
 - T3: Variety –Parbhani Moti
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 observed that T3 gave higher yield 22.40 q/ha which was about 28.80% higher over farmer practice and 12.78% increased over T2
 - Bread making quality of Parbhani Moti is better as compared to other varieties with grain and fodder quality.
 - Plant height for assessed varieties is less as compared to farmers practice so lodging risk at time of harvesting is low.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

S.N.	Particular	T1	T2	T3
1.	Resistant to Pest and diseases	III	II	I
2.	Plant Height (Cm)	I	II	III
3.	% Increase in Yield	III	II	I

8. Final recommendation for micro level situation:

- Availability of improved variety seed is major constraints so, need to produce seed in bulk.
- Promotion of newly released improved varieties through training and group discussions.
- Adoption of technology on basis of climatic situation and soil health.
- Protective irrigation at critical growth stages

- Promote to use of Integrated Nutrient and Crop Management Practices

9. Constraints identified and feedback for research:

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

10. Process of farmers participation and their reaction:

Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc. Farmers are come to know importance of demonstrations conducted results to increase in yield by using new technologies.

11. Photographs:



OFT: 3

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

2. Problem Definition: Late onset of monsoon, dry spells during critical crop growth stages, low productivity, labor shortages, and the use of the old JS-335 variety, which is susceptible to pests and diseases, resulting in low yields. Additionally, imbalanced fertilizer use further affects crop performance.

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-725

4. Source of technology: VNMKV, Parbhani & JNKVV, Jabalpur

5. Production system and thematic area: Varietal Evaluation

6. Performance of the Technology with performance indicators:

- Result observed that T3 gave higher yield 21.7 q/ha which was about 34.62% higher over farmer practice. Increased no of pods/plant by 41.59% results to increase in yield by using improved high yielding variety of soybean
- MAUS-725 shows early maturity compared to MAUS-612. Close bearing of pods with four seeded is special characters observed in variety.
- MAUS-725 Shows significant results to drought situation and gives good yield. Variety can tolerate to water stress during dry spell only 1-2 protective irrigations are sufficient to increase productivity.

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

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

8. Final recommendation for micro level situation:

- Adoption of improved soybean varieties MAUS-612, MAUS-725, MAUS-731 which are resistant to pest and disease incidence.

- Use of foliar fertilizers at vegetative, Flowering and pod formation stages to improve productivity.
- Use of BBF technology to do intercultural operations easily.
- 2-3 Irrigations at critical growth stages.

9. Constraints identified and feedback for research:

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

10. Process of farmers participation and their reaction:

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

Participation of farmers increased through soybean seed production programme in different villages of jursdiction.

11. Photographs:



OFT: 4

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

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

T1: Control (Hand Weeding)

T2: Post Emergence Herbicide (Propaquizafop @0.050 kg.a.i +Imazethapyr @0.075 kg.a.i/ha at 21 DAS)

T3: Pre Emergence Herbicide (Diclosulam 84% WDG@0.026 kg.a.i./ha) (30 gm/ha)

4. **Source of technology:** PDKV, Akola

5. **Production system and thematic area:** Weed Management

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

The results showed that Treatment T3 performed the best, achieving the highest yield of 24.64 q/ha, followed by Treatment T2 with 21.39 q/ha, and Treatment T1 with 16.74 q/ha. This indicates that T3 (47.19%) outperformed over T1 and (15.20%) over T2 in terms of yield improvement.

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

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

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

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

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

- Use of herbicide according to type of weeds is most important.
- Need to use integrated weed management practices to improve productivity.

- Knowledge about herbicide molecules should be required.

9. Constraints identified and feedback for research:

- Unavailability of labours for weed management
- Unawareness among farmers about use of herbicides and dose of herbicides.
- Uneven distribution of rainfall creates obstacles during vegetative growth of soybean so difficult task to weed management.

10. Process of farmers participation and their reaction:

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

11. Photographs:



OFT: 5

1. Title of Technology Assessed – Assessment of onion varieties Bhima Raj and Bhima Shakti

2. Problem Definition- Low yield and quality of bulb

3. Details of technologies selected for assessment

T1- Local variety (Commander)

T2- Bhima Raj

T3- Bhima Shakti

4. Source of technology- DOGR, Pune

5. Production system and thematic area- Varietal Evaluation

6. Performance of the Technology with performance indicators

The present finding indicated that the Bhima shakti was noted highest bulb yield (388.67q/ha) with marketable yield (90.34 %) which was (32.85 %) and (21.80%) increased over check respectively. Whereas, highest bulb weight (83.35g) was recorded in Bhima Shakti which was (29.39%) increase over check

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

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

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

8. Final recommendation for micro level situation

- Application of Soil test-based fertilizer application with foliar fertilizers

- Onion should harvest carefully when two-third of top have fallen (neck fallow)
- After harvest, onion must be cured for long storage

9. Constraints identified and feedback for research

Constraints

- Unavailability of good quality seed
- Unavailability of source seed for multiplication of varieties

Feedback

- Variety should have been better marketable bulb yield with good keeping quality

10. Process of farmers participation and their reaction

Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc. Farmers are come to know importance of trial conducted results to improve yield and quality by using new onion variety

11. photographs:



Assessment of different varieties of onion



OFT: 6

1. **Title of Technology Assessed** – Assessment of tomato varieties Arka Vishesh and Arka Abhed

2. **Problem Definition**- Low yield and quality of fruit

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

T1- Local variety

T2- Arka Vishesh

T3- Arka Abhed

4. **Source of technology**- IIHR, Bengaluru

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

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

The present finding indicated that the highest yield (551.82q/ha) and number of fruit (95.72) were recorded in T3 (Arka Abhed) which was increased (10.01 %) and (13.64%) over check respectively. Whereas, maximum weight of fruit (91.12g) was noted in T3 which was increased (23.74 %) compared to check

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

Parameter	Local	Arka Vishesh	Arka Abhed
Yield	III	II	I
Weight of fruit	III	II	I
Colour of fruit	III	I	II
No of fruit	III	II	I
B:C ratio	III	II	I

Matrix Scoring: - As per matrix scoring Arka Abhed variety was preferred by farmers for high yield and fruit quality attribute as compared to other varieties

8. Final recommendation for micro level situation application of Soil test-based fertilizer application with foliar fertilizers

- Onion should harvest carefully when two-third of top have fallen (neck fallow)
- After harvest, onion must be cured for long storage

9. Constraints identified and feedback for research

Constraints

- Unavailability of good quality seed
- Unavailability of source seed for multiplication of varieties

Feedback

- Arka Abhed F1 hydride should have been high yielding with quality fruits among others

10. Process of farmers participation and their reaction

Farmers participated through various extension activities like group discussions, trainings, literature, field visit etc. Farmers are come to know importance of trial conducted results to improve yield and quality by using new tomato hybrid.

11. Photographs:



Assessment of different varieties of tomato

OFT: 7

1. **Title of Technology Assessed** – Assessment of marigold varieties Arka Bhanu and Arka Abhi
2. **Problem Definition**- Low yield and poor keeping quality flowers
3. **Details of technologies selected for assessment**

T1- Local variety

T2- Arka Bhanu

T3- Arka Abhi

4. **Source of technology**- IIHR, Bengaluru
5. **Production system and thematic area**- Varietal Evaluation
6. **Performance of the Technology with performance indicators**

The present findings indicate that, the highest yield of marigold flower (91.60q/ha) and no of flower/ plant (40.38) were recorded in T3 (Arka Abhi) which was increased (15.03%) and (33.40%) over check. The maximum vase life of flower (7.10 days) was also noticed in T3, which was increased (45.79%) over check.

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

Parameter	Local	Bhima Raj	Bhima Shakti
Yield	III	II	I
No of flower/plant	III	II	I
Keeping Quality	III	II	I
Compactness of flower	III	II	I
B:C ratio	III	II	I

Matrix Scoring: - As per matrix scoring Arka Abhi variety was preferred by farmers for high yield and quality of flower attribute with good keeping quality of flower among other two varieties

8. **Final recommendation for micro level situation**
 - Application of Soil test-based fertilizer application with foliar fertilizers
 - The pinching operation should follow at right stage of crop

- The harvesting should do at early morning or evening

9. Constraints identified and feedback for research

Constraints

- Unavailability of good quality seed
- Quality of flowers in respect of colour and compactness

Feedback

- Variety should have been high yielding with good keeping quality of flowers

10. Process of farmers participation and their reaction

Farmers participated through various extension activities like group discussions, live demonstration, trainings, literature, field visit etc. Farmers are come to know importance of trial conducted results to improve yield and keeping quality of flower for distance market by using new marigold variety.

11. Photographs:



Assessment of different varieties of marigold

OFT: 8

1. **Title of Technology Assessed:** Assessment of Kisan Drone for spraying crops.
2. **Problem Definition:** Farmers face challenges in pesticide application due to labour shortages, limited area coverage, high spraying costs and health risks from pesticide exposure. Manual spraying is labour intensive, inefficient and costly, while traditional methods lead to excessive chemical use and uneven application. Additionally, farmworkers are at risk of pesticide poisoning due to direct exposure. The Kisan Drone is assessed as a potential solution to enhance efficiency, reduce costs and ensure safer pesticide application in agriculture.
3. **Details of technologies selected for assessment:**
 - T1: Battery operated Knapsack Sprayer
 - T2: Drone Sprayer
 - T3: Boom Sprayer
4. **Source of technology:** SOP, Ministry of Agriculture & Farmers' Welfare, GOI.
5. **Production system and thematic area:** The Kisan Drone is an advanced farm mechanization technology designed for efficient crop protection against biotic stresses like pests, diseases and weeds. It ensures precise pesticide application, reducing chemical overuse while enhancing field coverage. By minimizing labour dependency and eliminating direct pesticide exposure, it significantly improves worker safety and reduces health hazards. Additionally, as a drudgery-reducing innovation, it enhances operational efficiency, lowers input costs and promotes sustainable agricultural practices.
6. **Performance of the Technology with performance indicators:**

The assessment of the Kisan Drone Sprayer demonstrated its superior efficiency in agricultural pesticide application compared to conventional spraying methods. The key performance indicators analyzed include time efficiency, crop yield, net income, operational efficiency and resource optimization.

Time Efficiency:

The Kisan Drone Sprayer significantly reduced the time required for insecticide application, achieving up to 99%-time savings compared to traditional manual spraying methods. This efficiency allows for rapid and uniform pesticide application, ensuring timely crop protection and reducing the risk of pest infestations.

Crop Yield and Economic Returns:

The T₂ treatment (Drone Sprayer Application) exhibited superior performance, resulting in a higher crop yield of 21.7 quintals per hectare (q/ha). The increased productivity translated into a net income of ₹54,165 per hectare, highlighting the economic viability and profitability of drone-based spraying technology.

Operational Efficiency:

The working efficiency of the drone sprayer was recorded at 1.83 hectares per hour (ha/h). When compared to other spraying methods: The drone sprayer's efficiency was 1.71 times higher than that of the boom sprayer. It was 3.45 times more efficient than the battery-operated knapsack sprayer, which had significantly lower area coverage.

Resource Optimization:

The Kisan Drone Sprayer demonstrated substantial reductions in water and labor requirements, further enhancing its suitability for large-scale farming operations. The precise application mechanism ensured optimal pesticide utilization, reducing chemical wastage and minimizing environmental contamination.

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

The performance evaluation of different spraying technologies—Battery-Operated Knapsack Sprayer, Drone Sprayer, and Boom Sprayer—was conducted through farmer participation and matrix scoring techniques. The assessment considered key parameters such as field capacity, field efficiency, application rate, operating cost, and yield.

Technology Performance Comparison (Matrix Scoring)

Parameter	Battery-Operated Knapsack Sprayer	Drone Sprayer	Boom Sprayer	Best Performer
Field Capacity (ha/h)	★ ★ ★ (Low)	★ ★ ★ ★ ★ (High)	★ ★ ★ ★ (Moderate)	Drone Sprayer
Field Efficiency (%)	★ ★ ★ ★ (Moderate)	★ ★ ★ ★ ★ (High)	★ ★ ★ (Low)	Drone Sprayer
Application Rate (L/ha)	★ ★ ★ (Low)	★ ★ ★ ★ ★ (High)	★ ★ ★ ★ (Moderate)	Drone Sprayer
Operating Cost (₹/ha)	★ ★ ★ ★ ★ (Low)	★ ★ ★ (High)	★ ★ ★ ★ (Moderate)	Knapsack Sprayer
Yield (q/ha)	★ ★ ★ (Low)	★ ★ ★ ★ ★ (High)	★ ★ ★ ★ (Moderate)	Drone Sprayer

Farmer Preference and Key Findings

Based on the matrix ranking, farmers preferred the Drone Sprayer due to:

✓ Higher yield output (21.7 q/ha) compared to other spraying methods.

- ✓ More efficient pesticide application, reducing wastage and improving coverage.
- ✓ Higher net profit per hectare, making it economically viable despite higher initial investment.

While Drone Sprayers excelled in field capacity and cost-effectiveness, and Knapsack Sprayers had lower operational costs, the Drone Sprayer outperformed in efficiency, yield, and profitability, making it the most technologically advanced and farmer-preferred option.

8. Final recommendation for micro level situation:

The Kisan Drone Sprayer is ideal for sugarcane fields, orchards, and terrains where manual spraying is difficult. It ensures precise pesticide application, minimizing droplet losses and enhancing crop protection efficiency. The automated GPS-guided system enables uniform spraying, reducing chemical wastage and environmental impact.

Additionally, drone technology eliminates human exposure to hazardous pesticides, improving farmworker safety while optimizing labor and resource use. Given its efficiency, precision, and adaptability, the Kisan Drone Sprayer is a highly effective solution for modern, sustainable agriculture.

9. Constraints identified and feedback for research:

Constraints:

- High Initial Cost – Expensive purchase, maintenance, and battery replacement; financial burden for small farmers.
- Limited Suitability – Less effective in intercropping and multi-cropping due to uneven canopy structure.
- Technical Expertise Required – Needs specialized training in drone operation, calibration, and pesticide application.
- Weather Sensitivity – Affected by wind, temperature, and humidity; unsuitable during the flowering stage due to pollination risks.

Feedback:

- Adaptability to Various Field Conditions – The drone sprayer operates efficiently in challenging environments, including wet, flooded, and uneven terrains, ensuring continuous crop protection even in adverse weather conditions.
- Time-Efficient and Labor-Saving – The automated spraying system significantly reduces application time compared to manual methods, addressing labor shortages and enhancing operational efficiency in large-scale farming.
- Minimized Health Risks – Drone spraying eliminates direct human exposure to pesticides, reducing occupational health hazards such as chemical poisoning and respiratory issues commonly associated with manual spraying.
- Precision and Uniformity – The advanced GPS and sensor-based technology ensures accurate and consistent pesticide application, optimizing input usage, minimizing environmental impact, and improving crop protection effectiveness.

10. Process of farmers participation and their reaction:

Farmers actively participated in the assessment of Kisan Drone Sprayer technology through various extension activities, including field demonstrations, group discussions, training programs, literature distribution, and field visits. Field demonstrations provided hands-on exposure, allowing farmers to observe the efficiency and effectiveness of drone spraying in real conditions. Group discussions and training programs helped enhance their understanding of drone operation, calibration, and safe pesticide application, addressing their queries and concerns. Additionally, literature distribution supplemented their knowledge, while field visits enabled practical assessment of the technology's benefits.

Farmers responded positively, recognizing the significant advantages of drone spraying, particularly in terms of efficiency, labor savings, and safety. The demonstrations effectively highlighted the potential for increased yield and precise pesticide application, leading to greater acceptance and willingness to adopt the technology in their farming practices.

11. Photographs:



Photographs of Assessment of Kisan Drone for spraying crops

OFT: 9

1. **Title of Technology Assessed:** Assessment of Manual Operated Precision Rotary Dibbler (Token Yantra)
2. **Problem Definition:** Traditional sowing methods often lead to poor germination and uneven crop stand due to inconsistent seed placement. Additionally, farmers face challenges such as low area coverage, labor scarcity, high sowing costs, and improper plant-to-plant spacing, affecting overall productivity and resource efficiency.
3. **Details of technologies selected for assessment:**
 - T1: Bullock drawn tiffan
 - T2: Manual Operated Precision Rotary Dibbler
 - T3: Tractor drawn BBF planter
4. **Source of technology:** CIAE, Bhopal
5. **Production system and thematic area:** The Manual Operated Precision Rotary Dibbler (Token Yantra) is suitable for both rainfed and irrigated cropping systems. It is particularly beneficial in small and marginal farming conditions where mechanized sowing is not feasible. This technology ensures efficient seed placement, making it ideal for diverse agro-climatic conditions and multiple cropping patterns.

The assessment of the Manual Operated Precision Rotary Dibbler falls under the thematic area of improved small farm equipment for precision sowing. The technology is designed to enhance the sowing accuracy of both small and bold-seeded crops, ensuring uniform plant population across the field. Proper seed-to-seed spacing is maintained, which optimizes crop establishment, minimizes seed wastage and enhances resource use efficiency. Additionally, it contributes to balancing yield levels by improving crop stand, germination rates and overall productivity. This precision sowing method addresses challenges such as labor shortages, high sowing costs and inconsistent plant spacing while promoting sustainable and efficient agricultural practices.
6. **Performance of the Technology with performance indicators:**

The Manual Operated Precision Rotary Dibbler demonstrated high efficiency in sowing soybean, a major crop in the district. The field capacity of the dibbler was recorded at 0.059 ha/day with a field efficiency of 90%. Compared to conventional sowing methods using tractor-drawn BBF planters and bullock-drawn tiffans, the technology resulted in a 40–45% reduction in seed rate and a 15–20% increase in crop yield. Following on-field demonstrations, 10 farmers in the village adopted the technology, highlighting its effectiveness in enhancing productivity and resource efficiency.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques:**

A matrix scoring approach was used to evaluate various sowing technologies based on key performance parameters through farmer participation. The assessment compared bullock-drawn tiffan, Precision Rotary Dribbler, and BBF planter in terms of field capacity, field efficiency, seed rate, operating cost and yield.

Parameter	Bullock drawn tiffan	Precision Rotary Dribbler	BBF planter	Best Performer
Field Capacity, (ha/day)	★ ★ (Low)	★ ★ ★ (Moderate)	★ ★ ★ ★ (High)	BBF Planter
Field Efficiency, (%)	★ ★ (Low)	★ ★ ★ ★ ★ (High)	★ ★ ★ (Moderate)	Precision Rotary Dribbler
Seed Rate, (kg/ha)	★ ★ ★ (High)	★ ★ ★ ★ ★ (Low)	★ ★ ★ ★ (Moderate)	Precision Rotary Dribbler
Operating Cost, (₹/ha)	★ ★ ★ ★ ★ (Low)	★ ★ ★ ★ (Moderate)	★ ★ (High)	Bullock-Drawn Tiffan
Yield, (q/ha)	★ ★ (Low)	★ ★ ★ ★ ★ (High)	★ ★ ★ ★ (Moderate)	Precision Rotary Dribbler

Matrix Scoring: Based on matrix ranking, farmers preferred Treatment T₂ (Soybean sowing through Precision Rotary Dribbler) due to its higher yield, superior field efficiency, and increased net profit compared to the other sowing methods. The technology also demonstrated significant advantages in seed saving and resource utilization, making it a promising option for small and marginal farmers.

