

ICAR-ATARI, Pune
DETAILS OF ANNUAL PROGRESS REPORT OF KVKs DURING 2021-22
 (April 2021 to March 2022)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address with PIN code	Telephone		E mail	Website address & No. of visitors (hits)
Krishi Vigyan Kendra (Dr. PDKV), Ajanta Road, Buldhana 443 001 (MS)	Office (07262)202040	FAX -	kvkbuldhana@gmail.com	-

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

Address	Telephone		E mail	Website address
	Office	FAX		
Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola	(0724) 2258200-17	(0724)2258219, 2259248	vc@pdkv.mah.nic.in deepdkv@yahoo.com	www.pdkv.ac.in

1.3. Name of the Senior Scientist and Head (I/C) with phone & mobile No.

Name	Telephone / Contact		
Dr. Anil Sahebrao Taru	Office	Mobile	Email
		9960232480	kvkbuldhana@gmail.com

1.4. Date and Year of sanction: 2010

1.5. Staff Position (as on March, 2022)

Sr. No.	Sanctioned post	Name of the incumbent	Mobile No.	Discipline	If Permanent, Please indicate			If Temporary, pl. indicate the consolidated amount paid (Rs./month)
					Current Pay Band	Current Grade Pay	Date of joining	
1.	Senior Scientist and Head	Dr. A.S Taru	9960232480	Horticulture	15600-39100	5400	01.07.2018	Additional Charge
2.	Subject Matter Specialist	S.P. Bhagwat	9421271590	Home Science	15600-39100	6000	27.02.2008	Permanent
3.	Subject Matter Specialist	Dr. J.R. Wadkar	9422902200	Extn. Edu.	15600-39100	5400	15.09.2016	Permanent
4.	Subject Matter Specialist	Dr. B.R. Tijare	7709503181	Agronomy	15600-39100	5400	16.09.2016	Permanent
5.	Subject Matter Specialist	Dr. A.S Taru	9960232480	Horticulture	15600-39100	5400	01.07.2018	Permanent

6.	Subject Matter Specialist	Dr. N.S.Deshmukh	7588501489	AHDS	15600-39100	5400	01.10.2016	Permanent
7.	Subject Matter Specialist	Engg. R.T. Chavan	9096362820	Agril. Engg.	15600-39100	5400	01.10.2016	Permanent
8.	Subject Matter Specialist	Shri. P. P .Deshpande	9421830439	Plant Protection	15600-39100	5400	01.10.2016	Permanent / Physical Working
9.	Programme Assistant	Miss. K. G. Bhople	9518568998	Soil Sci.	9300-34800	4200	09.08.2016	Permanent
10.	Computer Programmer	Vacant	-	Vacant	Vacant	Vacant	Vacant	Vacant
11.	Farm Manager	Shri. S.T. Pise	7798812018	-	9300-34800	4200	08/08/2016	Permanent
12.	Accountant/Superintendent	Shri.N.S.Kate	8956838262	-	9300-34800	4200	19/10/2019	Permanent
13.	Stenographer	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant	Vacant
14.	Driver 1	Shri.S.V. Tayade	9665535292	-	5200-20200	2000	15.10.2016	Permanent
15.	Driver 2	Shri. N.M.Dhore	9850654935	-	5200-20200	2000	28.10.2016	Permanent
16.	Supporting staff 1	Shri. R. R. Sadar	9767110095	-	5200-20200	1800	05.10.2018	Permanent
17.	Supporting staff 2	Sau. A. P. Jadhav	7588809456	-	5200-20200	1800	04.10.2018	Permanent

1.6. Total land with KVK (in ha):

S. No.	Item	Area (ha)
1.	Under Buildings	2.00
2.	Under Demonstration Units	0.80
3.	Under Crops	10.00
4.	Horticulture	7.00
5.	Farm Pond	0.40
6.	Others if any	8.41
Total		28.63

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	ATARI-ICAR	2014	537.72	9900000	31/03/2013	537.72	Completed
2.	Farmers Hostel	ATARI-ICAR		308.02		September 2013	308.02	Completed
3.	Staff Quarters (6)	-	-	-	-	-	-	Incomplete
4.	Demonstration Units (2)	-	-	-	-	-	-	-
5.	Fencing	-	-	-	-	-	-	Incomplete
6.	Rain Water harvesting system	-	-	-	-	-	-	Incomplete
7.	Threshing floor	-	-	-	-	-	-	Incomplete
8.	Farm godown	-	-	-	-	-	-	Incomplete
9.	ICT lab	-	-	-	-	-	-	Incomplete
10.	Other	-	-	-	-	-	-	Incomplete