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

The Precision Rotary Dribbler planter is an efficient sowing technology, particularly beneficial for small and marginal farmers who cannot invest in large machinery or operate in fields unsuitable for heavy equipment. The planter significantly reduces sowing costs compared to traditional methods while enhancing resource efficiency. It enables optimal seed placement, leading to reduced seed rate, labour and time requirements compared to manual sowing techniques, thereby improving overall productivity and cost-effectiveness.

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

Constraints:

Higher Operating Time and Labor Intensity:

The Manual Operated Precision Rotary Dribbler requires more time and physical effort compared to mechanized sowing methods. Since it is manually operated, the sowing speed is lower, limiting its efficiency in large-scale farming operations. Additionally, continuous manual operation can lead to fatigue among laborers, affecting precision and consistency in sowing.

Limited Awareness of Modern Agricultural Technologies:

Many small and marginal farmers lack adequate knowledge about newly developed precision sowing technologies like the Manual Operated Precision Rotary Dribbler. The adoption rate is low due to limited access to extension services, demonstrations, and training programs. Additionally, traditional sowing practices are deeply ingrained, making it difficult for farmers to shift to modern precision farming techniques without proper awareness and guidance.

Feedback: The Precision Rotary Dibbler (Token Yantra) demonstrated significant improvements in crop productivity and resource efficiency. Field assessments revealed a 20–25% increase in yield compared to conventional sowing methods using the bullock-drawn tiffan. This yield enhancement is attributed to precise seed placement, uniform plant spacing, and improved crop establishment, leading to better resource utilization and plant growth. Additionally, the seed rate was reduced by 40–45%, minimizing seed wastage while maintaining optimal plant population. This reduction in seed usage directly contributes to lower input costs, making the technology economically viable for small and marginal farmers. The decrease in cultivation expenses, coupled with improved productivity, underscores the potential of the Precision Rotary Dibbler in promoting cost-effective and sustainable precision farming practices.

10. Process of farmers participation and their reaction:

Farmers actively engaged in the assessment of the Precision Rotary Dibbler (Token Yantra) through various extension activities, including on-field demonstrations, group discussions, training programs, distribution of technical literature, and exposure visits. These participatory approaches facilitated knowledge dissemination and skill development, enabling farmers to understand the technical advantages and economic benefits of adopting precision sowing technology. Through demonstrations, farmers observed a significant yield improvement and realized the potential of optimized seed placement, reduced seed rate, and cost savings. The hands-on experience enhanced their confidence in adopting the technology, leading to increased interest in modern precision farming techniques. Farmers acknowledged the effectiveness of such demonstrations in bridging the gap between traditional practices and advanced mechanized sowing methods, ultimately contributing to improved farm productivity and profitability.

11. Photographs:



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

1. **Title of Technology Assessed:** Assessment of Mole plough to enhance crop yield in waterlogged soils
2. **Problem Definition:** Waterlogged soils pose a major constraint to crop productivity due to poor internal drainage and inadequate water management practices. Stagnant water for 3 to 10 days during periods of high rainfall leads to anaerobic soil conditions, root suffocation, and increased susceptibility to crop failure. The lack of effective subsurface drainage solutions results in low yield potential and limits the cultivation of high-yielding crops in such affected areas.
3. **Details of technologies selected for assessment:**
 - T1: No drainage
 - T2: Mole drains at 2-6 m distance using tractor drawn mole plough
 - T3: MB Plough
4. **Source of technology:** CIAE, Bhopal
5. **Production system and thematic area:** The mole plough technology is assessed under rainfed and irrigated cropping systems where seasonal waterlogging significantly affects crop growth and yield. Waterlogging occurs due to poor soil internal drainage, leading to oxygen deficiency, root suffocation, and reduced nutrient uptake, ultimately causing crop failure or severe yield reduction. Implementing mole drainage technology improves subsurface drainage, facilitating better root aeration, enhanced soil structure, and increased crop resilience to excessive moisture conditions.

The study focuses on soil and water conservation techniques, with an emphasis on subsurface drainage solutions for waterlogged conditions. It explores the effectiveness of mole plough technology in improving soil aeration, reducing crop losses due to excess water, and enhancing farm mechanization for sustainable agricultural practices. The thematic approach integrates mechanized interventions in land and water management, contributing to increased crop productivity, improved resource efficiency, and climate-resilient farming systems.
6. **Performance of the Technology with performance indicators:** The assessment of the Mole Plough for enhancing crop yield in waterlogged soils demonstrated significant improvements in soil drainage and overall crop performance. The technology effectively alleviated water stagnation issues by creating subsurface drainage channels, which improved root aeration, nutrient availability, and soil structure, leading to better plant growth. The field capacity of the mole plough was recorded at 0.24 ha/h, ensuring efficient land coverage, while the field efficiency was 81%, indicating high operational effectiveness in field conditions. The operating cost was found to be ₹1812 per hectare, making it a cost-effective solution for farmers dealing with waterlogged soils. As a

result, the crop yield increased to 22.1 q/ha, which was 25–30% higher compared to conventional methods, demonstrating the effectiveness of mole plough technology in mitigating waterlogging stress and significantly enhancing agricultural productivity.

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

The assessment of Mole Plough for improving crop yield under waterlogged conditions was conducted through farmer participation using demonstrations, field observations, and group discussions. Farmers evaluated the technology based on key performance indicators such as field capacity, field efficiency, operating cost, and yield.

Parameter	No drainage	Mole Plough	MB Plough	Best Performer
Field Capacity, (ha/h)	★ (Low)	★ ★ ★ (Moderate)	★ ★ ★ ★ ★ (High)	MB Plough
Field Efficiency, (%)	★ ★ ★ (Moderate)	★ ★ ★ ★ ★ (High)	★ (Low)	Mole Plough
Operating Cost, (₹/ha)	★ ★ ★ ★ ★ (Low)	★ (High)	★ ★ ★ (Moderate)	No Drainage
Yield, (q/ha)	★ (Low)	★ ★ ★ ★ ★ (High)	★ ★ ★ (Moderate)	Mole Plough

Matrix Scoring : Farmers preferred Mole Plough due to its higher yield potential (22.1 q/ha), effective subsurface drainage and improved soil structure. While MB Plough had the highest field capacity, the Mole Plough outperformed in yield enhancement and long-term soil benefits. The operating cost was higher, but the increase in yield (25-30%) justified the investment, making Mole Plough the best choice for waterlogged conditions.

8. Final recommendation for micro level situation: Based on the assessment of the Mole Plough for enhancing crop yield in waterlogged soils, it is recommended as an effective technology for areas experiencing poor internal drainage, prolonged water stagnation (3–10 days), and low crop productivity due to excessive moisture stress. The implementation of mole drainage significantly improves soil aeration, root development, and nutrient uptake, leading to a 25–30% increase in yield compared to conventional methods.

For micro-level adoption, Mole Plough is best suited for heavy clayey soils prone to waterlogging in regions with high rainfall. Farmers should integrate this technology with proper field leveling and surface drainage to maximize benefits. Despite its higher initial cost (₹1812/ha), the long-term yield gains (22.1 q/ha) and reduced crop failure risks make it a highly viable solution. The technology is especially beneficial for soybean cultivation in waterlogged areas, ensuring sustainable productivity and improved farm profitability.

9. Constraints identified and feedback for research:

Constraints: Mole plough adoption faces challenges such as high initial cost, limited awareness among farmers and specific soil requirements, making it less effective in sandy soils. It demands skilled labour, optimal soil moisture conditions and periodic maintenance of drainage channels.

Additionally, equipment availability is limited and operation requires more time compared to conventional methods. Despite these constraints, Mole Plough significantly improves drainage and enhances crop yield in waterlogged soils.

Feedback: Farmers observed a significant improvement in soybean yield, with an increase of 25-30% compared to fields without drainage. The field capacity of 0.24 ha/h and field efficiency of 81% ensured better land preparation under waterlogged conditions. The operating cost of ₹1812/ha was justified by the improved crop health and reduced losses due to water stagnation. Additionally, farmers reported better root development, reduced plant mortality and easier field operations after mole ploughing. However, some expressed concerns about high initial costs and the need for periodic maintenance of the drainage channels. Overall, mole ploughing was highly effective in mitigating waterlogging and enhancing crop productivity.

- 10. Process of farmers participation and their reaction:** Farmers actively participated in the assessment of mole plough technology through field demonstrations, training sessions, group discussions, and field visits. They gained practical insights into its effectiveness in improving drainage and enhancing crop yields under waterlogged conditions.

During demonstrations, farmers observed that mole ploughing significantly reduced water stagnation, leading to better root development and plant growth. After implementation, they reported an increase in soybean yield by 25-30%, along with easier field operations and reduced crop losses. Farmers appreciated its long-term benefits but expressed concerns regarding high initial costs and the need for periodic maintenance. Overall, their reaction was positive, with many showing interest in adopting the technology for improved soil drainage and higher productivity.

11. Photographs:



Photographs of Assessment of Mole plough to enhance crop yield in waterlogged soils

OFT : 11

1. **Title of Technology Assessed:** Assess the efficiency of Drumstick harvester for harvesting drumstick pods
2. **Problem Definition:** Picking manually the drumstick get damaged whenever it falls down which is a permanent damage or the labour can fell down because of the trees height from the ground. Drumstick pod damage during harvesting is the vital problem facing by farmers.

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

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

T2: Use of drumstick harvester

4. **Source of technology:** MPKV,Rahuri
5. **Production system and thematic area:** Drudgery reducing technologies for women farmers
6. **Performance of the Technology with performance indicators**

The harvester is most efficient & comfortable during harvesting. The harvesting capacity is 20.9% more & damage percentage decreased by 72.85% than traditional method.

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

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

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

8. **Final recommendation for micro level situation:** The harvester is most efficient & comfortable during harvesting. damage percentage is less than traditional method.
9. **Constraints identified and feedback for research:** Unawareness about drudgery reducing technologies.
10. **Process of farmers participation and their reaction**
Farm women were participated through group discussions, trainings, FLD & OFT. The farm women are well aware about this technology & using this technology

OFT : 12

1. **Title of Technology Assessed:** Assess the use of custard apple seed powder for storage of pulses
2. **Problem Definition:** Damage of pulses during storage period. Pulse beetles are serious pests of stored pulses like pigeon pea, green gram, black gram.
3. **Details of technologies selected for assessment:**
T1: Farmers Practice: No any treatment for storage of pulses
T2: Use of custard apple seed powder 15 gm/kg
4. **Source of technology:** Dr PDKV, Akola
5. **Production system and thematic area:** Storage loss minimization technologies
6. **Performance of the Technology with performance indicators**
Applying custard apple seed powder (15 gms/kg) to stored green gram reduces grain damage by 59.91% and increased shelf life of pulses.
7. **Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques**

Sr no	Particulars	T1	T2
1	Damage Percentage %	II	I
2	Shelf life in a day	II	I

This treatment to pulses in pest management strategies significantly superior over farmers' practice.

8. **Final recommendation for micro level situation**
Useful for small scale farmers who store small amounts of pulses for consumption and planting.
9. **Constraints identified and feedback for research**
It is hard to protect pulses from the stored grain insect's damage.
10. **Process of farmers participation and their reaction**
Farm women were participated through group discussions, trainings, FLD & OFT. The farm women are well aware about this technology & using this technology



Assessment on efficiency of Drumstick harvester for harvesting drumstick pods



Assessment on use of custard apple seed powder for storage of pulses

OFT : 13

- 1 **Title of Technology Assessed:** Assessment of use of Pro-biotic (EM Solution) in feed for milk yield improvement in C B cows
2. **Problem Definition:** In crossbred (CB) cows, low milk yield and poor health persist despite proper feeding practices, leading to reduced productivity and economic losses for dairy farmers. The inefficiency in nutrient absorption and digestion may be due to imbalanced rumen microflora, digestive stress, or suboptimal feed utilization. These factors contribute to lower lactation performance, weaker immunity, and higher veterinary costs, ultimately affecting farm profitability. Intervention: The use of Probiotic (EM Solution) in feed is assessed as a potential strategy to enhance rumen function, improve digestion, and increase milk yield in CB cows
- 3 **Details of technologies selected for assessment:**
 - T1 – Farmers practice – No use of pro-biotic in animal feed
 - T2- Technology Assessed- Use of pro-biotic (EM solution) 20ml/Animal/Day
4. **Source of technology:** MAFSU, Nagpur
5. **Production system and thematic area:** Dairy Farming (Intensive System) – Crossbred cows are reared under an intensive system, where they are provided with stall feeding. Despite being fed fodder and concentrates, milk yield remains suboptimal due to digestive inefficiencies and poor nutrient absorption.
Thematic Area: Nutrient Management – Assessing the use of probiotics (EM Solution) in feed to improve digestion, enhance nutrient absorption, and increase milk yield in crossbred cows.
6. **Performance of the Technology with performance indicators:** The use of probiotics (EM Solution) in feed for crossbred cows was assessed based on key performance indicators, and the results are as follows:
 1. **Milk Yield Improvement**
 - T1 (Farmers' Practice - No Probiotic Use): 12.3 L/day/animal
 - T2 (Technology Assessed - Probiotic Use): 13.2 L/day/animal
 - Improvement: 7.3% increase in milk yield due to better digestion and nutrient absorption.
 2. **Fat Percentage Enhancement**
 - T1 (No Probiotic): 3.5% fat
 - T2 (With Probiotic): 3.6% fat
 - Slight Improvement: Indicates enhanced digestion and better utilization of dietary nutrients.

3. Economic Viability

Parameter	T1 (No Probiotic)	T2 (With Probiotic)	Difference
Cost of Production (Rs. /day/animal)	Rs. 255	Rs. 259	+ Rs.4
Gross Returns (Rs. /day/animal)	Rs.400	Rs. 434	+ Rs.34
Net Profit Increase (Rs. /day/animal)	-	Rs. 30 more per animal per day	-

Higher profitability despite a slight increase in feeding cost.

4. Additional Observations:

- Improved General Health – Animals showed better digestion, reduced bloating, and enhanced immunity.
- Better Dung Quality & Reduced Shed Odor – Indicating improved gut health and fermentation efficiency.
- Higher Feed Efficiency – More effective utilization of nutrients leading to better milk yield and quality.

Conclusion: The use of probiotics (EM Solution) at 20ml/animal/day proved to be an effective and profitable intervention in dairy farming, enhancing milk yield, fat content, and overall cow health. This technology is recommended for wider adoption in intensive stall-fed dairy systems.

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

Farmers Feedback: After participating in the trial and observing the results, farmers provided the following feedback:

- Increased Milk Yield: Farmers noticed a consistent increase in daily milk production (by 7.3%), making dairy farming more profitable.
- Improved Milk Quality: A slight increase in fat percentage (from 3.5% to 3.6%) was observed, leading to better milk pricing, better Digestion & General Health: Cows showed improved appetite, reduced bloating, and better overall health, reducing veterinary costs.
- Reduced Shed Odor & Improved Dung Quality: Farmers reported a significant reduction in bad Odor in cow sheds and improved dung texture, making manure handling easier.
- Economic Benefits: Despite a marginal increase in feeding costs (Rs. 4 more per day per cow), farmers earned Rs.30 more per cow per day, making probiotic use highly cost-effective.

Matrix Scoring of Technology Parameters (Farmer's Participation Method)

A **participatory scoring method** was used to evaluate different aspects of the probiotic intervention, with farmers rating each parameter on a **scale of 1 to 5** (1 = Poor, 5 = Excellent).

Parameter	Farmers' Practice (T1)	Probiotic Use (T2)
Milk Yield	3.0	4.5
Fat % in Milk	3.5	4.0
Digestive Health	3.0	4.8
Feed Efficiency	3.2	4.5
Economic Returns	3.5	4.7
Shed Cleanliness & Odor Reduction	2.5	4.5
Overall Farmer Satisfaction	3.0	4.6

Interpretation of Matrix Ranking

The matrix ranking method helped evaluate farmers' perceptions of probiotic (EM Solution) use in dairy cows by comparing it with traditional feeding practices. The ranking highlights key improvements and challenges based on farmer participation and observations.

1. Significant Improvement in Milk Yield (4.5/5)

- Farmers observed a 7.3% increase in milk yield in probiotic-fed cows (T2) compared to the traditional practice (T1).
- This was the most appreciated aspect as it directly increased their daily income.

2. Enhanced Milk Quality – Fat Percentage (4.0/5)

- Though the fat percentage increase was marginal (from 3.5% to 3.6%), farmers noted better milk consistency and market value.

3. Improved Digestive Health (4.8/5) – Highest Rated Parameter

- Farmers noticed better feed digestion, reduced bloating, and improved appetite, leading to healthier cows.
- This improvement contributed to higher feed efficiency and lower veterinary expenses.

4. Increased Feed Efficiency (4.5/5)

- Cows on probiotics utilized nutrients more effectively, leading to better conversion of feed into milk.
- This resulted in lower wastage and improved economic efficiency.

5. Economic Returns (4.7/5) – Strong Justification for Adoption

- Despite a slight increase in feeding costs (+Rs.4/day per cow), farmers saw a Rs. 30 additional profit per cow/day.

- Higher returns made probiotic use financially viable and scalable.

6. Better Shed Cleanliness & Odor Control (4.5/5)

- Farmers strongly favored the reduction in shed odor and improved dung consistency, which made manure handling easier.

7. Overall Farmer Satisfaction (4.6/5) – Willingness to Continue Use

- Farmers found probiotic supplementation practical, cost-effective, and beneficial.
 - They showed a high willingness to adopt probiotics as a regular feeding practice.

Conclusion from Matrix Ranking

- Probiotic use (EM Solution) outperformed traditional feeding practices in every aspect.
- Best improvements were seen in digestive health, milk yield, and economic returns, which are critical for dairy profitability.
- Farmers are ready to adopt the technology but need better market availability of probiotics.

8. Final recommendations for micro level situation: The addition of probiotics (EM Solution) in dairy nutrition is an effective, economical, and farmer-friendly intervention that enhances milk yield, cow health, and farm profitability. Given its proven benefits.

9. Constraints identified and feedback for research:

Constraints

- Farmers were unaware of the role of probiotics in improving digestion and milk yield.
- The ideal dosage and duration for maximum benefits are not well established
- Some cows showed faster improvement in milk yield and digestion than others. Research is needed to study variations based on breed, lactation stage, and feeding conditions

Feedback for research:

Study different doses (10ml, 20ml, 30ml) and frequencies (once or twice daily) to determine the most cost-effective and productive dosage.

10. Process of farmer's participation and their reaction:

Process of Farmer's Participation:

Farmers were actively involved in the assessment of probiotic (EM Solution) use in dairy cows through various participatory approaches, ensuring practical knowledge transfer and real-world evaluation. The key methods used were:

Group Discussions:

Farmers shared their current feeding practices, challenges, and expectations.

Explained the role of probiotics in improving digestion, milk yield, and cow health.

Training Sessions:

- Training was conducted to educate farmers on proper probiotic usage, dosage, and benefits.
- Farmers were trained in handling and mixing probiotics with feed and also explained how to monitor animal health improvements.

On-Farm trial:

- Selected farmers participated in real-time trials on their dairy farms.
- Probiotic (EM Solution) was introduced into the daily feed ration of cows.
- Farmers were guided on recording milk yield, fat percentage, and animal health parameters.

Farmers' Reactions:

- Farmers observed a visible improvement in milk yield (7.3% increase) within a short period.
- Many appreciated the better digestion, reduced bloating, and improved overall health of cows.
- Odor reduction in cow sheds was a surprising and well-received benefit.
- They expressed willingness to continue probiotic supplementation in their dairy farming

11. Photographs:



Input Distribution and demonstration how to prepare activated EM solution programme



Feeding of Probiotics (Em solution) along with concentrates

OFT : 14

1. **Title of Technology Assessed:** Assessment of Closantel a broad spectrum dewormer to control ecto and endo parasites in goat kids
2. **Problem Definition:** Goat kids are highly susceptible to heavy ecto- and endo-parasitic infestations, which lead to severe health and productivity issues. Endoparasites, such as gastrointestinal nematodes, liver flukes, and tapeworms, cause anemia, diarrhea, poor nutrient absorption, and stunted growth. Ectoparasites, including ticks, mites, and lice, result in skin irritation, blood loss, and secondary infections. These infestations contribute to significant weight loss, reduced feed efficiency, delayed maturity, and increased mortality rates. Consequently, farm productivity and profitability are adversely affected due to increased treatment costs, reduced meat yield, and lower reproductive performance. Effective control measures, such as broad-spectrum dewormers like Closantel, are essential to mitigate these challenges and improve the overall health and performance of goat kids.

3 Details of technologies selected for assessment:

T1 – Farmers practice –No use of medication for deworming

T2- Technology Assessed- Use of closantel oral solution 15 mg/Kg body weight

4. Source of technology: MAFSU, Nagpur

5. **Production system and thematic area:** Free-range goat farming, where animals are grazed in open fields, bunds, and common grazing lands. Goats are primarily raised for meat, milk, and breeding purposes under extensive management conditions.

Thematic Area: Animal Health and Disease Management – Parasitic Control in Goats. This focuses on effective parasite management strategies using broad-spectrum dewormers like Closantel to enhance the health, growth, and productivity of goat kids.

6. Performance of the Technology with performance indicators:

The assessment of **Closantel**, a broad-spectrum dewormer, showed significant improvements in the health and productivity of goat kids. The following performance indicators were used to evaluate the technology:

Performance Indicator	Farmers' Practice (T1 - No Deworming)	Technology Assessed (T2 - Closantel @ 15 mg/kg BW)	% Increase/Improvement
Weight of Kid at 6 Months (kg)	17.9 kg	21.8 kg	21.8%
Daily Weight Gain (g/day)	87.4 g/day	106.3 g/day	21.6%
Mortality Rate (%)	20%	10%	50% Reduction
Profit per Kid (Rs.)	Rs. 5024	Rs.6634	31.9% Increase

Overall Performance of Closantel Technology:

- Improved Growth Rate: Kids treated with Closantel gained more weight, showing a 21.8% increase in body weight at six months.
- Higher Feed Efficiency: Increased weight gain per day (106.3 g/day in treated vs. 87.4 g/day in untreated).
- Reduced Mortality: Mortality was reduced by 50%, enhancing herd productivity.
- Better Economic Returns: Farmers earned Rs. 1610 more per kid, proving the cost-effectiveness of deworming.
- Improved General Health: Dewormed kids exhibited better body condition, active behaviour, and lower parasitic load.

Conclusion:

The use of Closantel (15 mg/kg BW) as a dewormer in goat kids significantly enhanced growth performance, survival rate, and profitability. Regular deworming should be promoted as a key health management practice for improving goat farming sustainability.

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

Farmers Feedback

- Farmers observed better growth and weight gain in Closantel-treated kids compared to untreated ones.
- Mortality was significantly reduced, leading to higher kid survival rates and improved overall herd health.
- Treated kids had better body condition, glossy coats, and reduced signs of parasitic infestation (e.g., diarrhoea, weakness, and rough hair coats).
- Farmers appreciated the ease of administering Closantel and the noticeable increase in profitability per kid.
- Some farmers suggested including other parasite control measures (e.g., rotational grazing and mineral supplementation) for better results.

Matrix Scoring of Technology Parameters (Farmer's Participation Method)

A participatory matrix scoring method was used where farmers rated different poultry breeds (Desi, Nicobari, and Vanashree) based on key performance indicators. Farmers assigned scores from **1 (poor) to 5 (excellent)** for each parameter.

Technology Parameter	Farmers' Practice (T1 - No Deworming)	Closantel Treatment (T2 - 15 mg/kg BW)	Score Difference
Growth Rate (Weight Gain/day)	II	IIII	+3
Mortality Reduction	I	IIII	+4
General Health Condition	II	IIII	+2
Profitability	II	IIII	+3
Reduction in Parasitic Load	I	IIII	+4
Scoring Scale: I (Very Poor) to IIII (Excellent)			

Other Scoring Techniques Used

- Paired Comparison Method: Farmers ranked the treated group higher for growth, mortality reduction, and profitability over the untreated group.
- Participatory Group Discussion: Farmers shared their experiences and benefits, highlighting significant economic gains.
- Preference Ranking: Closantel-treated goats were preferred by 90% of farmers due to better performance and ease of management.

Interpretation of Scoring:

- Farmers' scores clearly indicate that Closantel-treated goats outperformed untreated ones in every category.
- The highest impact was seen in mortality reduction, parasitic control, and profitability.
- The overall feedback suggests that deworming with Closantel should become a regular practice to improve growth, reduce mortality, and increase farm income.

8. Final recommendations for micro level situation: Based on the assessment of Closantel deworming in free-range goat farming, the following recommendations are suggested for effective parasite control and improved productivity at the farm level:

Administer Closantel (15 mg/kg body weight) every 3 months to control endo- and ecto-parasites effectively. Regular deworming increases weight gain, survival, and profitability, making it a highly cost-effective intervention. The additional investment in deworming (Rs. 50- Rs.100 per kid per cycle) leads to Rs. 1600+ more profit per kid, ensuring a good return on investment.

Conclusion:

Closantel deworming should be adopted as a routine health management practice in free-range goat farming to enhance growth, reduce mortality, and improve economic returns.

9. Constraints identified and feedback for research:

Constraints

- Lack of knowledge about deworming schedules and parasite management
- Overgrazing and lack of rotational grazing practices leading higher exposure to parasite infested pasture

Feedback for research:

- Conduct longitudinal studies to assess the long-term effects of Closantel on growth, fertility, and productivity in goats.
- Study the role of herbal dewormers or probiotics as complementary treatments
- Develop easy-to-follow deworming protocols for farmers, focusing on frequency, dosage, and best practices.

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

Process of Farmer's Participation:

1. Group Discussions

- Conducted interactive sessions with farmers to understand existing parasite management practices and challenges.
- Farmers shared their experiences regarding growth issues, mortality rates, and economic losses due to parasitic infestations.
- Discussion focused on benefits of deworming and best practices for parasite control.

2. On-Farm trial-

- Farmers were involved in trials where Closantel was administered to selected goat kids.
- Periodic weight monitoring and health assessment were conducted to compare treated vs. untreated groups.
- Farmers actively participated in record-keeping, observing growth rates, and mortality differences.

3. Farmers' Reaction:

Positive Acceptance – Farmers observed a noticeable difference in weight gain and survival rates of dewormed kids.

Increased Awareness – Farmers understood the economic benefits of regular deworming, leading to better adoption.

Willingness to Adopt Deworming as Routine Practice – Most farmers agreed to incorporate deworming as part of herd management.

Conclusion:

Farmers actively engaged in the learning process, gaining practical knowledge and confidence in deworming strategies. Their positive feedback and willingness to adopt broad spectrum dewormer indicate that structured participation methods like group discussions and demonstrations are highly effective in promoting scientific parasite management in free-range goat farming.

11. Photographs:

Drenching of Broad spectrum Closantel oral solution to goats

OFT : 15

1. **Title of Technology Assessed:** Assessment of Improved Poultry breeds Nicobari and Vanashree for backyard poultry farming
2. **Problem Definition:** Backyard poultry farming is a crucial source of livelihood for rural farmers, but challenges such as low egg production, slow growth rate, high mortality, and low economic returns limit its profitability. Traditional native breeds often struggle with poor feed efficiency and disease resistance, affecting overall productivity. Assessing the performance of Nicobari and Vanashree purebred native chickens under free-range conditions is essential to determine their suitability for improving egg and meat production while ensuring better survivability and higher returns for farmers
3. **Details of technologies selected for assessment:**
 - T1- Rearing of deshi poultry birds
 - T2-rearing of Nicobari Poultry birds
 - T3- Rearing of Vanashree poultry birds
4. **Source of technology:** Directorate of poultry research, Hyderabad
5. **Production system and thematic area:** The assessment was conducted under a backyard poultry system where birds were allowed to scavenge freely with minimal supplemental feeding. This system is widely adopted by rural farmers for low-input, sustainable poultry farming. / Breed evaluation
6. **Performance of the Technology with performance indicators:**

The assessment of Nicobari and Vanashree purebred native chickens for free-range or backyard farming was conducted to evaluate their productivity and profitability compared to traditional Desi birds. The study measured key performance indicators, including annual egg production, body weight, mortality rate, age at first egg, and egg weight.

Performance Indicator	Desi Birds (T1 - Farmers' Practice)	Nicobari (T2 - Technology Assessed)	Vanashree (T3 - Technology Assessed)
Annual Egg Production (No.)	62	132	110
Average Body Weight at Maturity (kg)	1.22	1.30	2.05
Mortality Rate (%)	14	8	3
Age at First Egg (Days)	204	195	190
Egg Weight (g)	38	43	44
Profit per Bird (Rs.)	197	982	743

Observations recorded:

- Nicobari chickens had the highest egg production (132 eggs/year), making them the best choice for egg-focused backyard farming.
- Vanashree chickens exhibited the highest body weight (2.05 kg), making them ideal for both meat and egg production.
- Desi birds lagged behind in all parameters, with low egg production, slow growth, and the highest mortality rate (14%), making them the least suitable for commercial backyard farming.
- Mortality was lowest in Vanashree birds (3%), indicating better adaptability and survivability.
- Nicobari birds generated the highest profit per bird (Rs. 982), followed by Vanashree (Rs. 743), while Desi birds provided the least return (Rs.197).

Conclusion:

- Nicobari breed is the best for maximizing egg production and profitability.
- Vanashree is more suitable for dual-purpose (meat and egg) farming.
- Replacing Desi birds with either Nicobari or Vanashree can significantly improve farmer incomes and backyard poultry productivity.

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

Farmers Feedback: Farmers actively participated in the evaluation of Nicobari and Vanashree breeds through OFT in field and discussions. Their feedback was collected based on key performance parameters such as egg production, body weight, mortality, adaptability, and profitability.

Key Farmer Feedback:

- Nicobari birds were preferred for egg production due to their higher yield and early maturity.
- Vanashree birds were chosen for dual-purpose farming because of their higher body weight and better survival rate.
- Mortality was significantly lower in Vanashree birds, making them more resilient.
- Desi birds were least preferred due to low productivity and high mortality.
- Farmers noted that both Nicobari and Vanashree birds adapted well to local conditions and required minimal management efforts.
- Some farmers preferred Nicobari birds over Vanashree for backyard farming due to their appearance, egg size, and market demand.

Matrix Scoring of Technology Parameters (Farmer's Participation Method)

A participatory matrix scoring method was used where farmers rated different poultry breeds (Desi, Nicobari, and Vanashree) based on key performance indicators. Farmers assigned scores from **1 (poor) to 5 (excellent)** for each parameter.

Performance Parameter	Desi Birds	Nicobari	Vanashree	Best Performer
Annual Egg Production	II	IIII	IIII	Nicobari
Body Weight at Maturity	II	III	IIII	Vanashree
Mortality Rate (Low is Better)	I	III	IIII	Vanashree
Age at First Egg	I	III	IIII	Vanashree
Egg Weight	I	IIII	IIII	Vanashree
Profitability	I	IIII	IIII	Nicobari
Adaptability to Local Conditions	II	IIII	IIII	Vanashree
Farmers Preference	II	IIII	IIII	Nicobari

Interpretation of Scoring:

- Nicobari scored highest in egg production and profitability, making it the best breed for egg-focused backyard farming.
- Vanashree performed best in body weight, egg weight, mortality, and adaptability, making it suitable for both egg and meat production.
- Desi birds scored the lowest across all parameters, indicating they are not suitable for commercial backyard farming.

Overall Conclusion:

- Nicobari is best for high egg production and farmer profitability.
- Vanashree is ideal for dual-purpose farming with better survival rates.
- Desi birds are not suitable for profitable backyard farming due to lower performance.
- Farmers showed strong acceptance of both improved breeds and preferred them over Desi birds.

8. Final recommendations for micro level situation: Based on the assessment of Nicobari and Vanashree purebred native chickens for backyard poultry farming, the following recommendations are made:

1. Nicobari breed is highly recommended for egg production in backyard farming due to its higher egg yield (132 eggs/year), early maturity, and better profitability (Rs. 982 per bird) compared to Desi and Vanashree birds.

2. Vanashree breed is best suited for dual-purpose farming (meat and egg production) due to its higher body weight (2.05 kg), larger egg size, and lower mortality rate (3%).
3. Desi birds are not recommended for commercial backyard farming as they produce fewer eggs (62 per year), have the lowest body weight (1.22 kg), and higher mortality (14%), resulting in poor economic returns.
4. Adoption of Nicobari and Vanashree breeds is strongly encouraged for backyard poultry farmers aiming for higher productivity, better survival rates, and increased income.
5. Further extension efforts should focus on awareness and training programs to promote these improved breeds among rural farmers, ensuring better management practices for feeding, housing, and disease control.

Conclusion: Replacing traditional Desi birds with Nicobari for egg production or Vanashree for dual-purpose farming will significantly enhance egg yield, body weight, profitability, and overall sustainability of backyard poultry farming.

9. Constraints identified and feedback for research:

Constraints

4. Breed availability: Limited access to purebred Nicobari and Vanashree chicks
5. Lack of knowledge about proper feeding strategies
6. Limited awareness of vaccination & deworming schedules

Feedback for research:

1. Breed improvement- Further selection of Nicobari and Vanashree for better disease resistance and adaptability to different climatic conditions.
2. Health & Disease Control- Study on best vaccination, deworming, and biosecurity practices for small-scale backyard poultry.
3. Genetic Studies- Research on crossbreeding Nicobari with high-yielding native breeds for improved performance.
4. Climate Adaptation- Research on housing modifications and management practices to improve breed survival in extreme weather conditions.

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

Process of Farmer's Participation: The evaluation of Nicobari and Vanashree purebred native chickens for backyard poultry farming was conducted through participatory on-farm trials (OFTs), where farmers were actively involved in all stages of the assessment. The participation process included:

Stage	Farmer's Role in Participation
Selection of Farmers	Farmers were selected based on their interest in poultry farming and willingness to adopt new breeds.
Training & Awareness	Farmers were trained on breed characteristics, feeding, housing, and disease management before introducing Nicobari and Vanashree birds.
Implementation of Trials	Farmers reared the birds under their usual backyard farming conditions while following recommended management practices.
Evaluation & Discussion	Field visits and meetings were conducted to compare the performance of Nicobari, Vanashree, and Desi birds. Farmers shared observations and experiences.
Final Feedback & Adoption	Farmers gave feedback on the breeds, and most expressed willingness to continue rearing Nicobari and Vanashree birds due to better productivity and profitability.

2. Farmers' Reactions and Feedback

The farmers' responses were gathered through group discussions, field observations, and individual interviews. Their reactions were categorized based on key performance indicators:

Aspect	Farmers Reaction
Egg Production	Farmers were highly satisfied with Nicobari birds due to higher egg yield (132 eggs/year) compared to Desi birds.
Body Weight & Growth	Vanashree birds were preferred for their larger body weight (2.05 kg), making them ideal for meat production.
Mortality Rate	Farmers appreciated Vanashree's low mortality (3%), stating that it is more resilient in backyard conditions.
Age at First Egg	Farmers noted that Nicobari and Vanashree birds matured earlier than Desi birds, leading to quicker returns.
Adaptability	Farmers observed that both Nicobari and Vanashree adapted well to local conditions, but Nicobari showed slight sensitivity to extreme cold.
Economic Benefit	Farmers calculated that Nicobari birds provided the highest profit per bird (Rs.982), making them more viable for small-scale backyard farming.
Breed Preference	The majority of farmers preferred Nicobari for egg production and Vanashree for dual-purpose (meat and eggs) over Desi birds.
Future Adoption	Farmers expressed strong interest in continuing with Nicobari and Vanashree breeds and requested further support for breed availability and disease management training.

Conclusion

- Farmers showed active participation in all trial stages, from selection to evaluation.
- Nicobari was most preferred for egg production, while Vanashree was valued for meat and egg production.
- Farmers demanded increased access to these breeds and further training on disease prevention and feeding strategies.
- The study led to increased awareness and acceptance of improved native poultry breeds among backyard farmers.