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total km. Running	Present status
Jeep (TATA SUMO)	2010	555617	310870	Not working (Need New one)
Tractor (Farm Trac) with Trolley	2011	613990	3400	Working
Traveler mini bus converted into MSTL	2012	740555	15230	Working

C) Equipments & AV aids

Name of the equipment / Implements	Year of purchase	Cost (Rs.)	Present status
Tractor Drawn M.B. Plough	2011	21343	Good condition
5 Tyne Cultivator Tractor	2011	19800	Good condition
9 Tyne Cultivator Tractor	2011	19356	Good condition
V Pass Heavy duty	2011	15660	Good condition
Knap Sac Sprayer Plastic	2011	5064	Good condition
Power Sprayer Cum Duster	2011	4219	Good condition
Tractor Trailer	2011	138900	Good condition
Improved Cotton Stalk Puller	2012	1400	Good condition
1 HP open well submersible pump singal phase	2012	4700	Good condition
Iron Hoe	2012	2100	Good condition
Tikas with Handle	2012	630	Good condition
Favda with handle	2012	480	Good condition
Axe	2012	220	Good condition
Kudal with Handle	2012	435	Good condition
Manual Double Screen Grain cleaner	2012	4500	Good condition
Twin Wheel hoe	2012	800	Good condition
Submersible electric pump of 7.5 HP	2012	31000	Good condition
Automic Absorption Spectrometer	2013	1499461	Good condition
Flame Photometer	2013	49200	Good condition
PH meter	2013	25749	Good condition
Conductivity meter	2013	20069	Good condition
Digital Balance	2013	19490	Good condition
Automatic Weather Station	2012	-	Good condition
List of Furniture			
Panasonic FAX machine FXFT 981	2011	7990	Good condition
Canon Xerox Machine	2011	99544	Good condition
Desktop Computer HCL	2011	32000	Good condition
HPL I printer 1606 DN	2011	11106	Good condition
Canon Lid Scanner	2011	3534	Good condition
LCD Projector	2011	37025	Good condition
LCD TV Set	2011	34800	Good condition
Laptop	2011	61880	Good condition
Camera	2011	12500	Good condition
Computer Table	2011	5909	Good condition
Mini Laptop	2012	18323	Good condition
Almirah	2012	39840	Good condition
Revolving Chair -1	2012	9985	Good condition
Table	2017	47250	Good condition

1.8. Details of SAC meeting conducted in the year:

Date	Name and Designation of Participants	Salient Recommendations	Action taken
29/7/2021	List attached Annexure I*	*	*
1/12/2021	List attached Annexure II*	*	*

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.	Sole Crop (s)
	Kharif Sorghum
	Soybean
	Cotton
2.	Inter Cropping (s)
	Cotton + Green gram
	Cotton + Black gram
	Cotton + Red gram
	Sorghum + Green gram
	Sorghum + Black gram
	Sorghum + Red gram
	Red gram + Green gram
	Red gram + Black gram
	Red gram + Soybean
	Cotton + Sorghum + Red gram + Sorghum
	Soybean + Sorghum + Red gram
3.	Double Cropping: Rainfed situation (If late rains are received)
	Green gram -
	Black gram -
	Soybean -

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

a) Soil type

S. No.	Agro-climatic Zone	Characteristics
1	Ghat Tract	This Sub-zone occupies greater part of Buldhana District with 9 tahsils viz. Chikhali, Buldhana, Deolgaon Raja, Mehakar, Lonar, Malkapur, Sindhkhed Raja, Motala and Nandura. Elevation varies from 350 to 600 M Above Sea Level. Annual rainfall varies from 750 to 850 mm. Soil ranges from very shallow to moderately deep. The topography is rolling and land slopes are around upto 7% . In this ghat tract Soybean, Sorghum & Cotton are predominant Crops.
2	Black Plains	This sub – zone spreads over Khamgaon and Shegaontahsils of Buldhana District along with 15 tahsils of Akola and Amravati. Annual Precipitation varies from 750 to 900 mm. Soils are moderate to deep and predominantly vertisols with several situations of ill drainage due to which crop suffer more of wet conditions during years of relatively higher rains.
3	Salient Alkali Tract	This sub-zone includes major parts of 6 tahsils viz. JalgaonSangrapurtahsils of Buldhana District and Akot, Telhara of Akola District and Daryapur and AnjangaonSurji of Amravati District. The soils are vertisols, deep and saline to saline alkali in reaction. Annual precipitation varies between 750 to 850 mm. Open wells in the tract have saline water as a result of which the same cannot be utilized for irrigation purpose. Cotton and Sorghum are the major crops of the tract together with rainfed wheat during Rabi season. Poor drainage during rainy season is rampant.
	Western Plateau & Hills region	*This is a region represents July temperature between 24°C-41 °C, January temperature between 6°C- 23°C and average annual rainfall of 25 cm-75 cm. *Net sown areas is 65 per cent and forests occupy only 11 per cent. Only 12.4 per cent area is irrigated. *Jowar, cotton, sugarcane, wheat, gram, pulses, groundnut and oilseeds are the principal crops. The area is known for its oranges, guava and bananas. *The region is deficient in water resources.