11. Photographs:



Distribution of birds to the selected farmers



Nicobari and Vanashree birds



Farmer with birds and eggs

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 2024 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	Safflower	Variety Introduction	Introduction of Improved high yielding Variety Safflower ISF-764	Training, Group Discussion, Field Day and Demonstration	06	386	48
2	Pigeonpea	Variety Introduction	Promotion of Newly released improved variety of Pigeonpea BDN 2013-41 (Godavari)	Training, Group Discussion, Field Day and Demonstration	11	641	234
3	Fodder Crop	Fodder production	Super Napier fodder crop	Large scale demonstration, distribution of planting material,	14	132	27
4	Custard apple	Integrated crop management	400:300:600g NPK + Pruning techniques	Training, group discussion, popular article and demonstration	04	22	24
5	Tomato	Integrated Nutrient Management	Arka Vegetable special (micronutrients)	Training, group discussion, and demonstration	06	72	22
6	China Aster	Varietal Evaluation	Arka Kamini	Training, group discussion, and demonstration	02	19	4

B. Details of FLDs implemented during 2024 (**Kharif 2024, Rabi 2023-24, Summer 2024**) (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.**)

S. 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	Safflower	Variety Introduction	Introduction of Improved high yielding Variety Safflower ISF-764	Rabi 2023-24	10	10	01	24	25	-
2	Pigeonpea	Variety Introduction	Promotion of Newly released improved variety of Pigeonpea BDN 2013-41 (Godavari)	Kharif 2024	10	10	02	23	25	-
3	Mango	Integrated Nutrient Management	Introduction of arka special mango micronutrients to improve yield and quality of mango	Kharif 2024	5.2	5.2	03	10	13	-
4	Custard apple	Integrated crop management	Integrated nutrient management and pruning technique in custard apple	Kharif 2024	5.2	5.2	03	10	13	-
3	Tomato	Integrated Nutrient Management	Introduction of arka special vegetable micronutrients to improve yield and quality of tomato	Kharif 2024	2	2	3	7	10	-
4	China Aster	Variety introduction	Introduction of new china aster variety: arka kamini	Kharif 2024	1	1	2	8	10	-

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					
Safflower	Rabi	Irrigated	Black Soil	Low	Low	High	Soybean	15-30 November	1-10 March	-	-
Pigeonpea	Kharif	Irrigated	Black Soil	Medium	Low	High	Chickpea	15-30 June	10-20 January	-	-
Mango	Kharif/Rabi	Irrigated	Medium	Medium	Low	Medium	-	July 2015	Awaited	-	-
Custard apple	Kharif	Irrigated	Medium	Medium	Low	Medium	-	July 2018	December 2024	-	-
Tomato	Kharif	Irrigated	Medium	Medium	Low	Medium	Bengal gram	July 2024	November 2024	-	-
China Aster	Kharif	Irrigated	Medium	Medium	Low	Medium	Water melon	August 2024	December 2024	-	-

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1	Safflower – Newly released improved high yielding variety ISF-764 performed better in yield as compared to local varieties. ISF-764 having profuse branching, bold seeded also contain highest oil percentage i.e. 30% as compared to other varieties.
2	Pigeon pea – BDN 2013-41 newly released improved variety resistant to pest and diseases as compared to local varieties. Variety is also suitable for dal making. Prominently resistant to dieback disease.
3	Application of INM with pruning techniques help to increase fruit yield in custard apple The adaptation of technology helps to increase productivity of custard apple orchard

4	The foliar application of Arka special vegetable micronutrients not only increase yield over check but also improve quality of fruit in respect of weight and size of fruit by this technology
5	The variety Arka Kamini is high yielding with long vase life of flower as compared to farmer practice

Farmers' reactions on specific technologies

S. No	Feed Back
1	Safflower – Demonstration on variety introduction ISF-764 suitable for farmers to adopt new varieties. Increase in yield as compared to local varieties and resistant to pest and diseases also highest oil percentage as compared to other varieties. Need to promote variety on large scale for horizontal spread.
2	Pigeon pea – Adoption of newly released improved variety helped to increase in yield as compared to other variety. Availability of seed by multiplication through seed production programme. Cost of cultivation reduced due to variety is resistant to pest and diseases.
3	To carry out easily intercultural operations (spraying, harrowing, harvesting etc.) in custard apple by pruning Improved yield and quality of fruit resulting got high price in market.
4	Improve yield and quality of fruit due to foliar application of Arka special vegetable micronutrient in tomato Technology is easy and suitable to adopt as well helps to increase in yield and economic returns
5	The variety Arka Kamini having attractive flower colour as well as more duration of flowering than check resulting higher yield.

		
FLD on Safflower	FLD on Safflower	FLD on Pigeonpea Godavari (BDN 2013-41)
		
FLD on Pigeonpea Godavari (BDN 2013-41)		

Extension and Training activities under FLD

Sl. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	1	19.12.2024	48	Field day on pigeonpea (BDN-2013-41) under FLD at village Kharosa Tq. Ausa
2	Farmers Training	-	-	-	-
3	Media coverage	1	28.12.2024	-	In daily Ekmat news paper
4	Training for extension functionaries	-	-	-	-

C. Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)				% Increase in yield	Economics of demonstration (Rs. /ha)				Economics of check (Rs. /ha)			
						Demo			Check		Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	Low	Average										
Safflower																		
	Varietal with INM	Introduction of improved variety ISF-764 with INM aspect	ISF-764	50	20	18.16	11.45	14.73	11.30	30.35	21540	83224	61684	3.86	19540	63845	44305	3.26
Soybean																		
	Variety Introduction	Cultivation of Newly Released Improved variety of Soybean	KDS-726,753	126	100	24.7	17.3	21	15.4	36.36	52475	102732	50257	1.95	45975	75337	29362	1.63

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										
Blackgram																		
	Varietal With INM	Introduction of Black gram Variety AKU 10-1 with INM aspect	AKU10-1	125	100	5.77	20.63	11.55	8.4	37.50	35350	86625	51275	2.45	31000	63000	32000	2.03



CFLD on Oilseed-Safflower Rabi 2023-24



CFLD on Oilseed-Soybean Kharif 2024-25



CFLD on Pulses-Blackgram Kharif 2024-25

FLD on Other crops

Category & Crop	Themat ic Area	Name of the technology	No. of Farmer s	Are a (ha)	Yield (q/ha)				% Chang e in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Chec k		Demo	Check	Gross Cost	Gross Retur n	Net Retur n	BCR (R/C)	Gros s Cost	Gross Retur n	Net Retur n	BCR (R/C)
					High	Low	Aver age												
Vegetable s																			
Tomato	Integrat ed Nutrient Manage ment	Effect of Arka special vegetable (micronutrients) in tomato	10	2	645.20	507.43	581.52	500.62	16.16	No. of fruit/plant - 70.33	No. of fruit/plant -64.32	85621	271220	185599	3.16	81255	205144	123889	2.52
Other																			
China Aster	Variety Introdu ction	Introduction of new China aster variety: Arka Kamini	10	1	151.08	131.16	140.50	127.71	10.01	No of flower /plant- 40.31	No of flower /plant- 26.04	81955	221515	139560	2.70	81955	201914	119959	2.46
										Duration of flower (days)- 30.10	Duration of flower (days)- 24.03								
Fruit crops																			
Custard Apple	Integra ted crop manage ment	INM (400:300:600 g) NPK + pruning techniques	13	5.2	92.62	41.12	61.46	49.35	24.54	No of fruit/plant -43.40	No of fruit/plan -	71225	186851	115626	2.62	59545	121526	61981	2.04
										Wt of fruit (g)- 359.40	38.09 Wt of fruit (g)- 326.61								
Fodder Crops																			
Napier	Varietal	Demonstration of	10	0.6	120	96	1080	830	30.12	1.Tillers	1.Tillers	52000	119350	67350	2.29	52000	83200	31200	1.6

Category & Crop	Themat ic Area	Name of the technology	No. of Farmer s	Are a (ha)	Yield (q/ha)				% Chang e in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Chec k		Demo	Check	Gross Cost	Gross Retur n	Net Retur n	BCR (R/C)	Gros s Cost	Gross Retur n	Net Retur n	BCR (R/C)
					High	Low	Aver age												
	Evaluati on	Super Napier fodder variety								per climp, no.-20, 2.Leaves per stem, No.-19, 3.No. of cuttings-03	per climp, no.-16, 2.Leaves per stem, No.-15, 3.No. of cuttings-03								



Front Line Demonstration (FLD) on Tomato



Front Line Demonstration (FLD) on China Aster



Front Line Demonstration (FLD) on Custard apple



Distribution of planting material of super Napier fodder crop



Plant growth after 1 month from planting



Crop stand of super Napier Fodder crop



Crop stand of super Napier Fodder crop



Crop stand of super Napier Fodder crop



Regrowth after cutting

FLD on Super Napier fodder variety

FLD on Livestock

Category	Thematic area	Name of the technology demonstrated	No. of Farmer	No.of Units (Animal/ Poultry/ Birds, etc)	Major parameters		% change in major parameter	Other parameter		Economics of demonstration (Rs.)				Economics of check (Rs.)			
					Demo	Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
Cattle																	
	Disease Management	Integrated control of ticks on animal body	10	30	Milk yield L/anim./day-13.6	Milk yield L/anim./day-11.96	9.20	1. Drug Efficacy, % - 85.35	1. Drug efficacy, % - 41.10	257	431	174	1.67	255	389	134	1.52
								2. Fat % - 3.6	2. Fat % - 3.4								
Poultry																	
	Poultry management	Rearing of Shrinidhi improved poultry birds for backyard poultry farming	10	200	No. of eggs /bird/year-148	No. of eggs /bird/year-61	142.62	1. Mortality-9 %	1. Mortality-14 %	583	1360	777	2.33	511	795	284	1.55
								2. Age at First eggs- 168 days	2. Age at First eggs- 206 days								
								3. Weight of birds at maturity- 2.03 kg	3. Weight of birds at maturity- 1.21 kg								
								4. Egg weight- 53 gms	4. Egg weight- 38 gms								
Sheep & Goat																	
	Nutrient management	Demonstration of mineral lick bricks	10	100	Weight of kids, kg/animal-20.0	Weight of kids, kg/animal-17.85	12.04	1. Birth weight of kids, Kg - 2.17	1. Birth weight of kids, Kg - 2.1	3430	11021	7591	3.21	3342	8389	5047	2.51
								2. Twinning %-66	2. Twinning %-54								
								3. kids mortality %-11.44	3. Kids mortality %-18.83								
								4. Post kidding problems %-6	4. Post kidding problems %-17								



Distribution of Inputs under FLD to the farmers



Spraying of Neem oil and Karanj Oil on animal body



Ticks and their eggs below the wooden log of manger



Burning of ticks and their eggs



Spraying of Metarhizium anisopliae fungus in the shed

FLD on Integrated control of ticks on animal body



Distribution of Shrinidhi 4 wk poultry birds to the farmers



Farmers Shrinidhi poultry birds unit under FLD



Shrindihi Poultry birds



FLD on rearing of Shrinidhi improved poultry birds for backyard poultry farming



Eggs of Shrinidhi poultry birds



Distribution of mineral bricks to the farmers



Mineral brick in the goat shed



FLD on mineral lick bricks use in goats

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Nutri cereals	Demonstration of nutrient rich millet flour	10	Production of flour Grams/kg	889	860
			Cost of production Rs/ kg	67	50

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major parameters	Filed observation (output/man hour)		% change in major parameter	Labor reduction (man days)				Cost reduction (Rs./ha or Rs./Unit etc.)			
						Demo	Check		Land preparation	Sowing	Weeding	Total	Land preparation	Labour	Irrigation	Total
BBF Planter	Soybean	BBF Planter	20	8.0	Yield. q/ha	22.9	17.2	33.13	-	-	-	-	-	-	-	-
Sorghum Uprooter	Sorghum	Sorghum Uprooter	10	4.0	1. Avg. uprooting time/plant	3.96	4.05	2.22	-	-	-	-	-	-	-	-
					2. Actual Field Capacity, M ² -h ⁻¹	125	121	3.20								



Frontline Demonstration (FLD) on BBF Planter



Frontline Demonstration (FLD) on Manual Operated Sorghum Uprooter

FLD on Other enterprises

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Processing Technologies	Spiral Grader-Cleaner	20	Capacity, q/h	3.10	0.30
			Labour requirement, man-h/q	3.40	4.60
			Impurities removed, kg/q	41.50	84
			Cost of operation, Rs. /q	152	65
			Net benefit at market, Rs. /q	3.10	0.30
Natural Resource Management	Borewell Recharge	10	Ground Water Depth, Meters	35.4	40.7



Frontline Demonstration (FLD) on Spiral Grader-Cleaner



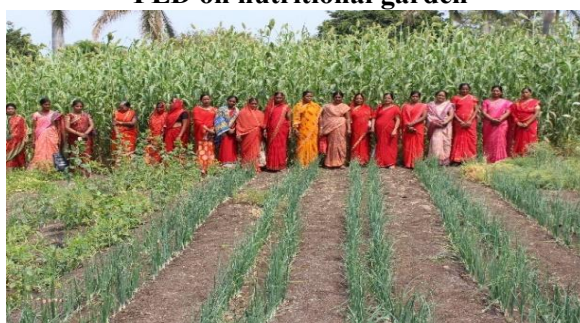
Frontline Demonstration (FLD) on Borewell Recharge

FLD on Other Enterprise: Kitchen Gardening

Nutrition garden components	Thematic area	Area (sq mt)	No. of Farmer	No. of Units	Yield (Kg)- supply of vegetables, fruits, etc from KG in the year		% change in yield	Household size (number)		Economics of demonstration (Rs. /ha)				Economics of check (Rs. /ha)			
					Demonstration	Check*		Demo	Check	Gross Cost	Gross Return/ Savings*	Net Return	BCR (R/C)	Gross Cost	Gross Return/ Savings*	Net Return	BCR (R/C)
Nutritional garden	Nutritional Security	Establishment of Nutritional Gardens for Enhancing Nutritional Security	50	50	620	210	66.12	4	4	17,200	37,200	20,000	2.16	5,400	9,300	3,900	1.72
Nutritional farming	Nutritional food security	Demonstration on Farming System for Nutrition	50	50	1030	750	27.18	4	4	29,400	59,950	30,550	2.03	29,345	56,000	26,655	1.90



FLD on nutritional garden



FLD on farming system for nutrition

3.4. Training Programmes

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management										
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production	1	39	0	39	3	0	3	42	0	42
Nursery management										
Integrated Crop Management	1	0	27	27	0	2	2	0	29	29
Soil & water conservation										
Integrated nutrient management										
Production of organic inputs										
Others (pl. specify)										
Total	2	39	27	66	3	2	5	42	29	71
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops										
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)										
Total (a)										
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	01	115	05	120	45	02	47	160	07	167
Management of young plants/orchards										
Rejuvenation of old orchards										
Export potential fruits	01	103	07	110	30		130	133	07	140
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (pl specify)	03	77	05	82	05		05	82	05	87
Total (b)	5	295	17	312	80	2	182	375	19	394
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)										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
Grand Total (a to g)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management										
Poultry Management	02	0	0	0	02	40	42	02	40	42
Piggery Management										
Rabbit Management										
Animal Nutrition Management										
Disease Management										
Feed & fodder technology										
Production of quality animal products										
Others (pl specify)	01	0	0	0	10	01	11	10	01	11
Total	03	0	0	0	12	41	53	12	41	53
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	4	0	189	189	0	20	20	0	209	209
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	3	24	25	49	1	12	13	25	37	62
Women empowerment	4	0	171	171	0	31	31	0	202	202
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	11	24	385	409	1	63	64	25	448	473
VI Agril. Engineering										
Farm Machinery and its maintenance	02	37	6	43	6	1	7	43	7	50
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements	01	0	24	24	0	4	4	0	28	28
Small scale processing and value addition										
Post Harvest Technology										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others (pl specify)										
Total	03	37	30	67	6	5	11	43	35	78
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X CapacityBuilding and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	24	395	459	854	102	113	315	497	572	1069

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	1	40	0	40	0	0	40	40	0	40
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	1	43	0	43	0	0	0	43	0	43
Production of organic inputs	1	0	35	35	0	4	4	0	39	39
Others - Production enhancement in field crops	1	51	0	51	0	0	0	51	0	51
Total	4	134	35	169	0	4	44	134	39	173
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	02	20		20	06		06	26		26
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (INM in tomato)	01	06		06	04		04	10		10
Total (a)	03	26		26	10		10	36		36
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit										
Management of young plants/orchards	01	08		08	05		13	13		13
Rejuvenation of old orchards										
Export potential fruits										
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (INM in mango)	01	13		13				13		13
Total (b)	02	21		21	5		13	26		26
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (Commercial cultivation of China Aster)	01	10		10				10		10
Total (c)	01	10		10				10		10
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)										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
Grand Total (a to g)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management	01	43	0	43	0	0	0	43	0	43
Poultry Management										
Piggery Management										
Rabbit Management										
Animal Nutrition Management	02	31	0	31	03	0	03	34	0	34
Disease Management	01	15	0	15	0	0	0	15	0	15
Feed & fodder technology	01	15	0	15	0	0	0	15	0	15
Production of quality animal products										
Others (pl specify)										
Total	05	104	0	104	3	0	3	107	0	107
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	1	0	65	65	0	27	27	0	92	92
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition										
Women empowerment										
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	1	0	65	65	0	27	27	0	92	92
VI Agril. Engineering										
Farm Machinery and its maintenance	01	24	0	24	6	0	6	30	0	30
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										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others (pl specify)										
Total	01	24	0	24	6	0	6	30	0	30
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	17	319	100	419	24	31	103	343	131	474

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	1	40	0	40	0	0	40	40	0	40
Resource Conservation Technologies										
Cropping Systems										
Crop Diversification										
Integrated Farming										
Micro Irrigation/irrigation										
Seed production	1	39	0	39	3	0	3	42	0	42
Nursery management										
Integrated Crop Management	1	0	27	27	0	2	2	0	29	29
Soil & water conservation										
Integrated nutrient management	1	43	0	43	0	0	0	43	0	43
Production of organic inputs	1	0	35	35	0	4	4	0	39	39
Others- Production enhancement in field crops	1	51	0	51	0	0	0	51	0	51
Total	6	173	62	235	3	6	49	176	68	244
II Horticulture										
a) Vegetable Crops										
Production of low value and high value crops	02	20		20	06		06	26		26
Off-season vegetables										
Nursery raising										
Exotic vegetables										
Export potential vegetables										
Grading and standardization										
Protective cultivation										
Others (pl specify)	01	06		06	04		04	10		10
Total (a)	03	26		26	10		10	36		36
b) Fruits										
Training and Pruning										
Layout and Management of Orchards										
Cultivation of Fruit	01	115	05	120	45	02	47	160	07	167
Management of young plants/orchards	01	08		08	05		13	13		13
Rejuvenation of old orchards										
Export potential fruits	01	103	07	110	30		130	133	07	140
Micro irrigation systems of orchards										
Plant propagation techniques										
Others (PHM in fruit crops-3) (INM in mango-1)	04	90	05	95	05		05	95	05	100
Total (b)	7	316	17	333	85	2	195	401	19	420
c) Ornamental Plants										
Nursery Management										
Management of potted plants										
Export potential of ornamental plants										
Propagation techniques of Ornamental Plants										
Others (Commercial cultivation of China Aster)	01	10		10				10		10
Total (c)	01	10		10				10		10
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										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Others (pl specify)										
Total (f)										
g) Medicinal and Aromatic Plants										
Nursery management										
Production and management technology										
Post harvest technology and value addition										
Others (pl specify)										
Total (g)										
Grand Total (a to g)										
III Soil Health and Fertility Management										
Soil fertility management										
Integrated water management										
Integrated Nutrient Management										
Production and use of organic inputs										
Management of Problematic soils										
Micro nutrient deficiency in crops										
Nutrient Use Efficiency										
Balance use of fertilizers										
Soil and Water Testing										
Others (pl specify)										
Total										
IV Livestock Production and Management										
Dairy Management	01	43	0	43	0	0	0	43	0	43
Poultry Management	02	0	0	0	02	40	42	02	40	42
Piggery Management										
Rabbit Management										
Animal Nutrition Management	02	31	0	31	03	0	03	34	0	34
Disease Management	01	15	0	15	0	0	0	15	0	15
Feed & fodder technology	01	15	0	15	0	0	0	15	0	15
Production of quality animal products										
Others (pl specify)	01	0	0	0	10	01	11	10	01	11
Total	08	104	0	104	15	41	56	119	41	160
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	5	0	254	254	0	47	47	0	301	301
Design and development of low/minimum cost diet										
Designing and development for high nutrient efficiency diet										
Minimization of nutrient loss in processing										
Processing and cooking										
Gender mainstreaming through SHGs										
Storage loss minimization techniques										
Value addition	3	24	25	49	1	12	13	25	37	62
Women empowerment	4	0	171	171	0	31	31	0	202	202
Location specific drudgery reduction technologies										
Rural Crafts										
Women and child care										
Others (pl specify)										
Total	12	24	450	474	1	90	91	25	540	565
VI Agril. Engineering										
Farm Machinery and its maintenance	03	61	6	67	12	1	13	73	7	80
Installation and maintenance of micro irrigation systems										
Use of Plastics in farming practices										
Production of small tools and implements										
Repair and maintenance of farm machinery and implements	01	0	24	24	0	4	4	0	28	28
Small scale processing and value addition										

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Post Harvest Technology										
Others (pl specify)										
Total	04	61	30	91	12	5	17	73	35	108
VII Plant Protection										
Integrated Pest Management										
Integrated Disease Management										
Bio-control of pests and diseases										
Production of bio control agents and bio pesticides										
Others (pl specify)										
Total										
VIII Fisheries										
Integrated fish farming										
Carp breeding and hatchery management										
Carp fry and fingerling rearing										
Composite fish culture										
Hatchery management and culture of freshwater prawn										
Breeding and culture of ornamental fishes										
Portable plastic carp hatchery										
Pen culture of fish and prawn										
Shrimp farming										
Edible oyster farming										
Pearl culture										
Fish processing and value addition										
Others (pl specify)										
Total										
IX Production of Inputs at site										
Seed Production										
Planting material production										
Bio-agents production										
Bio-pesticides production										
Bio-fertilizer production										
Vermi-compost production										
Organic manures production										
Production of fry and fingerlings										
Production of Bee-colonies and wax sheets										
Small tools and implements										
Production of livestock feed and fodder										
Production of Fish feed										
Mushroom Production										
Apiculture										
Others (pl specify)										
Total										
X Capacity Building and Group Dynamics										
Leadership development										
Group dynamics										
Formation and Management of SHGs										
Mobilization of social capital										
Entrepreneurial development of farmers/youths										
WTO and IPR issues										
Others (pl specify)										
Total										
XI Agro-forestry										
Production technologies										
Nursery management										
Integrated Farming Systems										
Others (pl specify)										
Total										
GRAND TOTAL	41	714	559	1273	126	144	418	840	703	1543

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements	01	22	0	22	3	0	3	25	0	25
Value addition	01	0	12	12	0	6	6	0	18	18
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	2	22	12	34	3	6	9	25	18	43

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
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/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Nursery Management of Horticulture crops										
Training and pruning of orchards										
Protected cultivation of vegetable crops										
Commercial fruit production										
Integrated farming										
Seed production										

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Production of organic inputs										
Planting material production										
Vermi-culture										
Mushroom Production										
Bee-keeping										
Sericulture										
Repair and maintenance of farm machinery and implements	01	22	0	22	3	0	3	25	0	25
Value addition	01	0	12	12	0	6	6	0	18	18
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	02	22	12	34	3	6	9	25	18	43

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology	01	59	11	70	36	04	40	95	15	110
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	1	1	6	7	0	2	2	1	8	9
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Capacity building for ICT application										
Management in farm animals	01	12	91	103	0	15	15	12	106	118
Livestock feed and fodder production										
Household food security										
Any other – Leadership development	19	447	165	612	40	45	85	487	210	697
TOTAL	22	519	273	792	76	66	142	595	339	934

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology										
Production and use of organic inputs										
Care and maintenance of farm machinery and implements										
Gender mainstreaming through SHGs										
Formation and Management of SHGs										
Women and Child care										
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	01	115	16	131	44	09	53	159	25	184
Management in farm animals										
Livestock feed and fodder production										
Household food security										
Any other (pl.specify)										
TOTAL	01	115	16	131	44	09	53	159	25	184

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Productivity enhancement in field crops										
Integrated Pest Management										
Integrated Nutrient management										
Rejuvenation of old orchards										
Protected cultivation technology	01	59	11	70	36	04	40	95	15	110
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	1	1	6	7	0	2	2	1	8	9
Low cost and nutrient efficient diet designing										
Group Dynamics and farmers organization										
Information networking among farmers										
Capacity building for ICT application	01	115	16	131	44	09	53	159	25	184
Management in farm animals	01	12	91	103	0	15	15	12	106	118
Livestock feed and fodder production										
Household food security										
Any other – Leadership development	19	447	165	612	40	45	85	487	210	697
TOTAL	23	634	289	923	120	75	195	754	364	1118

Sponsored training programmes

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Increasing production and productivity of crops										
Commercial production of vegetables										
Production and value addition										
Fruit Plants	02	218	12	230	75	02	77	293	14	307
Ornamental plants										
Spices crops										
Soil health and fertility management										
Production of Inputs at site										
Methods of protective cultivation										
Others (pl. specify)										
Total	02	218	12	230	75	02	77	293	14	307
Post harvest technology and value addition										
Processing and value addition	3	24	25	49	1	12	13	25	37	62
Others (pl. specify)										
Total	3	24	25	49	1	12	13	25	37	62
Farm machinery										
Farm machinery, tools and implements	04	59	30	89	9	5	14	68	35	103
Others (pl. specify)										
Total	04	59	30	89	9	5	14	68	35	103
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	1	0	87	87	0	19	19	0	106	106
Drudgery reduction of women										
Others (pl. specify)										
Total	1	0	87	87	0	19	19	0	106	106
Agricultural Extension										
Capacity Building and Group Dynamics										
Others – Leadership development	19	447	165	612	40	45	85	487	210	697
Total	19	447	165	612	40	45	85	487	210	697
GRAND TOTAL	29	748	319	1067	125	83	208	873	402	1275

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Crop production and management										
Commercial floriculture										
Commercial fruit production										
Commercial vegetable production										
Integrated crop management										
Organic farming										
Others (pl. specify)										
Total										
Post harvest technology and value addition										
Value addition	1	0	12	12	0	6	6	0	18	18
Others (pl. specify)										

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
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	0	12	12	0	6	6	0	18	18

Photographs of Training Programme





3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extension Personnel	TOTAL
Advisory Services (Other than KMAS)	12	6772	0	6772
Diagnostic visits	6	123	0	123
Field Day	4	171	14	185
Group discussions	4	99	0	99
Film Show	4	255	248	503
Kisan Mela	1	116	0	116
Exhibition	2	1627	96	1723
Scientists' visit to farmers field	33	221	0	221
Plant/animal health camps	1	18	0	18
Farmers' seminar/workshop	1	118	0	118
Method Demonstrations	14	420	0	420
Celebration of important days	3	195	0	195
Special day celebration	1	25	0	25
Exposure visits	2	23	0	23
Others (pl.specify)				
Farmer Scientist Interaction	1	109	3	112
Lecture delivered	44	2687	0	2687
Farmers visit to KVK	3	145	0	145
Krushak Swarn Samrudhi week	6	301	4	305
PM Kisan Nidhi Yojana	1	116	0	116
Live viewing of Krushi Choupal	1	65	0	65
Total	144	13606	365	13971

Photographs of Extension Activities



Field Day on Soyabean(KDS-726) under CFLD at village Ankoli



Dr Rajendra Kale Senior Scientist DOCR Rajgurunagar Pune visit at village Gangapur



Field Day



Lecture delivered as resource person



Animal Health camp



Dr SK Roy Director ATARI Pune visit to soyabean processing unit



FSI under ATMA at village Ankoli



Extension literature distribution



PM Kisan Nidhi program live webcasting



Details of other extension programmes:

Particulars	Number
Electronic Media (CD./DVD)	-
Extension Literature	04
Newspaper coverage	09
Popular articles	-
Radio Talks	-
TV Talks	-
Animal health camps (Number of animals treated)	484
Social Media (No. of platforms Used)	014
Others (pl. specify)	-
Total	501

3.6 Online activities during year 2024

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

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

Production of seeds by the KVKs

Crop	Name of the crop	Name of the variety	Name of the hybrid	Quantity of seed, (q)	Value (Rs)	Number of farmers
Oilseeds						
	Soybean	DS-228,KDS-726,KDS-753,KDS-992,MAUS-158,MAUS-162,MAUS-612,MAUS-725	-	929.31	8577600	891
Total						891



Soybean Seed Production Programme Kharif 2024

Production of planting materials by the KVK

Crop	Name of the crop	Name of the variety	Name of the hybrid	Number	Value (Rs.)	Number of farmers
Fruits	Mango	Keshar	-	3918	352620	80
Fodder crop saplings	Fodder crop	Super Napier	Hybrid Napier	68800	45075	15
Azolla (Other)	Azolla	Azolla Pinnata	-	4	800	4
Total				72722	398495	99

Production of Bio-Products

Bio Products	Name of the bio-product	Quantity	Value (Rs.)	No. of Farmers
		Kg/Lit		
Vermicompost (Other)	Vermicompost	75.82 qtl	113730	28
	Vermiculture	58 kg	29000	30
Processing Unit (Other)	Redgram dal/Bengalgram dal/Greengram dal/Blackgram dal	5333 kg	727735	21
	Soya tofu	20.5 kg	6150	01
Total		5487.32	876615	80

Production of livestock materials

Particulars of Live stock	Name of the animal / bird / aquatics	Name of the breed	Type of Produce	unit (no./lit/kg)	Quantity	Value (Rs.)	No. of Farmers
Duals (broiler and layer)	Improved poultry birds	Shrinidhi Nicobari Vanashree Kaweri	4-8 Wk birds	No.	3237	360370	122
Others (Goat)	Goat	Osmanabadi	Kids	No.	18	153530	18
Total					3255	513900	140

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	Citation/ Title	Authors name	Number
Research papers (Give Citation)			
Technical reports	Annual Progress Report (NICRA)	Matai.P.D.	06
News letters			
Technical bulletins			
Popular articles			
Extension literature	Soybean Seed Production:PPP Project	Matai.P.D.	500
	Vermicompost and Vermiculture Production	Gunjal A.A.	500
	Azolla : Supplementary Food For Animals	Dr.Salunke S.B.	500
	Plant seeds with a Precision Rotary Dibbler (Token Yantra)	Dr.S.P.Shinde, Mr.P.D.Matai	500
TOTAL			2006



C. Details of Electronic Media Produced

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

D. Details of Social Media Platforms Created / Used

S. No.	Type of social media platform	No of events (uploaded video/post/story etc.	Title of social media	Number of Followers/ Subscribers
1	YouTube Channel (no of video uploaded)	4	Krishi Vigyan Kendra Latur	673/71
2	Facebook page/ Account (no of Post)	35	Krishi Vigyan Kendra Latur I	2000
3	Mobile Apps	0	0	0
4	WhatsApp groups	23	KVK, Latur groups	2450
5	Twitter Account	0	0	0
6	Any other (Pl. Specify)			

D. Success Stories / Case studies

Success story-1

Enhancing Farm Productivity and Rural Livelihoods through Custom Hiring Centre

Name of the Enterprise / Crop: Farm mechanization

Name of the Farmer: Mr. Dinesh Rajkumar Kharose

Address: At Post. Harangul Bk, Tq. Dist. Latur- 413 531



Background:

Access to advanced agricultural machinery remains a major challenge for small and marginal farmers due to high capital investment and maintenance costs. To bridge this gap, Mr. Dinesh Rajkumar Kharose, a progressive farmer from Harangul Bk, Tq. & Dist. Latur, established a Custom Hiring Center (CHC). This initiative aims to provide modern farm machinery on a rental basis, ensuring affordability and timely access to mechanized farming solutions. The CHC has not only reduced farmers' operational costs but also improved agricultural efficiency and productivity.

Interventions:

- **Role of KVK Scientists (Agricultural Engineering):**

The scientists at Krishi Vigyan Kendra (KVK), Latur, played a crucial role in guiding the establishment of the Custom Hiring Centre. They provided technical training on the operation, maintenance, and efficient utilization of farm machinery. Additionally, they assisted in developing a cost-effective rental model, ensuring maximum outreach and affordability for farmers. Their expertise in farm mechanization has enabled better adoption of modern agricultural practices, leading to enhanced productivity and sustainability.

- **Process:**

The CHC follows a structured rental model, wherein farmers can access a variety of farm implements based on their crop production needs. By leveraging mechanization, the initiative supports precision farming, reduces dependency on manual labour, and enhances operational efficiency. Farmers can book machinery in advance, ensuring timely field operations.

- **Technology:**

The CHC is equipped with a diverse range of modern agricultural implements catering to various farming stages, including land preparation, sowing, intercultural operations, and harvesting. The adoption of precision technology in machinery improves input efficiency, minimizes wastage, and enhances yield.

Services Provided to Farmers on Rent Basis:

S.No.	Implements/ Machinery	Rental Cost (Rs./Acre or Bag)	Total Area Covered per Year (Acre/Bag)	Total Revenue (Rs.)
1	MB Plough	2500/-	85	2,12,500/-
2	Rotavator	1800/-	135	2,43,000/-

3	Seed Drill	1500/-	152	2,28,000/-
4	Cultivator	1200/-	65	78,000/-
5	Ridger	1000/-	32	32,000/-
6	Multi-crop Thresher	150/- per bag	225	33,750/-
Total				8,27,250/-

Impact:

- **Horizontal Spread:**

The CHC model has gained traction among local farmers, encouraging nearby villages to adopt similar initiatives. The increased adoption of farm mechanization has resulted in higher operational efficiency and reduced drudgery in agricultural practices. The initiative serves as a replicable model for sustainable mechanization.

- **Economic Gains:**

The CHC generates an annual revenue of Rs. 8,27,250, making it a financially sustainable venture. It has substantially reduced the per-acre cost of farming operations for smallholders, increasing their profit margins. Mechanized farming has also led to better resource utilization, ensuring optimal seed placement, fertilizer application, and water conservation.

- **Employment Generation:**

The establishment of the CHC has created employment opportunities for skilled and semi-skilled labourers involved in machinery operation, repair, and logistics. Additionally, local youth have been trained in the maintenance and efficient use of farm equipment, fostering rural entrepreneurship.

Conclusion:

Mr. Dinesh Rajkumar Kharose's Custom Hiring Center is a pioneering example of how farm mechanization can revolutionize smallholder agriculture. By making advanced equipment affordable and accessible, the CHC has enhanced productivity, reduced labour dependency, and contributed to rural economic development. With continued support from KVK scientists and the adoption of innovative technologies, this initiative sets a precedent for the widespread adoption of mechanization in Indian agriculture, promoting sustainable and profitable farming practices.

Photographs



Success story-2

Transforming Goat Farming in the Adopted Village through KVK Interventions

1. Situation Analysis / Problem Statement:

Goat and sheep farming in the adopted village of Borgaon (N) has been a traditional occupation for small and landless farmers for generations. It serves as the primary source of livelihood for many families who rely solely on this enterprise for their income. However, despite its economic significance, traditional goat-rearing methods faced several challenges, including poor management practices, high disease incidence and low productivity. Farmers lacked access to scientific knowledge and scientific technologies that could enhance herd health and profitability.

The major challenges included high mortality rates among kids, low productivity and poor health management practices. Farmers' limited awareness of scientific goat and sheep rearing methods led to economic losses. Disease outbreaks, particularly ETV, Peste des Petits Ruminants (PPR), Contagious Ecthyma, foot rot, abortions etc. and inadequate nutrition further compounded the problem. Recognizing these challenges, Krishi Vigyan Kendra (KVK) Latur intervened with targeted strategies to improve goat farming practices, ensuring better productivity, higher income and long-term sustainability.

2. Plan, Implement and Support: To address these challenges, Krishi Vigyan Kendra (KVK), Latur implemented various technologies through Assessment, demonstrations, conducting animal health programme, trainings and field visits. The key objectives were to improve goat health, enhance productivity, and ensure economic sustainability through scientific management practices. KVK adopted a multi-faceted approach, providing training, advisory services, and technical support to goat farmers.

Activities Implemented by KVK to Increase Knowledge about Technologies:

- **Animal health camp:** Deworming and vaccination of goats and sheep to prevent parasitic infestation, improve overall health and to reduce mortality and disease outbreaks.
- **On Farm testing (Assessment):** Deworming of kids using broad-spectrum dewormers to enhance growth and survival rates.
- **Frontline demonstration:** Use of mineral lick bricks to supplement essential minerals and improve reproductive performance.
- **Training programs and advisory services** provided through field visits, mobile consultations, and farmer meetings to educate farmers on improved goat farming practices.

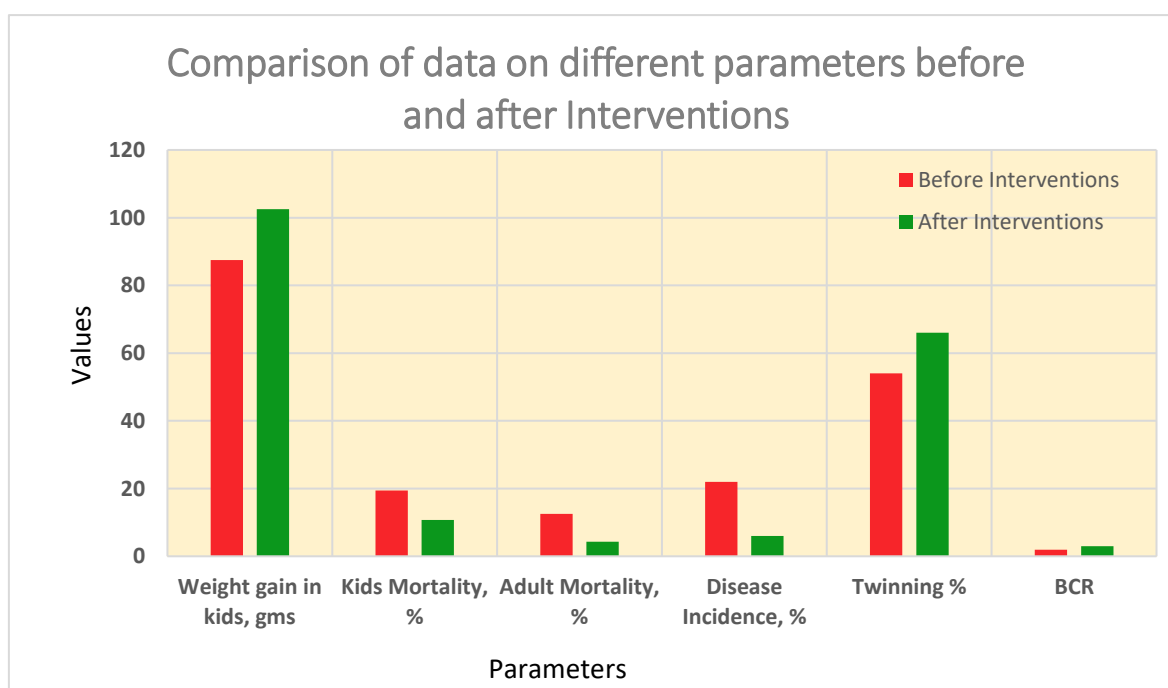
3. Output:

- The awareness and adoption of scientific rearing practices have significantly improved the weight gain of kids, increasing from 87.45 grams to 102.5 grams per day. The mortality rate in kids has reduced from 19.41% to 10.72%, enhancing overall herd sustainability. Similarly, the mortality rate in adults has decreased from 12.5% to 4.3%, ensuring better longevity and productivity. The incidence of diseases has also declined

from 22% to 6%, leading to improved herd health and reduced treatment costs. Additionally, the twinning rate has increased from 54% to 66%, contributing to a higher population growth rate. (Table no. 1)

Table 1. Comparison of data on different parameters before and after Interventions

N	Parameters	Before Intervention	After Intervention
1	Weight gain in kids (gms)	87.45	102.5
2	Mortality in kids (%)	19.41	10.72
3	Mortality in adults (%)	12.5	4.3
4	Disease incidence (%)	22	6
5	Twinning (%)	54	66
6	Net return per goat (Rs.)	4743	7470
7	Benefit-Cost Ratio (BCR)	1.94	2.95



4. Outcome:

Farmers experienced higher incomes, with net returns per animal increasing from Rs. 4,743 to Rs. 7,470 due to better productivity and reduced losses. The adoption of scientific practices led to improved production and productivity while effectively addressing the challenges posed by inefficient grazing area. The capacity of farmers to sustain scientific goat farming practices was strengthened, fostering long-term benefits for the community. Enhanced meat and milk production contributed to improved nutritional status and food security for farming families. As a result, the socio-economic status of the farmers improved significantly.