b) Topography

S. No.	Agro ecological situation	Characteristics
1	AES I	The AES –I lies on the north-east of the district with main characteristic of black cotton soil, high rainfall and hilly topography in another side. The blocks covered under this AES are Sangrampur (95%) and JalgaonJamod (70%). "Bilala" dominates some part, which are separated form Madhya Pradesh. The Crops like Cotton, wheat and gram are grown in the area.
2	AES II	This AES situated in west north direction of the district. The blocks covered by AES are Malkapur (100%), Nadura (100%), Shegaon (100 %). Sangrampur (5%) and Khamgaon(15%). The main feature of AES are plain topography with saline soil called Kharpanapata. The major crops grown in this AES are cotton, gram and sunflower
3	AES III	This AES situated in western side of the Buldhana District. The blocks covered are Motala (100%),Buldhana (100%) and Chikhali (30%) The Buldhana and Chikhali are situated at high altitudes as compared to Motala. The Main feature of AES are hily topography, medium to shallow soil. The major crops grown are cotton, jowar, maize, soyabean, wheat and gram. The horticultural crops custardapple, aonla, pomegranate, guava and vegetable crops like, chilli, brinjal and tomatoto are also grown in the AES.
4	AES IV	AES IV comprise Mehkar (100%), Khamgaon (85%) and Chikhali (70%) blocks. The AES in situated in east side of the district. The main feature of AES-IV is assured rainfall, well irrigated, medium to shallow soils. The AES-IV has favourable weather condition for grape production in chikhali block. The agricultural crops grown in this area and soybean, cotton, jowar maize in kharif and gram and wheat in Rabi season. The horticultural crops grown in this AES are grape, Guava, Mango, custard apple and sweet orange. Chilli, onion, tomatoto and onion seed production in case of vegetable are grown.
5	AES V	The AES-V is characterized by hilly and undulating topography, medium to shallow soils and rainfed area covering Deulgaon Raja (100%), Sindkhed Raja (100%) and Lonar (100%) blocks. This AES is situated in south of the district. The major crops grown in Kharif are Soyabean, Cotton, Jowar and wheat, gram, safflower in rabi season. The mojar horticulture crop santra is grown in this AES. The climate is favourable for custard apple and aonla and has wide scope in this AES. Hybrid vegetable seed production is practiced by farmers in this AES. Recently farmers have started growing pomegranate.
6	Deccan Plateau, hot, semi-arid eco-region (06)	Eastern Maharashtra Plateau- hot,moist & semi-arid sub region (6.3)

2.3 Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Vertisoles	(Heavy black soil)	199318.00
2	Inseptisoles	(Medium black)	265757.00
3	Entsoles	(Light soil)	273139.00

2.4. Area, Production and Productivity of major crops cultivated in the area of jurisdiction of KVK (2021-22)

S. No	Crop	Area (ha)	Production (MT)	Productivity (q./ha)
Kharif (2021-22)				
1	KharifJowar	6695	7512	1122
2	Maize	24700	37100	1500
3	Bajara	900	200	246
4	Redgram	77438	87245	1125
5	Greengram	19221	13878	722
6	Blackgram	21580	16422	761
7	Soybean	387305	608843	1572
8	Groundnut	400	380	865
9	Sesamum	540	130	243
10	Cotton	193903	92492	477

Rabi (2021-22)				
11	Chickpea	197325	253166	1283
12	Wheat	79035	175281	2218
13	Maize	11820	15931	1348
14	Rabi Jowar	15100	18406	1222
Summer (2021-22)				
15	Maize	104	1401	1351
16	Groundnut	2466	15688	1258
17	Sesamum	470	86	184
18	Safflower	274	271	993
Source – SAO Buldana				

Source: District agriculture department.