5. Impact:

The adoption of scientific rearing practices has significantly improved the livelihood of farmers by enhancing productivity, reducing mortality rates, and increasing their income. Knowledge transfer through training, advisory services, and demonstrations has empowered farmers with scientific management techniques, leading to sustainable farming practices. Economic empowerment has been evident as net returns per animal have increased, contributing to better financial stability and improved living standards for farming families. Social recognition of progressive farmers has grown, as successful adopters of improved practices have become role models within their communities. Additionally, the visible success of these interventions has encouraged technology adoption in nearby villages, leading to wider dissemination of improved rearing practices and overall development in the region.

Secondary Data to Substantiate Outcome and Impact-

1. Improvement in Goat Farming Productivity

- According to the **National Institute of Animal Nutrition and Physiology (NIANP)**, scientific interventions such as balanced feeding and mineral supplementation improve weight gain in kids by 15-20%.
- A study conducted by **ICAR-Central Institute for Research on Goats (CIRG)** reported that deworming and vaccination can reduce mortality in kids by 40-50% and in adults by 50-60%.

2. Economic Benefits of Scientific Goat Rearing

- The **Indian Council of Agricultural Research (ICAR)** has documented that improved breed management and scientific interventions can increase net returns per goat by 40-60%.
- **The 20th Livestock Census (2019)** indicated that small ruminant farming contributes over 15% to the total livestock economy in Maharashtra, reinforcing its role in rural livelihoods.

3. Disease Management and Mortality Reduction

- A report from **KVK Pune (2022)** on scientific goat farming interventions showed that proper vaccination against PPR and deworming programs reduced disease incidence from 20% to below 7%.
- The **Maharashtra Animal Husbandry Department's 2022-23 Annual Report** states that targeted vaccination programs reduced the mortality rate of goats by 30-50% in intervention areas.

4. Impact on Socio-Economic Development

- A study by **NABARD (2021)** found that scientific goat farming increased household incomes by 50-70% among small and marginal farmers.
- The **National Sample Survey (NSS) 77th Round (2019)** reported that livestock farming, particularly goat rearing, significantly enhances rural food security and provides alternative livelihood options.

These data sources support the impact assessment of your KVK interventions in Borgaon (N) and provide a strong foundation for showcasing the success of scientific goat farming in improving productivity, economic returns, and livelihood sustainability. Let me know if you need any specific references or formatting improvements!

Photographs



Success story-3

Vermicomposting: A Sustainable Successful Agro-enterprise established by Women Farmers

➤ **Situation analysis/Problem statement:**

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

➤ **Plan, Implement and Support:**

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

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

Sr no	Year	No of training	No of Client	No of extension activities	No of Client
1.	Year 2017-18	04	PF:102	01	77
2.	Year 2018-19	02	EF: 63	03	189
3.	Year 2019-20	03	PF:78	02	143
4.	Year 2020-21	03	PF: 81	02	49
5.	Year 2021-22	02	PF: 32	03	121
6.	Year 2022-23	06	PF: 263	02	145
7.	Year 2023-2024	03	PF: 167	09	456

➤ **Outcome:**

The technology was adopted among the farm women of 14 villages and was found suitable and very much accepted by the women farmers. These women farmers utilized produced vermicompost in their own farm which in turn reduces the cost of purchasing chemical fertilizers for crop production. The excess production produced by the women farmers sold to other villager farmers.

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

Sr no	Name of the village Tq Latur	Name of the tehsil	No of units established
1	Bhoisamudraga	Latur	93
2	Gangapur	Latur	36
3	Akarwai	Latur	50
4	Mahapur	Latur	55
5	Borwati	Latur	08
6	Fattepur	Ausa	45
7	Talani	Ausa	14
8	Nagarsoga	Ausa	12
9	Yakatpur	Ausa	09
10	Wanwada	Ausa	05
11	Borfal	Ausa	25
12	Korangala	Ausa	12
13	Jawalga	Renapur	42
14	Korangala	Renapur	35
Total:			441

➤ **Output:**

At present a total 441 women farmers & farmers are involved in vermicompost production as below mentioned table. A woman farmer from different villages are well acquainted with this low cost vermicompost technology and created an enterprise. They are now able to harvest 9 to 10 quintals of vermicompost from each vermibeds in a batch. Each woman farmer sold average 90 to 100 quintols of vermicompost costing Rs 1500/- per quintal while 15 to 20 kg vermiculture costing Rs 500/- from last 3 to 4 years.

Table no. 3: Cost: benefit ratio of vermicompost (Unit size: vermibeds of size 12’x4’x2’)

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

➤ **Impact:**

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



Training on Vermicompost & vermiculture production



Training on Vermicompost & vermiculture production



Training on Vermicompost & vermiculture production





Vermicompost Units at farmers field



Training to the vermicompost producers under RPL (ASCI)



Exposure visit of women farmers to the Vermicompost Unit at KVK

Success story-4

Economic Improvement through Banana and vegetables integrated Farming



Situation Analysis/Problem Statement:

Mr. Sangmeswar Mahishankar Khichacde is a motivated, 35-year-old farmer from Almala, AUSA District, Latur (Maharashtra). With a family of eight members, all actively participating in farming operations, he holds an agricultural diploma from YCMOU, completed at KVK Latur. Initially focused on traditional monocropping, he grew soybeans, pigeon peas, and Bengal gram. Unfortunately, his yield and income from these crops fell short due to market price fluctuations, directly affecting his financial situation.

Plan, Implementation, and Support:

Realizing the need for change, Mr. Khichacde sought guidance from expert at Krishi Vigyan Kendra (KVK) Latur during his agricultural diploma studies in 2022-23. After gaining insights into advanced agricultural practices, he transitioned to integrated farming by introducing banana (G-9) cultivation, well-suited to the area's soil and irrigation conditions. He simultaneously planted seasonal vegetables as intercrops during the initial banana growth phase, allowing for additional income generation while awaiting the main crop's harvest.

Activities Implemented by KVK to Improve Knowledge about Technologies:

1. Training:

Mr. Khichacde actively participates in training programs offered by KVK, focusing on banana cultivation techniques and modern agricultural practices. This education has significantly enhanced his understanding of effective farming strategies.

2. Demonstrations:

KVK organized practical demonstrations on his farm to illustrate the application of various advanced agricultural technologies. Mr. Khichacde applied the recommended scientific practices for banana cultivation and successfully implemented seasonal vegetable intercrops, optimizing his land's productivity.

3. Field Visits:

The KVK staff conducted regular visits to address his questions and provide targeted solutions to challenges encountered in banana farming. These interactions fostered practical problem-solving and ensured the effective adoption of recommended cultivation technologies.

Output:

Applying the recommended changes, Mr. Khichacde experienced remarkable improvements in banana cultivation compared to his previous traditional methods. Starting with just 1 acre allocated for banana cultivation, he expanded to 1 hectare (about 2.47 acres) for banana and seasonal vegetables, resulting in an annual gross income ranging from ₹9.75 to ₹10.50 lakhs. The total cost of cultivation, covering irrigation systems,

planting materials, plant protection, land preparation, and labor, was approximately ₹4.20 to ₹4.50 lakhs, culminating in a surplus annual income of ₹5.50 to ₹6.00 lakhs.

Outcome:

Through his commitment to integrated farming (banana + seasonal vegetables), Mr. Khichacde not only stabilized his farm income but became a successful role model, inspiring 12 to 15 farmers from his village and neighboring areas to adopt similar cropping patterns across 20 to 25 hectares. This shift has led to increased yields and enhanced income per unit area, significantly improving his socio-economic status and earning him respect within the community.

Conclusion:

Mr. Sangmeswar Mahishankar Khichacde's journey illustrates the positive impact of transitioning from traditional monocropping to integrated farming. With the assistance of KVK's guidance and training, he successfully transformed his agricultural practices, achieving considerable financial benefits and establishing a model for other farmers to follow. This case underscores the importance of adopting innovative farming techniques to enhance agricultural productivity and improve farmers' livelihoods.

Photographs



New banana planted plot and loaded banana bunches



Banana + Watermelon as an intercrop during rabi season



Mr. Khichade (Farmer) with heavy loaded banana bunches

Success story-5

Soybean Seed Production Through Farmer Participatory Approach: KVK Latur

Situation Analysis:

Soybean is the most important oil seed crop in India as well as the world. The soybean has gained a significant position within a very short time of its introduction and commercial cultivation. The popularity of soybean crop still is increasing in different zones and states of our country. Soybean has changed the economic status of the farmers who are growing soybean; still farmers are struggling with the problem of loss of seed quality of soybean. Producing good quality seed is still a challenge in some of the soybean growing areas. Good field emergence is being a problem due to one or other reasons.

Latur district have emerged as the second largest soybean growing area in the country. Total area under cultivation in Latur district is 6.67 lakh hectare out of that 70% area i.e., 4.50 lakh hectare is under soybean crop in Kharif season. Every year requirement of soybean seed for district is 3.5 lakh quintals. In spite of 1 lakh quintals own seeds used by farmers and 1.10 lakh quintals certified and truthful seed produced by FPO's of Latur district. Instead of this situations shortage of 1.40 lakh quintals certified soybean seed every year in district.

Soybean seed availability in Latur district has been affected by several challenges, including: Poor Seed Quality and Germination Issues, Adverse Weather Conditions, Soil Nutrient Deficiencies, Labor Shortages, Erratic Power Supply addressing these issues through improved seed quality control, soil nutrient management, reliable labor availability, and infrastructure support can enhance soybean seed availability in Latur district.

Looking to above situation to shortage of good quality foundation and certified seed Krishi Vigyan Kendra Latur started soybean seed production programme since 2012 through farmer participatory approach as buys back policy of produced soybean seed with 10-15% increase in rate as compared to market price.

Objectives:

1. To increase the net income to the farmer per acre of crop by – providing better quality, High-Yielding varieties of seed, seed production programs, technology transfer and customized agri-extension services.
2. To increase net income to farmer by providing him with an alternative marketing channel by way of buys back from the farmer.
3. To supply foundation seed to Farmer Producer Organizations (FPO's) for multiplication of good quality seed in district.
4. To multiply and supply newly released improved variety seed through frontline demonstrations.

Plan Implement & Support :

Plan

A collaborative effort was devised involving the Krishi Vigyan Kendra Latur, Vasantrao Naik Marathwada Agricultural University Parbhani, Mahatma Phule Agricultural University Rahuri and Farmer Producer Organizations (FPOs). Latur Seed Hub Project Financed by District Collector Latur and DSAO Latur from Year 2022 at KVK Latur under Innovative Technology.

The key objectives were:

- Establish a Foundation and certified seed production program.
- Train farmers in scientific seed production practices.
- Improve soil health through targeted nutrient management.
- Ensure efficient seed storage and distribution mechanisms.

Implementation

The program was launched since from Year 2018 in multiple phases:

1. **Farmer Training & Capacity Building:** Trainings were conducted to educate farmers on seed selection, Roguing off type plants, Pesticide and Fertilizer Management, proper storage and agronomic best practices etc.
2. **Seed Multiplication Program:** Quality breeder seeds from both universities were distributed to selected farmers under a monitored seed production initiative.
3. **Soil Health Management:** Soil testing campaigns to identified nutrient deficiencies and customized fertilizer recommendations were provided.
4. **Market Linkage & Distribution:** A streamlined seed supply chain was established to ensure timely availability of high-quality seeds to farmers and Farmer Producer Organizations (FPOs) across Latur district.
5. **Field visit & Inputs Distribution:**

Field visit conducted on Soybean seed production plots by SMS from sowing to harvesting for observation and guidance quality seed production. Inputs distribution like Fungicide and foliar fertilizers to farmers free of cost to produce good quality seed.

Support provided by KVK:

Soil Testing and soil nutrient management	• Ensures that farmers are educated on the proper soil sampling methodology • Ensures that the soil test results are provided to farmers in a timely fashion • Coordinates the samples and test results for the farmers • Technical guidance to farmers for soil test fertilizer application.
Seed Production	• Selection of Seed Production Farmers. • Training and capacity building to selected farmers on seed production, rouging, care to be taken while harvesting etc. • Dispatch of seed-to-seed processing plant. • Production of good quality seed.
Distribution of Breeder and Foundation seed	• Distribution of Breeder and Foundation seed for multiplication and seed production at subsidized rates. • Seed certification registration cost bear by KVK
Inputs distribution	• Rhizobium and PSB provides to farmers with free of cost for seed

	treatment Foliar fertilizers and Fungicides supplied to seed producers for quality seed production
Seed Buy Back Policy	- Procure soybeans directly from producers with minimum efforts and charges. - Train the farmers on buys back policy through awareness meetings
Farm Mechanization	- Formation of FPOs - Assist FPOs by providing seed for multiplication , - Explain benefits of mechanization to user farmers. - Promote farmers to use BBF and Seed Planter
Capacity building and Training Programme	- Training programme conducted before season to guide farmers for precautions during production. - Various extension activities conducted to promote for seed production - Field day on newly released improved variety of Soybean



Output:

Krishi Vigyan Kendra, Latur purchased 6363.70 Quintal Raw seed and produced 3712.40 Q. good seed of Breeder, Foundation and certified seed since from 2018-2023 and supplied 9777 good quality seed bag to district farmers and FPO's for multiplication.

Table :1 Year wise Soybean Seed Produced by Krishi Vigyan Kendra, Latur

Year	Varieties	Raw Seed (Quintal)	Good Seed (Quintal)	No. of Bags Produced	No.Pass Bag Sale
2018-19	DS-228, MAUS-71, MAUS-158, MAUS-162	572.13	455.70	1519	1034
2019-20	JS-335,DS-228, MAUS-71, MAUS-158,MAUS-162,MAUS-612	507.28	261.60	872	71
2020-21	DS-228, MAUS-71, MAUS-158, MAUS-162,KDS-726	1115.36	693.00	2815	2310
2021-22	DS-228, MAUS-158,MAUS-162, MAUS-612,KDS-726,KDS-753	1647.00	995.60	3318	2410

2022-23	DS-228, MAUS-158, MAUS-162, MAUS-612, KDS-726, KDS-753	1147.66	634.14	2439	1466
2023-24	DS-228, KDS-726, KDS-753, KDS-992, MAUS-71, MAUS-158, MAUS-162, MAUS-612, MAUS-725	1374.27	672.36	2486	2486
Total		6363.70	3712.40	13443	9777



Economics :

Farmers are involving in soybean seed production programme through participatory approach with KVK due increase in income by 30 to 45% as compared to soybean production in district.

Table : 2 Economics of Soybean Seed Production of Participated Farmers

Year	Varieties	No. of Seed Growers	Raw Seed (Quintal)	Avg. Yield/Acre (Qtls.)		Rate/Qtls.		Avg. Income/Acre		% Increase in income /Acre
				Seed	Local	Seed	Local	Seed	Local	
2018-19	DS-228, MAUS-71, ,158,162	49	572.13	11.67	9.2	4300	3800	50181	34960	44.65
2019-20	JS-335, DS-228, MAUS-71, ,158,162,612	38	507.28	13.34	9.75	4600	4000	61364	39000	57.34
2020-21	DS-228, MAUS-71, ,158,162 KDS-726	91	1115.36	12.25	10.18	6500	6000	79625	61080	30.36
2021-22	DS-228, MAUS-71, ,158,162, KDS-726,753	141	1647.00	11.68	8.90	8000	7500	93440	66750	39.98
2022-23	DS-228, MAUS-158,162, KDS-726, KDS-753	83	1147.66	13.82	11.30	5410	5110	74766	57743	29.48
2023-24	DS-228, MAUS-158,162,612,725 KDS-726, KDS-753	45	1374.27	11.84	9.21	5000	4600	59200	42366	39.56
Total		447	6363.70							

Outcome:

- Farmers and Farmer Producer Organizations (FPOs) from Latur District gained access to **affordable, high-germination soybean seeds**.
- The dependency on external seed suppliers from other states reduced by ensuring self-sufficiency.
- Adoption of Newly Released improved Varieties Soybean seed production techniques increased by **70%** among participating farmers.
- Market confidence grew, with soybean seed demand in Latur rising significantly.
- KVK Latur increased area from 50 acre in year 2019 increased 468 Acre in year 2024.
- District farmers demand increasing for seed production programme by KVK, Latur.

Impact:

Due to soybean seed production programme

- Quality seed tends to give the highest returns, relative to cost of other inputs
- Increased net income of the farmers
- Availability of Soybean seed is a big concern among farmers.
- Conversion of breeder seed to foundation and certified seed is very crucial for soybean cultivation in Maharashtra
- Availability of good quality improved varieties seed at local places.
- Can provide breeder and foundation seed to Farmer producer organization (FPOs)

Farmers' income increased by **30 to 45 %** due to better yields and direct seed sales to KVK Latur. The initiative contributed to **improved food security** in the region by stabilizing soybean production. The program fostered long-term sustainability in soybean farming, making Latur a key seed production hub in Maharashtra.