S. No	Crop	Area (ha)	Production (MT)	Productivity (q /ha)
1	Brinjal	464	5988	12.89
2	Cabbage	219	2360	10.76
3	Sweet pepper	27	183	6.79
4	Green Chilli	846	11799	13.93
5	Okra	290	1315	4.53
6	Onion	3877	28656	7.38
7	Tomato	518	6090	11.74
8	Ginger	211	2139	10.11
9	Turmeric	442	47208	106.69
10	Garlic	136	518	3.80
11	Cauliflower	229	2425	10.58

2.5. Weather data (2021-22)

Month	Rainfall (mm)	Temperature (°C)		Relative Humidity (%)	
		Maximum	Minimum	Maximum	Minimum
January	4.0	29.5	16.6	62	46
February	3.5	31.7	16.0	45	30
March	21.7	36.8	21.0	42	26
April	0.0	39.4	24.3	37	21
May	41.6	36.7	24.9	55	36
June	90.8	32.4	23.5	76	61
July	180.4	30.7	23.1	82	68
August	145.3	28.8	22.3	84	73
September	506.8	28.3	22.0	87	80
October	72.3	30.2	19.4	72	58
November	6.0	30.3	18.2	68	53
December	42.0	28.1	15.2	68	53
Total / Average	1125.4	32.0	20.5	65	50

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

Category	Population	Production	Productivity
Cattle			
Crossbred	10071	105.30	9.98
Indigenous	93344	129.80	1.48
Buffalo	129370	343.23	6.53
Sheep	93388		
Goats	334757	-	-
Pigs	17151	-	-
Poultry	172000		

2.7. Details of Operational area / Villages

Taluka	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
Buldhana	Buldhana	Chautha	Cattle , Buffalo goat, Poultry	Lack of knowledge about feeding, care, & housing of livestock	Up-gradation of local Breeds
		Gummi	Cattle , Buffalo goat, Poultry	Lack of knowledge about A.I	Evaluation of local breed
		Padali	Cattle , Buffalo goat, Poultry	Lack of knowledge about Vaccination.	Identification of mineral deficiency
		sagwan	Cattle , Buffalo goat, Poultry	Lack of knowledge about feeding, care, & housing of livestock	Knowledge about newly evaluated cattle, buffalo, poultry breeds
		nandrakoli	Cattle , Buffalo goat, Poultry	Lack of knowledge about A.I	Up-gradation of local Breeds
	Chikhali	Amona	Cattle , Buffalo goat, Poultry	Lack of knowledge about Vaccination.	Evaluation of local breed
		chandhai	Cattle , Buffalo goat, Poultry	Lack of knowledge about feeding, care, & housing of livestock	Identification of mineral deficiency
		bhankhed	Cattle , Buffalo goat, Poultry	Lack of knowledge about A.I	Knowledge about newly evaluated cattle, buffalo, poultry breeds
	Deulgaon raja	Singaon jahangir	Cattle , Buffalo goat, Poultry	Lack of knowledge about Vaccination.	Up-gradation of local Breeds
		Andhera	Cattle , Buffalo goat, Poultry	Lack of knowledge about feeding, care, & housing of livestock	Evaluation of local breed
		ancharwadi	Cattle , Buffalo goat, Poultry	Lack of knowledge about A.I	Identification of mineral deficiency
		pimpri	Cattle , Buffalo goat, Poultry	Lack of knowledge about Vaccination.	Up-gradation of local Breeds
Buldhana	Buldhana	Nandrakoli	Drudgery Reduction	Drudgery in farm activities	Introduction of drudgery reducing technologies
Lonar		Kolwad	Entrepreneurship development	Health problems of farm women	Training for improvement in health condition
		Chautha	Value addition	Malnutrition in children	Training to Anaganwadi workers
		D. Kundpal	Cattle , Buffalo goat, Poultry	Lack of knowledge about A.I	Identification of mineral deficiency

2.8. Priority thrust areas:

Crop/ Enterprise	Thrust area
Agronomy	<ul style="list-style-type: none"> Improving productivity of cotton, chickpea, soybean, pigeon pea, Jowar, wheat, greengram and blackgram. Approaching to advance cropping system. Crop diversification in cotton based cropping system. Approach towards sustainable agriculture. Approach towards INM In-situ moisture conservation techniques Motivation of the farmers towards the adoption of new improved cultivars
Horticulture	<ul style="list-style-type: none"> Improvement in productivity and quality of Nagpur mandarin. Utilization of organic manure in horticultural crop Improvement in mandarin orange grown on unsuitable soil. Introduction of high yielding varieties of vegetables for farmers cultivation Technology dissemination for quality production of vegetables Proper irrigation application methods for Horticultural crops Poor market linkages
Plant Protection	<ul style="list-style-type: none"> Use of IPM, and IDM technology to increase productivity of the crops. Building judgment about selection of insecticide and insecticide fungicide formulation. IPM campaigning for cotton pink bollworm. Implementation of bio-pesticide use. Use of Bio-fertilizer, Bio-Pesticide and Bio-fungicide Use of Botanical pesticide /organic inputs i.e. NSKE

	<ul style="list-style-type: none"> • Use of Pheromone Traps to attract adults of pest. • Entrepreneurship generation (Mulberry Silk Production)
Home Science	<ul style="list-style-type: none"> • Improvement in family nutrition security of rural farmers family specially through education, health and hygiene. • Awareness regarding Drudgery reduction & health safety in household and farm activities for rural • Women by using improved implements. • Women and child care: Awareness about care and nutrition of pregnant, lactating women and Diet • management among rural woman and child. • To increase nutritional status of women & children. • Awareness of nutritional gardening in rural area for their food security. • Lack of knowledge about efficient method of food grain storage. • Entrepreneurship development & Livelihood security of rural women : Empowering farm women through small scale processing and value addition Awareness regarding various Income generating activities for economic empowerment. • Improvement in group activities of rural women. • Empowerment of rural women through Entrepreneurship development programme for generating • Post harvest management for loss reduction • Small Scale processing and value addition in agro commodities i.e. fruit and vegetables, spices & condiments, cereals & pulses, milk etc. • Motivation for the skill oriental activities.
Animal Science	<ul style="list-style-type: none"> • Up gradation of local breeds • Evaluation of Improved breeds • Fodder cultivation for self sufficiency in feed & fodder • Identifying mineral Deficiency • Reducing the cost of feed due to enrichment • Popularising Newly evolved goatry, poultry Buffalo,& cattle breeds • Development of Para- veterinary workers
Agricultural Engineering	<ul style="list-style-type: none"> • Mechanization of farm • Insitu soil and water conservation techniques • Post harvest technology and value addition • Precision farming technology • Green house technology • Renewable energy source
Cotton	<ul style="list-style-type: none"> • Management of reddening of cotton in due course of germ plasm shifting. • Effective pest management of sucking pest, foliage feeder • IDM of angular leaf spot, dahiya and alternaria.
Soybean	<ul style="list-style-type: none"> • Effective pest management of defoliator's viz. spodoptera, green semilooper and borer girdle beetle.
Pigeon pea	<ul style="list-style-type: none"> • IPM of pod borer complex, • Sclerocium and wilt management.
Gram	<ul style="list-style-type: none"> • Wilt & stem rot disease management. • Management of pod borer.
Sorghum	<ul style="list-style-type: none"> • Management problem of earhead pest.

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
10	10	130	154	12	12	314	314

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
94	101	3880	5506	60	76	3000	3548

Seed Production (Qtl.)		Planting materials (Nos.)	
5		6	
Target	Achievement	Target	Achievement
60	81	5000	10250

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

3.1. B. Operational areas details during 2021-22

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	Bengalgram	Biotic and abiotic stresses, reduced source to sink activity, abscission of flowers and pods, which will lead to lower yield and productivity (stagnation of production)	930	Deulgaon Mali Tq. Mehkar	OFT on Application of 15 PPM GA3 90% a. i. @ 8.5 g/ha in Chickpea for higher production
2	Maize	Low yield of Maize due to Poor weed management	270	Madh and Mangarul Tq. Buldhana	OFT on Use of Pre and Post emergence herbicide in maize
3	Soybean	Low yield of soybean	430	Shelgaon Jahagir Tq. Chikhali	FLD on Introduction of new Soybean variety KDS-726
4	Pigeonpea	Low yield of Pigeonpea	230	Pangri UgaleTq. Sindkhed raja and Deulgaon Mali Tq. Mehkar	FLD on Introduction of new Pigeonpea variety BDN-716
5	Chickpea	Low yield of Chickpea	430	Deulgaon Mali Tq. Mehkar	FLD on Introduction of new Chickpea variety PDKV-Kanchana
6	Maize	Low yield maize due to fallarmy worm incidence in the district	25-30	Chautha	Awareness campaigning & Training
7	Linseed	Low yield maize due to linseed gallfly incidence in the	30-40	Sakhali	FLDs and Training

		district			
8	Cotton	Low yield of cotton due to PBW incidence in the district	25-30	Dhamangaon Badhe	OFT and Trainings
9	Chickpea	Low yield of chickpea due to gram pod borer incidence in the district	20-25	Deulgaon Mali	FLDs and Training
10	Farm Mechanization	Laborious and costly operation Time consuming	-	Buldhana	OFT and Trainings
11	Onion (Seed Production)	Time consuming Harvesting. Quality and quantity loss	-	Mehkar	OFT
12	In-Situ moisture conservation	Late onset & early cessation of monsoon rains & prolonged dry spells during the crop period. Inadequate & uneven distribution of rainfall.	-	Chikhali and Buldhana	FLDs And Training
13	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.)*
14	Location specific drudgery reduction	Drudgery in farm activities	60 %	Nandrakoli Kolwad Chautha Shirpur	OFT & FLD
15	Low cost diet	Poor health of children	70 %		Training to Anganwadi workers for low cost diet
16	Awareness regarding new technology	Unaware of new technologies	80 %		Training on introduction of new technologies
17	Women & child health	Anemia in adolescent girls	75 %		Training to overcome anemia
18	Nutritional gardens	Consumption of fruits & vegetables are less	80 %		FLD & Training
19	Farming system for nutrition	Unavailability of nutrition rich millets Unavailability of seasonal vegetables rich in micronutrients and vitamins throughout the year	60 %		OFT & Training
20	Value addition in bajara flour	Poor keeping quality of bajara flour	55 %		OFT & Training