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

-
-
-

B. Rural Youth

-
-
-
-

C. In-service personnel

-
-
-

5.2. Indicate the methodology for identifying OFTs/FLDs

For OFT:

- PRA
- Problem identified from Matrix
- Field level observations
- Farmer group discussions
- Others if any

For FLD:

- New variety/technology
- Poor yield at farmers level
- Existing cropping system
- Others if any

5.3. Field activities

- Name of villages identified/adopted with block name (from which year) -
- No. of farm families selected per village :
- No. of survey/PRA conducted :
- No. of technologies taken to the adopted villages
- Name of the technologies found suitable by the farmers of the adopted villages:
- Impact (production, income, employment, area/technological– horizontal/vertical)
- Constraints if any in the continued application of these improved technologies

6. LINKAGES

A. Functional linkage with different organizations

Sl.No.	Name of organization	Nature of Linkage
1.	Maharashtra Cooperative Development Cooperation,Pune	Trainings on farmers organizations.
2	State Department of Agriculture, Latur	Conducting training programs, Joint field visit, Diagnostic team visit, Training Programs, Monthly district workshop, Field Visit.
3	VNMKV, Parbhani, College of Agri., Latur.	Joint diagnostic team visit, Supply of seed material

4	Dept. of Animal husbandry, Latur	Joint Implementation of vaccination camp, Conducting training programs and source for data regarding animals
5	MPKV, Rahuri	Source for seeds and new varieties seed materials
6	Mahabeej	Supply of seed material
7	CRIDA, Hyderabad	Source of improved technology in farm implements and machinery's & NICRA project
8	Oilseeds Research Station, Latur	Weather data collection, Seed source
9	BAIF, Pune	Source of fodder seeds
10	PD,ATMA,Latur	Conducting researchable activities, demonstrations, Participation in extension programs
11	PCI, Pune	As a source of pest monitoring devices
12	Project Directorate on poultry, Hyderabad	As a source of poultry breeds
13	YCMOU, Nashik	Agri. Study Center
14	MANAGE, Hyderabad	AC&ABC,AND Daesi course Nodal training institute
15	DOGR, Rajgurunagar, Pune	Demonstrations on newly released onion seeds
16	District Industrial Centre (DIC)	Technical advisor
17	Sericulture Development Officer, Latur	For conducting training programs
18	National Centre for Organic Farming, Gaziabad	Waste decomposing culture
19	SSP, Latur	Conduct trainings and extension activities
20	District Central Cooperative Bank, Latur	Scheme for entrepreneurial development and meetings
21	NHRDF, Nasik	As a source of onion seeds
22	DR PDKV, Akola	Source of mini dal mill
23	NIPHM, Hyderabad	Source of biofertilizer mother culture
24	DFR, Pune	Source of seeds
25	CIAE, Bhopal	Source of improved implements
26	District Innovative Council,Latur	Source of Agril. Technology Park
27	MCAER	Source of FSN programme
28	Dept. of Animal husbandry, Latur	Joint Implementation of vaccination camp, Conducting training programs and source for data regarding animals
29	Project Directorate on poultry , Hyderabad	As a source of poultry breeds
30	Tamil Nadu Veterinary and Animal Sciences University, chennai	Supply of Mastiguard kit
31	BAIF, Uralikanchan	Source of Fodder seed & planting material
32	MPKV, Rahuri	Source of fodder seed and planting material
33	Garuda Aerospace Pvt Ltd Chennai	Drone application in agriculture
34	District Innovative Council Latur	Agriculture Technology Park
35	New Holland Pvt Ltd	Training programmes and demonstrations
36	Shaktiman Pvt Ltd	Training programmes and demonstrations
37	YASHDA Pune	Training programmes

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

Name of the scheme	Date/ Month of initiation	Funding agency(State Govt./Other Agencies)	Amount (Rs.)
RGSA Scheme YASHDA Pune	January 2024	YASHDA Pune	2718900/-
Maharashtra Agri-Business Network (MAGNET), Pune	Dec-2022	Asian Development Bank	806543/-
	Feb-2024		1145000/-
Training Programme under PMFME Scheme	March 2021	State Govt.	212688/-
ATMA, Latur	2024	State Govt.	40000/-

C. Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

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

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK	No of Farmers attending
01	Meetings	2	2	0	0
02	Research projects				
03	Training programmes				
04	Demonstrations				
05	Extension Programmes				
	KisanMela				
	Technology Week				
	Exposure visit				
	Exhibition				
	Soil health camps				
	Animal Health Campaigns				
	Others- Farmers Scientist Interaction	02	0	02	194
06	Publications				

	Video Films				
	Books				
	Book chapter				
	Extension Literature				
	Pamphlets				
	Others (Pl. specify)				
07	Other Activities (Pl. specify)				
	Watershed approach				
	Integrated Farm Development				
	Agripreneurs 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 (Skill development/RPL)

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	RPL for vermicompost producers	Training	82000	82000	-

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

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

H. Details of linkage with NFSM

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

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

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

7. Convergence with other agencies and departments:

Sl.No.	Particulars	Convergence with department
1.	Seed Testing Laboratory	DPDC and Dept. of Agriculture, Latur
2.	Seed Processing Unit- 4 TPH	DPDC and Dept. of Agriculture, Latur

8. Innovative Farmers Meet

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

9. Farmers Field School (FFS)

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

10.1. Technical Feedback of the farmers about the technologies demonstrated and assessed:

Agronomy:

OFT on Assessment on Productivity of Chickpea through Improved Varieties

- Improved chickpea varieties, such as Phule Vishwaraj and Phule Vikrant, exhibit superior genetic potential, leading to higher yields compared to traditional or local varieties.
- Selection for disease resistance, drought tolerance, and pest resilience contributes to increased productivity under diverse agro-climatic conditions.
- Improved varieties demonstrate better adaptability to varying soil and climate conditions, ensuring stable productivity.
- Reduced input costs due to improved resistance properties lower the cost of production, making farming more sustainable.

OFT on Assessment of different varieties of Rabi Jowar

- Both Phule Revti and Parbhani Moti are high-performing Rabi sorghum varieties.
- Phule Revti is ideal for high-yield grain production with early maturity.
- Parbhani Moti offers better drought resilience and dual-purpose benefits (grain + fodder).
- Farmers should select varieties based on soil type, rainfall availability, and market demand for optimized productivity and profitability.

OFT on Assessment of different varieties of soybean (MAUS-725 and MAUS-612)

- MAUS 725 and MAUS 612 are improved soybean varieties evaluated for yield potential, adaptability, and agronomic traits.
- Comparative trials indicate that MAUS 725 exhibits higher yield potential under optimal conditions due to better pod formation and seed size.
- MAUS 725 has a shorter maturity period, allowing for better crop rotation and timely sowing of subsequent crops.4. Availability and horizontal spread of good quality improved variety seed among farmers.
- MAUS 725 shows moderate resistance to major soybean diseases like rust, yellow mosaic virus, and bacterial blight.

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

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

FLD on Introduction of Improved high yielding Variety Safflower ISF-764

- Unawareness about the variety and availability of seed
- ISF-764 variety suitable for both rainfed and irrigated situation as well Highest oil content i.e.31% as compared to local varieties.

FLD on Promotion of newly released improved variety of Pigeonpea BDN 2013-41 (Godavari)

- Frontline Demonstration on newly released improved varieties helps to aware farmers to adopt new Cultivars.
- Technology of demonstration teaches comparison between old and new varieties.
- Unavailability of large quantity of seed for multiplication of seed from variety released institute.

Horticulture

OFT on Assessment of onion varieties- Bhima raj and Bhima shakti

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

OFT on Assessment of tomato varieties- Arka Vishesh and Arka Abhed

- Higher fruit yield with improved fruit quality
- Both varieties are suitable for kharif and rabi season
- Arka Abhed is high yielding hybrid having multiple diseases resistance.

OFT on Assessment of marigold varieties- Arka Bhanu and Arka Abhi

- Created awareness about new varieties due to assessed varieties.
- Arka Abhi having good keeping quality
- Both are high yielding varieties with strong compact yellow colour flowers

FLD on use of arka special vegetable micronutrients in tomato

- The foliar application of arka special vegetable micronutrients not only increase yield but also improve quality of fruit resulting get more price in market as compared to check

FLD on effect of INM and pruning techniques in custard apple

- Application of INM with pruning techniques help to improve yield and quality of fruit in custard apple and also help to minimize to pest and disease. Maintain canopy of plant resulting easy to carry out intercultural operations (spraying, harvesting, ploughing harrowing etc.)
- FLD on introduction of china aster variety: Arka Kamini
- The variety arka kamini is high yielding variety with more duration of flowering compared to local variety.

Agricultural Engineering

OFT on Assessment of Kisan Drone for spraying crops

- **Adaptability to Varied Field Conditions:** The Kisan Drone demonstrated its effectiveness in diverse environmental conditions, including rainy and waterlogged fields, ensuring uninterrupted agricultural operations.
- **Enhanced Operational Efficiency:** The drone-based spraying technology significantly reduced application time, addressing the challenge of labour shortages and improving overall farm productivity.
- **Occupational Health and Safety Benefits:** By minimizing direct exposure to agrochemicals, drone spraying mitigates the risk of pesticide-related health hazards among farmers and labourers.
- **Precision and Uniformity in Application:** The drone facilitated highly precise and uniform spraying, ensuring optimal pesticide distribution with minimal wastage, thereby improving pest and disease control while reducing input costs.

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

- **Enhanced Crop Yield:** The adoption of the Precision Rotary Dibbler (Token Yantra) resulted in a 20–25% increase in crop yield compared to traditional bullock-drawn tiffan. This improvement is attributed to uniform seed placement, optimal plant population, and reduced intra-row competition, leading to better crop establishment and productivity.
- **Optimized Seed Utilization and Cost Efficiency:** The precision sowing mechanism of the rotary dibbler reduced the seed rate by 40–45%, significantly lowering seed wastage. This reduction directly contributed to cost savings in seed procurement, making the technology economically viable for farmers while maintaining or enhancing yield potential.

OFT on Assessment of Mole plough to enhance crop yield in waterlogged soils

- **Improved Drainage and Aeration:** Mole ploughing created subsurface channels, enhancing water drainage, soil aeration, and root development.
- **Increased Crop Yield:** Yield improved by 15–25% due to reduced waterlogging, better root penetration, and enhanced nutrient uptake.
- **Cost-Effective Solution:** A low-cost, long-term method for managing waterlogged fields, reducing soil compaction, and improving field accessibility.
- **Higher Farm Efficiency:** Enabled earlier sowing, minimized crop losses, and improved land utilization, ensuring better returns.

FLD on BBF Planter

- **High Operational Efficiency:** The tractor-drawn Broad Bed Furrow (BBF) planter demonstrated a field capacity of 3.7 ha/day with an overall field efficiency of 74%, ensuring timely and efficient sowing operations.
- **Optimized Resource Utilization:** The precision seeding mechanism reduced seed consumption by 15–20%, minimizing input costs while maintaining optimal plant population and uniform crop establishment.

- **Enhanced Crop Yield and Productivity:** The BBF planter improved soil moisture retention and drainage, resulting in a 15–20% increase in crop yield compared to conventional sowing methods using tractor-drawn seed drills or bullock-drawn tiffins.

FLD on Spiral Grader-Cleaner

- **Superior Efficiency and Performance:** The spiral grain separator outperformed conventional cleaning methods, achieving an average cleaning capacity of 3.10 quintals per hour using only two labourers, without requiring electricity.
- **Cost-Effective and Labor-Saving Technology:** This manual grader significantly reduces labour requirements, operational costs, and drudgery, enabling farmers to allocate time to other essential farm activities while ensuring efficient grain cleaning.

FLD on Borewell Recharge

- **Significant Groundwater Improvement:** Borewell recharge resulted in a water level increase ranging from 1.87 to 6.50 meters, with an average rise of 5.3 meters in the target zone.
- **Seasonal Water Table Dynamics:** The groundwater table began rising in September, peaked in November, and gradually declined thereafter, indicating effective but seasonally influenced recharge dynamics.

Home Science:

OFT on Assessment of use of custard apple seed powder for storage of pulses

- Applying custard apple seed powder (15 gms/kg) to stored green gram reduces grain damage and increased shelf life of pulses.
- This treatment to pulses in pest management strategies significantly superior over farmers' practice.
- Useful for small scale farmers who store small amounts of pulses for consumption and planting.

OFT on Assess the efficiency of Drumstick harvester for harvesting drumstick pods

- The harvester is most efficient & comfortable during harvesting.
- The harvesting capacity is more than traditional method
- It is light weight and therefore, can easily be carried from one place to another

Veterinary

OFT on Assessment of use of Pro-biotic (EM Solution) in feed for milk yield improvement in C B cows

- **Increased Milk Yield:** Farmers noticed a consistent increase in daily milk production (by 7.3%), making dairy farming more profitable.
- **Improved Milk Quality:** A slight increase in fat percentage (from 3.5% to 3.6%) was observed, leading to better milk pricing, better Digestion & General Health: Cows showed improved appetite, reduced bloating, and better overall health, reducing veterinary costs.
- **Reduced Shed Odor & Improved Dung Quality:** Farmers reported a significant reduction in bad Odor in cow sheds and improved dung texture, making manure handling easier.

- **Economic Benefits:** Despite a marginal increase in feeding costs (Rs. 4 more per day per cow), farmers earned Rs.30 more per cow per day, making probiotic use highly cost-effective.

OFT on Assessment of Closantel a broad spectrum dewormer to control ecto and endo parasites in goat kids

- Farmers observed better growth and weight gain in Closantel-treated kids compared to untreated ones.
- Mortality was significantly reduced, leading to higher kid survival rates and improved overall herd health.
- Treated kids had better body condition, glossy coats, and reduced signs of parasitic infestation (e.g., diarrhoea, weakness, and rough hair coats).
- Farmers appreciated the ease of administering Closantel and the noticeable increase in profitability per kid.
- Some farmers suggested including other parasite control measures (e.g., rotational grazing and mineral supplementation) for better results.

OFT on Assessment of Improved Poultry breeds Nicobari and Vanashree for backyard poultry farming

- Nicobari birds were preferred for egg production due to their higher yield and early maturity.
- Vanashree birds were chosen for dual-purpose farming because of their higher body weight and better survival rate.
- Mortality was significantly lower in Vanashree birds, making them more resilient.
- Desi birds were least preferred due to low productivity and high mortality.
- Farmers noted that both Nicobari and Vanashree birds adapted well to local conditions and required minimal management efforts.
- Some farmers preferred Nicobari birds over Vanashree for backyard farming due to their appearance, egg size, and market demand.

FLD on Super Napier Fodder Variety Demonstration

- **Higher Yield:** Super Napier produced notable improvement in yield than Phule Yashwant
- **Better Growth Parameters:** Super Napier exhibited more tillers per clump and leaves per stem than Phule Yashwant, indicating its superior growth potential.
- **Excellent Regrowth:** After each cutting, the regrowth of Super Napier was quick and vigorous.
- **High Palatability:** Dairy animals preferred Super Napier, consuming it readily.
- **Improved Fodder Availability:** The higher yield and better regrowth ensured consistent fodder supply, reducing the fodder shortage.

FLD on Integrated Tick Control Demonstration

- **Higher Milk Yield:** Treated animals showed increase in milk yield
- **Improved Animal Health:** The combination of shed cleaning, burning, neem and karanj oil application, and *Metarhizium anisopliae* fungus spray effectively controlled ticks.
- **Higher Fat Content:** Milk fat percentage increased, indicating improved milk quality.

- Farmers appreciated the chemical-free, eco-friendly approach and noted that regular shed cleaning and oil application helped keep animals healthy. Many showed interest in adopting these practices permanently.

FLD on Rearing of Shrinidhi Improved Poultry Birds

- Higher Egg Production: Each bird laid higher egg than the desi birds
- Lower Mortality Rate: The mortality in Shrinidhi birds was low than the desi birds, indicating better disease resistance and adaptability.
- Earlier Egg Laying: Shrinidhi birds started early laying eggs, providing an earlier income for farmers.
- Shrinidhi birds performed well in respect to the body weight, egg weight than the desi birds
- Pecking Issues: Farmers observed vent pecking problems during growth stage, likely due to nutritional imbalances in backyard feeding.
- Predator Risk: Birds were easily caught by predators, requiring better housing or protective measures.
- Farmers appreciated the higher productivity, better survival rate, and early maturity of Shrinidhi birds. Many expressed interests in expanding their poultry units with this breed for better income and nutritional security.

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

Agronomy

1. The availability of good quality improved variety seeds remains a major constraint. There is an urgent need to ensure bulk supply of certified seeds to farmers through efficient seed production and distribution channels.
2. Considering the impact of climate change, it is essential to release crop-specific recommendations based on regional climate variations to optimize productivity and sustainability.
3. The development and release of short-duration, climate-resilient varieties tailored to changing climatic conditions and different sowing windows is crucial to ensure stable yield under uncertain weather patterns.
4. Adequate supply of Breeder and Foundation seeds to KVKs for large-scale multiplication of newly released varieties is necessary to enhance seed accessibility for farmers.
5. Conduct regular training programs, workshops, and awareness campaigns for farmers and extension workers on the effects of climate change and adaptive strategies, including conservation agriculture, precision farming, and climate-smart technologies.
6. Strengthen collaboration between ICAR, SAUs, and KVKs for effective dissemination of improved varieties and agronomic practices to ensure widespread adoption.
7. Promote the use of seed banks and community-based seed production programs to maintain seed diversity and ensure availability in climate-stressed regions.

Horticulture

1. Need to release short duration varieties with long seed viability in respect of flower and vegetables

2. Require more efforts to aware about new released varieties specially in vegetable crops
3. Need to recommended dwarf varieties suitable for High Density Planting in fruit crops
4. Need to released improved variety in custard apple for Maharashtra

Agricultural Engineering

1. Precision Seeding with Dibbler: The manual dibbler is highly effective for precision placement of bold seeds (e.g., soybean, chickpea) and scarce or high-value seeds in small areas. It is also beneficial for gap filling in row crops, reducing seed wastage. Additionally, it eliminates the need for bending posture, minimizing drudgery and improving labor ergonomics.
2. Cost Optimization in Crop Protection: The adoption of drone-based spraying technology has significantly reduced the cost of pesticide application while ensuring uniform coverage, reduced chemical wastage, and enhanced efficiency in large-scale farming.
3. Mole Plough for Waterlogged Soils: The mole plough has proven effective in improving subsurface drainage, particularly in waterlogged soils. By creating subsurface channels, it enhances soil aeration, root development, and water infiltration, leading to 15–25% higher crop yields and improved field accessibility for timely farm operations.
4. BBF Planter for Soybean Cultivation: The Broad Bed Furrow (BBF) planter has proven to be highly effective for soybean sowing, improving soil moisture conservation, drainage, and plant stand, thereby contributing to increased crop productivity.
5. Impact of Borewell Recharge Techniques: Borewell recharge interventions have led to a notable increase in groundwater levels, with evidence of recharging even completely dried borewells through effective rainwater management and recharge techniques, enhancing water availability for irrigation.
6. Improved Seed Quality with Spiral Grader: The spiral grain separator significantly enhances seed quality, leading to better germination rates and higher market demand for premium-grade produce, contributing to improved farm profitability.

Veterinary:

Use of Probiotics (Em Solution) in animal feed

- Study different doses (10ml, 20ml, 30ml) and frequencies (once or twice daily) to determine the most cost-effective and productive dosage.

Use of broad spectrum dewormer in goats

- Conduct longitudinal studies to assess the long-term effects of Closantel on growth, fertility, and productivity in goats.
- Study the role of herbal dewormers or probiotics as complementary treatments
- Develop easy-to-follow deworming protocols for farmers, focusing on frequency, dosage, and best practices.

Improved Poultry breeds Nicobari and Vanashree for backyard poultry farming

- Breed improvement- Further selection of Nicobari and Vanashree for better disease resistance and adaptability to different climatic conditions.
- Health & Disease Control- Study on best vaccination, deworming, and biosecurity practices for small-scale backyard poultry.
- Genetic Studies- Research on crossbreeding Nicobari with high-yielding native breeds for improved performance.
- Nutritional Deficiencies & Pecking Behavior: Imbalanced backyard feeding might have led to pecking problems. Future demonstrations should include nutritional supplementation strategies to address this issue.
- Climate Adaptation- Research on housing modifications and management practices to improve breed survival in extreme weather conditions

Super Napier Fodder variety

- Multi-location trials to assess performance in different soil and climatic conditions.
- Nutritional analysis to determine its suitability for various livestock categories.
- Impact assessment of Super Napier on milk yield and animal health.
- Economic viability studies to evaluate cost-benefit aspects for small and marginal farmers.