* Support with problem-cause and interventions diagram

3.2. Technology Assessment (Kharif 2021, Rabi 2020-22, Summer 2022)

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

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Integrated Nutrient Management	0	0	01	0	01	0	0	0	0	2
Varietal Evaluation	0	0	0	0	01	0	0	0	0	1
Integrated Pest Management	0	0	0	01	0	0	0	0	0	1
Integrated Crop Management	0	0	0	0	0	0	0	0	0	0
Integrated Disease Management	0	0	0	0	0	0	0	0	0	0
Small Scale Income Generation Enterprises	0	0	0	0	0	0	0	0	0	0
Weed Management	01	0	0	0	0	0	0	0	0	1
Resource Conservation Technology	0	0	0	0	0	0	0	0	0	0
Farm Machineries	0	0	0	01	01	0	0	0	0	2
Integrated Farming System	1	0	0	0	0	0	0	0	0	1
Seed / Plant production	0	0	0	0	0	0	0	0	0	0
Value addition	1	0	0	0	0	0	0	0	0	1
Drudgery Reduction	0	0	0	0	0	0	0	0	0	0
Storage Technique	0	0	0	0	0	0	0	0	0	0
Mushroom cultivation	0	0	0	0	0	0	0	0	0	0
Total	3	0	1	2	3	0	0	0	0	9

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

Thematic areas	Cattle	Poultry	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds	0	0	0	0	0	0
Nutrition Management	1	0	0	0	0	1
Disease of Management	0	0	0	0	0	0
Value Addition	0	0	0	0	0	0
Production and Management	0	0	0	0	0	0
Feed and Fodder	0	0	0	0	0	0
Small Scale income generating enterprises	0	0	0	0	0	0
TOTAL	1	0	0	0	0	1

B. Achievements on technologies Assessed

B.1. Technologies Assessed under various Crops

Thematic areas	Crop	Name of the technology assessed	No. of trials	Number of farmers	Area in ha (Per trial covering all the Technological Options)
Integrated Nutrient Management	Bengalgram	Application of 15 PPM GA3 90% a. i. @ 8.5 g/ha in Chickpea for higher production	01	15	6.0
	Onion	Assessment on application of azotobacter in onion for yield and quality.	01	07	2.8
Varietal Evaluation	Tomato	Assessment of performance of triple disease resistance tomato varieties recommended by IIHR, Bangalore	01	07	2.1
Integrated Pest Management	Cotton	Installation of pheromone traps @2/acre at square formation, Spray per 10 lit. Water at flower formation, ETL based application of Thiodicarb 75 WP 20 gm per 10 lit. Water followed by Deltamethrin 2.8 EC@ 10 ml lit. per 10 water	01	13	5.2
Weed Management	Maize	Use of Pre and Post emergence herbicide in maize	01	25	10
Farm Machineries	All Crops	Dr PDKV Stubble Collector	01	13	0
	Onion	Dr PDKV Onion Seed Extractor	01	13	0
Integrated Farming System	Millets, legumes, vegetable & fruits	Assessment of the nutritional & health status of the farm family adopted under Farming system for nutrition approach model	01	28	0.28
Value addition	Pearl Millet	Assessment of heat treatment in improving the shelf life of pearl millet flour-Bajara	01	20	0
Total			9	141	

B.2. Technologies assessed under Livestock and other enterprises

Thematic areas	Name of the livestock enterprise	Name of the technology assessed	No. of trials	No. of farmers
Nutrition management	Cow	Supplementary feeding of probiotech feeding in heifer	13	13
Total			13	13

C. 1.Results of Technologies Assessed**Discipline- Agronomy****Results of On Farm Trial****01-OFT****C. 1.Results of Technologies Assessed**

C1. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

a.	Title	:	Application of 15 PPM GA3 90% a. i. @ 8.3 g/ha in Chickpea for higher production
b.	Objectives	:	1. To study the effect GA3 on chickpea 2. To study the economics.
c.	Problem identified & its intensity	:	Biotic and abiotic stresses, reduced source to sink activity, abscission of flowers and pods, which will lead to lower yield and productivity (stagnation of production)
d.	Intervention planned	:	Application of 15 PPM GA3 90% a. i. @ 8.3 g/ha at flowering and pod development in Chickpea
e.	Treatments	:	T1: No use of GA3 (farmer practices) T2: Application of 15 PPM GA3 90% a. i. @ 8.3 g/ha at flowering and pod development stage of Chickpea for higher production.
f.	Source of technology	:	Dr. PDKV, Akola, 2019
g.	No. of farmers	:	25
h.	Area	:	10.0
e.	Observations/ parameters of study	:	1. Yield (t/ha) 2. B:C ratio