Integrated Tick Control method

- Long-term effects of repeated neem and karanj oil applications on skin health and tick resistance.
- Comparison with chemical acaricides to assess cost-benefit differences and environmental safety.
- Field trials in different agro-climatic regions to check adaptability.
- Effect on reproduction and overall health parameters in dairy animals.

Shrinidhi Improved Poultry Birds

- Nutritional trials to determine the best feeding practices for backyard Shrinidhi birds.
- Design and testing of cost-effective predator-proof housing structures.
- Behavioural studies on pecking issues to identify preventive measures.
- Long-term economic studies comparing Shrinidhi with other improved breeds.

11. Technology Week celebration during 2024: 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			

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

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

A. Introduction of alternate crops/varieties

State	Crops/cultivars	Area (ha)	Number of beneficiaries

B. Major area coverage under alternate crops/varieties

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

C. Farmers-scientists interaction on livestock management

State	Livestock components	Number of interactions	No. of participants
Total			

D. Animal health camps organized

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

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

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

F. Large scale adoption of resource conservation technologies

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

G. Awareness campaign

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

13. IMPACT

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

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

B. Cases of large scale adoption

Empowerment of Rural families through backyard poultry farming

1. Situation analysis/Problem statement:

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

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

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

2. Plan, Implement and Support:

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

KVK has assessed these birds and demonstrated on farmer's field. Each family provided 20 vaccinated one month old birds. Selected farmers were trained for how to manage these birds in backyard. After receiving birds from KVK, Farmers housed these birds in cages or house made from local material at low cost during night time. During day time the birds were made loose in the surrounding area for scavenging. The birds utilize the natural feed resources like fallen grains, insects, earthworms, green grass, kitchen waste, etc. At the time of night housing, farmers 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	
	No.	Farmers	No.	Farmers	No.	Farmers	No.	Farmers	No.	Farmers	Activity no.	Farmers
2013-14	01	05	-	-	-	-	02	48	04	76	07	129
2014-15	01	05	-	-	-	-	03	75	03	54	07	134
2015-16	-	-	01	10	-	-	-	-	03	60	04	70
2016-17	-	-	01	12	-	-	-	-	03	100	04	112
2017-18	-	-	01	12	-	-	-	-	01	18	02	30
2018-19	01	10	01	10	01	50	-	-	03	101	06	171
2019-20	01	10	-	-	01	25	-	-	01	15	03	50
2020	1	10	-	-	01	25	-	-	02	30	04	65
2021	01	10	-	-	-	-	-	-	01	15	02	25
2022	-	-	-	-	-	-	-	-	01	30	01	30
2023	01	10	01	10	-	-	-	-	03	66	03	86
2024	01	10	01	10	-	-	-	-	02	42	03	62
Total	08	70	06	64	03	100	05	123	27	307	46	963

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

Output:

Productivity & Reduction in Problem:

Backyard poultry farming with improved poultry breeds increased egg production by 155.17 %, net income by 78.26 % and reduced mortality by 72 % than the deshi birds. (Table No. 2) along with increase in volume of production (Egg production 1332 Vs 522). Also improved poultry birds are having better adaptability to the rural backyard conditions and shown better immunity; hence the good survival rate than the deshi birds.

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

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

Sr. No	Performance parameters	Data on parameters		% increase	Remarks
		Improved poultry birds	Deshi birds		
1	Weight at 30 day, gms	375	150	-	By Rearing of improved poultry birds in backyard farming egg production increased by 155 % and net income by 78 %.
3	Weight at maturity, kg	2.3	1.4	64.28	
4	Egg laying started at, days	162	206	-	
5	Mortality in brooding period	3 %	4 %	-	
6	Mortality in growing/laying period, %	8	15	-	
7	Total egg production/year (9 hen x 148 eggs - improved) and (9 hen x 58 eggs in desi)	1332	522	155.17	
8	Sale of cock chicken	9	8		
9	Income by sale of eggs, Rs.	15984	6264		
10	Income by sale of male birds, Rs.	6750	4200.		
11	Income by sale of birds after production, Rs.	4000	2640		
12	Gross income/family/Year (20 birds), Rs.	26,734	13104		
13	Gross expenditure Rs.	11200	8500		
14	Net income Rs.	15534	8714	78.26	
15	B:C ratio	2.38	1.54		

* Improved poultry birds- Vanaraja, Grampriya, Shrinidhi, Vanashree, Kaweri and Nicobari. Data given is average of all these birds

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 148 eggs/hen compared to 58 eggs / hen in the local check (deshi birds). This resulted in net return (selling eggs and birds for chicken) of Rs. 15534 from 20 birds unit of improved poultry birds, which is Rs. 6820 more than local check (Rs.8714/20 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 tastes like deshi birds. Apart

from these 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 35715 one month birds to 964 families in the district, covering all the blocks in Latur district (**Table No.3**). more than 100 farmers started rearing of one day chicks of improved birds by purchasing it from PDP, Hyderabad and private hatchery with technical support from KVK.

Economic Benefit occurred to secondary level participants:

Depending upon the bird's unit size (20-100 birds) participants farmers getting additional net income of Rs. 15500 to 77600 (Rs. 1290 to 6460 per month) by selling eggs and birds for chicken. Farmers started with chicks rearing in shed getting net income of Rs. 75000 to 375000 per year depending upon the birds placed in shed (100-500 birds)

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

Sr. No.	Year	No. of villages covered	No. of birds supplied by KVK	No. of farmers
1	2013-14	14	2032	48
2	2014-15	15	4566	88
3	2015-16	20	1194	26
4	2016-17	42	3751	73
5	2017-18	30	1890	44
6	2018-19	76	4375	193
7	2019-20	22	3049	124
8	2020-21	41	4090	82
9	2021-22	26	2671	54
10	2022	08	2885	54
11	2023	21	1975	56
12	2024	18	3237	122
	Total		35715	964

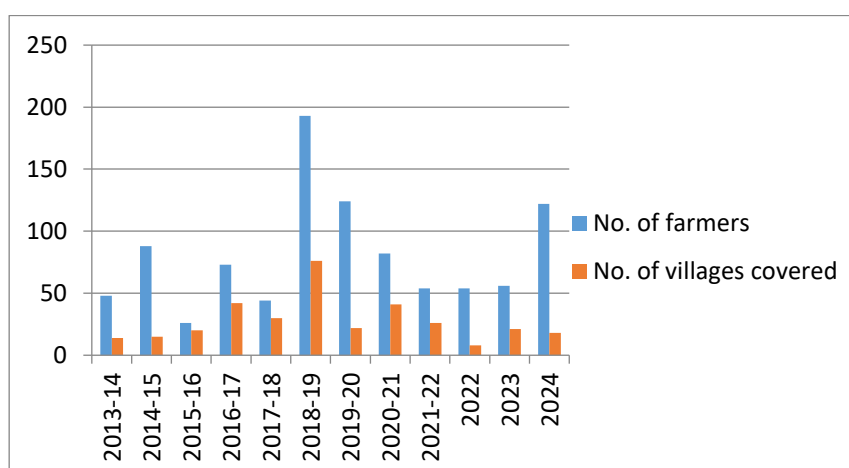


Chart 1: Year wise birds provided to farmers from KVK and no. of villages covered

5. Impact

Technological benefits:

Egg production of improved poultry birds is higher (148 egg/bird/year) than the deshi birds (58 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.210 lakh as net income through backyard poultry farming.

Social benefit:

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

Health benefits:

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

Employment generation:

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

Environmental Benefits:

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

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



Brooding of day old chicks at KVK farm



1 month birds ready to supply for backyard poultry



Training on backyard poultry farming



Close view of Grampriya birds



Close view of Vanaraja birds



Womens training on backyard poultry farming



Backyard poultry unit



Different backyard poultry units under demonstration



Scavenging of birds in cow shed



Eggs of improved poultry birds

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

14. Kisan Mobile Advisory Services

Month	No. of SMS sent	No. of farmers to which SMS was sent	No. of feedback / query on SMS sent
Jan 2024			
Feb 2024			
March 2024			
April 2024			
May 2024			
Jun 2024			
Jul 2024			
Aug 2024			
Sept 2024			
Oct 2024			
Nov. 2024			
Dec. 2024			

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marke-ting	Aware-ness	Other enterprise	Total
	Text only							
	farmers Benefited							
	Voice only							
	farmers Benefited							
	Voice & Text both							
	farmers Benefited							
	Total Messages							
	Grant total of farmers Benefited							

15. PERFORMANCE OF INFRASTRUCTURE IN KVK

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

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

B. Performance of instructional farm (Crops) including seed production

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Cereals									
Jwar	28.11.2023	22.3.2024	0.40	Parbhani shakti	Bulk	2.50 q	2550	7500	-
Pulses									-
Black gram	10.7.2024	5.10.2024	0.80	AKU-10-1	Bulk	6.25 q	18000	-	Yet not sell
Begalgram	25.11.2023	26.2.2024	1.00	Vikram	Bulk	9.10 q	11250	41000	-
Oilseeds									-
Soyabean	23.6.2024	21.10.2024	3.20	MAUS-612, MAUS-158 KDS-726	Seed	82.66 q	96000	404372	-
					Bulk	3.10 q		12000	
Safflower	26.11.2023	25.3.2024	0.80	IFS-764	Bulk	1.20 q	5450	-	Use for animals
Fibers	-	-	-	-	-	-	-	-	-
Spices & Plantation crops									
Coconut	15.7.2024	Awaited	0.20	Yelow dwarf	-	-	-	-	-
Floriculture									-
Marigold	1.7.2024	12.10.2024	0.05	Ashtagandha	Bulk	0.50 q	3500	-	Use for office
Fruits									
Mango	25.8.2010	10.5.2024	0.20	Kesher	Bulk/Seed	3.60 q	7150	36000	-
Mango	30.9.2022	Awaited	0.80	Kesher	Bulk/Seed	-	10000	-	-
Vegetables	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-
Others (specify)									
Sugarcane cafeteria (Suru)	5.12.2023	5.2.2025	2.20	CO-VSI-18121, CO-VSI-86032	Bulk/Seed	142.00 tons	186000	426000	-
Sugarcane (Ratton)	26.2.2023	8.2.2025	0.40	COC-671, CO-86032, 18211, MS-1001, VSI-434,8005, CO-265	Bulk/Seed	19.00 tons	13642	57000	-
Fodder cafeteria	02.02.2022	-	0.80	Dasharath, subabhul,	Bulk/Seed	30 tons	12152	-	Use for Goat unit
	02.2.2024	-	0.15	Hy. Nepier Phule chitra, African tall	Bulk/Seed	19 tons		-	Use for Goat unit

Photographs of instructional farm of KVK



KVK farm Jawar Parbhani shakti



KVK farm Safflower ISF-746



Mulberry -V1



Soybean MAUS 612



Black gram AKU-10-1



Sugarcane plot



Bengalgram Vikram+PDKV Kabuli



Fodder crop



Mango mother block



Coconut plot

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

Sl. No.	Bio Products	Name of the Product	Qty (kg/lit)	Amount (Rs.)		Remarks
				Cost of inputs	Gross income	
1.	Bio-Fertilizers					
2.	Bio-Fungicides					
3.	Bio-pesticides					
4.	Bio-Agents					

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

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1	Improved poultry birds	Vanaraja Shrinidhi Vanashree Nicobari	4-6 wks birds	3237	272489	360370	
2	Goat	Osmanabadi	Kids and Goats	18	123160	153530	

E. Utilization of hostel facilities

Accommodation available (No. of beds): 40

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
January 2024	353	15	
February 2024	498	17	
March 2024	1018	24	
April 2024	-	-	
May 2024	-	-	
June 2024	87	3	
July 2024	360	12	
August 2024	-	-	
September 2024	405	12	
October 2024	216	9	
November 2024	-	-	
December 2024	-	-	

F. Database management

S. No	Period of Database	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
2 R	Vegetable crops	17	728
	Fruit crops	04	



Nutrition garden at KVK Latur

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

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



Nutrition garden at village level

H. Details of Skill Development Trainings/RPL organized

S.N	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	Vermicompost Producers	24	0	3	0	37	0	40



RPL training programme for vermicompost producers

b. 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	509000151186	413801052	IBKL0497LDC
With KVK	SBI Bank	Latur	6303	Manjara Krishi Vigyan Kendra, Latur	30029035891	413002972	SBIN0006303

B. Utilization of KVK funds during the year 2024-25 (Rs. in lakh) (Till February, 2025)

S. No.	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	205.23	205.23	192.46
2	Traveling allowances	1.00	1.00	0.89
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	5.50	5.50	6.95
B	POL, repair of vehicles, tractor and Equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	4.50	4.50	3.16
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)			
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
TOTAL (A)		216.23	216.23	203.46
B. Non-Recurring Contingencies				
1	Works	-	-	-
2	Equipments including SWTL & Furniture	-	-	-
3	Vehicle (Four wheeler/Two wheeler, please specify)	-	-	-
4	Library (Purchase of assets like books & journals)	-	-	-
TOTAL (B)		0	0	0
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		216.23	216.23	203.46

C. Status of revolving fund (Rs. in lakh) for the Five 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 2020 to March 2021	25.51	23.33	29.20	19.64
April 2021 to March, 2022	19.64	78.66	69.45	28.85
April 2022 to March 2023	28.85	73.59	53.92	48.52
April 2023 to March 2024	48.52	125.34	138.66	35.20
April 2024 to March 2025	35.20	112.84	118.66	29.38

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

Name of the staff	Designation	Title of the training programme	Institute where attended	Mode (Online/Offline)	Dates
Dr. Digrase S.S.	Senior Scientist and Head	Innovations in Digital Extension	NAARM, Hyderabad	Offline	13-17 Dec 2024
Bedre SB	SMS (Agril.Extension)	National Level Workshop	MANAGE, Hyderabad	Offline	29.05.2024
Dr Salunke S B	Programme Assistant (Veterinary)	Training cum exposure visit on natural farming for master trainers	GKVK, Bengaluru	Offline	25-29.03.2024
Matai P.D.	SMS,Agronomy	Training cum Exposure Visit on Natural Farming for Master Trainers at GKVK,Bengaluru	GKVK,Bengaluru	Offline	25th to 29th March 2024
Matai P.D.	SMS,Agronomy	Training Programme on Soil Testing	VSI,Pune	Offline	6 -10May 2024
Matai P.D.	SMS,Agronomy	ZREAC Meeting Rabi	NARP,Ch.Sambhajinagar	Offline	22October 2024
Matai P.D.	SMS,Agronomy	Launch and Review Workshop of NICRA	ATARI,Pune	Offline	26 -27 December 2024
Dr. S. P. Shinde	SMS (Agril.Engg.)	Drone RPTO Training	Garuda Aerospace, Chennai, Tamil Nadu	Offline	13/03/2024 to 22/03/2024
Dr. S. P. Shinde	SMS (Agril.Engg.)	Symposium on “Agricultural Engineering Education for Aspiring Youth in Transforming Agriculture”	VNMKV, Parbhani	Offline	12/12/2024 to 14/12/2024
Anjali A Gunjal	SMS (Home Science)	Millets for Nutritional & Livelihood Security	Maharana Pratap University of Agriculture and Technology, Udaipur (Rajasthan)	Offline	11 to 15 March 2024



Natural Farming Training Attended at GKVK,Bengaluru



Launch and Review Workshop NICRA at ATARI,Pune



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

Name of the village	Total No. of families surveyed	Key interventions implemented	No. of farmers covered in each intervention	Change in income (Rs/unit)	
				Before (base year)	After (current year)
Akarwai Ta. Dist. Latur	40	Soyabean Seed production, IPM, FSN, Backyard poultry farming with improved birds, Mini dal processing enterprise, CFLD.	20	70255	155273
Bhoisamudraga Ta. Dist. Latur	40	IPM, FSN, Backyard poultry farming with improved birds, Mini dal processing enterprise, CFLD.	20	85133	172153

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

S. No.	Name of the programme	No. of villages	Key activities performed	No. of activities carried out	No. of families covered
1	FLD on Nutritional Garden	1	Training, Demonstration & field visits	4	17
2	FLD on Farming System for Nutrition	3	Training, Demonstration & field visits	4	17

20. Details of Progress of ARYA Project

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

21. Details of Swachhta Action Plan (SAP)

S. No.	Types of major Activity conducted	No. of Programmes conducted	No. of Participants
1	Microbial based Agricultural Waste Management by Vermicomposting	2	143

Sr. No	Name of KVK	Date	Activity	No of VIPs	No of Farmers	Others	Total
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22. Books published 2024-25

Title of the Book	Authors	ISBN No	Publisher	Pages No	Description/review of the book (one paragraph)
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23. Footfall in KVK

State	Name of KVK	No. of Footfalls			
		Farmers	Officials	VIPs	Total
Maharashtra	Latur	741	22	6	769

24. Please include any other important and relevant information which has not been reflected above (write in detail).

APR SUMMARY

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	41	840	703	1543
Rural youths	2	25	18	43
Extension functionaries	23	754	364	1118
Sponsored Training	29	873	402	1275
Vocational Training	1	0	18	18
Total	66	1619	1085	2704

2. Frontline demonstrations

Crops/Enterprise	No. of Farmers	Area(ha)/No.	Units/Animals
Oilseeds	201	130	-
Pulses	150	110	-
Cereals			
Vegetables	10	2	-
Other crops	23	6.2	-
Hybrid crops	10	0.6	
Total	394	248.8	
Livestock & Fisheries	30	-	330
Other enterprises	170	12	110
Total	200	12	440
Grand Total	594	260.8	440

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	7	70	70
Livestock	3	30	30
Various enterprises	5	50	50
Total	15	150	150
Technology Refined			
Crops			
Livestock			
Various enterprises			
Total			
Grand Total	15	150	150

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	144	13971
Other extension activities	4	501
Total	148	14472

5. Mobile Advisory Services

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

6. Seed & Planting Material Production

	Quintal/Number	Value (Rs.)
Seed (q)	929.31	8577600
Planting material (No.)	72718	397695
Bio-Products (kg)		
Livestock Production (No.)	3255	513900
Fishery production (No.)		

7. Soil, water & plant Analysis

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

8. HRD and Publications

Sr. No.	Category	Number
1	Abstract	
2	Workshops	03
3	Conferences	
4	Meetings	05
5	Trainings for KVK officials	03
6	Visits of KVK officials	
7	Book published	
8	Training Manual	
9	Book chapters	
10	Booklet	
11	Leaflets/ Folder/ Pamphlet	
12	Research papers	
13	Technical Bulletin	
14	Popular article	
15	Lead papers	
16	Seminar papers	
17	Extension folder	04

18	Proceedings	
19	Award & recognition	01
20	On-going research projects	
21	Other	