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Chickpea (2021- 22)	Irrigated	Biotic and abiotic stresses, reduced source to sink activity, abscission of flowers and pods, which will lead to lower yield and productivity (stagnation of production)	Application of 15 PPM GA3 90% a. i. @ 8.5 g/ha in Chickpea for higher production	25	Application of 15 PPM GA3 90% a. i. @ 8.5 g/ha at flowering and pod development in Chickpea	Yield (t/ha), B:C ratio	18.54 q/ha 3.05	Yield of Bengalgram increased with 11.70% with technology assessed than farmers practice	Number of pods per plants and size of grain was large by using the GA3

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
No use of GA3 (farmer practices)	Dr. PDKV, Akola, 2019	16.38	q/ha	49782	2.85
T2: Application of 15 PPM GA3 90% a. i. @ 8.5 g/ha at flowering and pod development stage of Chickpea for higher production		18.54	q/ha	58333	3.05

02-OFT

a.	Title	:	Use of Pre and Post emergence herbicide in maize
b.	Objectives	:	1. To study the effect of pre and post emergence herbicide in maize 2. To study the economics.
c.	Problem identified & its intensity	:	Low yield of Maize due to Poor weed management
d.	Intervention planned	:	Assessment on application of Pre and Post emergence herbicide in maize
e.	Treatments	:	T1: Used Pre-emergence – Atrazine 0.50 Kg a.i./ha T2: Used Pre-emergence – Atrazine 0.50 Kg a.i./ha and Tembotrione 0.120 Kg a.i./ha
f.	Source of technology	:	Dr. PDKV, Akola, 2019
g.	No. of farmers	:	15
h.	Area	:	6.0
e.	Observations/ parameters of study	:	3. Yield (t/ha) 4. B:C ratio

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Maize	Irrigated	Low yield of Maize due to Poor weed management	Use of Pre and Post emergence herbicide in maize	15	application of Pre and Post emergence herbicide in maize	Yield (t/ha), B:C ratio	43.82 q/ha 2.41	Yield of Maize increased by 10.79 % with technology assessed than farmers practice	--	--	--

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
1. T1: Used Pre-emergence – Atrazine 0.50 Kg a.i./ha	Dr. PDKV, Akola, 2019	39.55	q/ha	44158	2.37
2 T2: Used Pre-emergence – Atrazine 0.50 Kg a.i./ha and Tembotrione 0.120 Kg a.i./ha PoE at 20 DAS		43.82	q/ha	49565	2.41

03 OFT**Discipline-Horticulture**

a.	Title	:	Assessment on application of azotobacter in onion for yield and quality
b.	Objectives	:	1. To study the effect of azotobacter application on yield and quality of onion bulb. 2. To study the economics.
c.	Problem identified & its intensity	:	Excess nitrogen reduces shelf life in onion
d.	Intervention planned	:	Assessment on application of azotobacter in onion for yield and quality
e.	Treatments	:	T1: Farmers practice (RDF) T2: RDF (100:50:50 kg NPK/ha) T3: Azotobacter 5kg + 75 kg N + 50 kg P + 50 kg (per ha)
f.	Source of technology	:	Dr. PDKV, Akola, 2016
g.	No. of farmers	:	07
h.	Area	:	2.8
e.	Observations/ parameters of study	:	1. Yield (t/ha) 2. B:C ratio

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Onion	Irrigated	Low seed and bulb yield due to imbalanced fertilizer application and plant population	Assessment on application of azotobacter in onion for yield and quality.	07	Azotobacter 5kg + 75 kg N + 50 kg P + 50 kg (per ha)	Yield (t/ha), B:C ratio	34.15 t/ha 3.81	Yield of onion bulb increased with 22.40% with technology assessed than farmers practice	--

Contd..

Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Farmers practice (RDF)	Dr. PDKV, Akola, 2016	27.89	t/ha	151459	3.15
RDF (100:50:50 kg NPK/ha)		31.20	t/ha	178582	3.45
Azotobacter 5kg + 75 kg N + 50 kg P + 50 kg (per ha)		34.15	t/ha	204165	3.81

04-OFT

C2. Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

a.	Title	:	Assessment of performance of triple disease resistance tomato varieties recommended by IIHR, Bangalore
b.	Objectives	:	1. To assess the performance of triple disease resistance variety of tomato. 2. To study the economics.
c.	Problem identified & its intensity	:	Locally grown varieties/hybrids of tomato are having inferior quality of fruits due to disease attack
d.	Intervention planned	:	Introduction of new varieties
e.	Treatments	:	T1-Farmers practice: Planting of locally available variety T2-Recommended practice: Planting of Arka Rakshak T3-Recommended practice: Planting of Arka Samrat
f.	Source of technology	:	IIHR, Bangalore
g.	No. of farmers	:	07
h.	Area	:	2.1 ha
e.	Observations/ parameters of study	:	1. Yield (q/ha) 2. B:C ratio

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Tomato	Irrigated	Low production due to disease infestation	Assessment of performance of triple disease resistance tomato varieties recommended by IIHR, Bangalore	07	Introduction of new varieties	Yield (t/ha), B:C ratio	57.16 t/ha 3.73	Yield of Arka Rakshak increased by 10.1 % than local F1 hybrid.	--	--	--

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Farmers practice: Planting of locally available variety	IIHR, Bangalore 2018	47.85	t/ha	176625	3.04
Recommended practice: Planting of Arka Rakshak		57.16	t/ha	230180	3.73
Recommended practice: Planting of Arka Samrat		53.05	t/ha	207575	3.46

05- OFT**Discipline-Agril. Engg.**

1. Title of Technology Assessed -**Assessment of Dr PDKV Onion Seed Extractor**
2. Problem Definition -**Time consuming work and Unavailability of farm labour**
3. Details of technologies selected for assessment –T1 Manually Stubble collection T2 – Dr PDKV Onion seed Extractor
4. Source of technology- Dr PDKV Akola
5. Production system and thematic area -**Farm Mechanization**
6. Performance of the Technology with performance indicators-
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques -
8. Final recommendation for micro level situation-
9. Constraints identified and feedback for research and developmental departments-
10. Process of farmers participation and their reaction-**On farm trial**

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed
1	2	3	4	5	6	7	8	9	10	11
Farm Machinery	Rainfed/irrigated	No Labour availability	Dr. PDKV Onion seed Extractor	13	T1-Manually by labour T2- dr PDKV Onion seed Extractor	1) operating cost 2)Cleaning Efficiency		28% saving in operating cost and 79 cleaning Efficiency observed in assessed technology	1) Cleaning efficiency need to improve	Blower bearing should need to replace

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Technology Assessed	Source of Technology
13	14
Technology option 1 (Manually)	
Dr. PDKV Onion Seed Extractor	Dr. PDKV Akola

06- OFT –

1. Title of Technology Assessed -**Assessment of tractor drawn stubble collector**
2. Problem Definition -**Time consuming work and Unavailability of farm labour**
3. Details of technologies selected for assessment –T1 Manually Stubble collection T2 – Dr PDKV Tractor Drawn stubble collector
4. Source of technology- Dr PDKV Akola
5. Production system and thematic area -**Farm Mechanization**
6. Performance of the Technology with performance indicators-
7. Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring Techniques -
8. Final recommendation for micro level situation-
9. Constraints identified and feedback for research and developmental departments-
10. Process of farmers participation and their reaction-**On farm trial**

C. 1. Results of Technologies Assessed

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8	9	10	11	12
Farm Machinery	Rainfed/i rrigated	No Labour availability	Dr. PDK V Onio n seed Extr actor	13	T1-Manually by labour T2- dr PDKV Onion seed Extractor	1) operating cost 2) Cleaning Efficiency		28% saving in operating cost and 79 cleaning Efficiency observed in assed technology	1) Cleaning efficiency need to improve	Blower bearing should need to relpace	-

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
Technology option 1 (Manually)					
Dr. PDKV Onion Seed Extractor	Dr. PDKV Akola	-	-	-	-

07. OFT - Management of Pink bollworm, *Pectinophora gossypiella* (Assessment)

Discipline-Plant Protection

a	Title	:	Management of Pink bollworm, <i>Pectinophora gossypiella</i> (Assessment)
b	Objectives	:	To reduce the incidence of pink bollworm in Bt cotton
c	Problem identified & its intensity	:	Outbreak incidence of pink bollworm on Bt cotton in the year 2017-18
d	Description of micro-farming situation	:	Irrigated
e	Interventions planned	:	Installation of pheromone traps (Gossyplure) @ 40 per hector.
f	Treatment	:	T1-Farmers practice– Direct intervention of spraying of chemical pesticides
		:	T2 - Technology assessed- Installation of pheromone traps @2/acre at square formation, Spray per 10 lit. Water at flower formation, ETL based application of Thiodicarb 75 WP 20 gm per 10 lit. Water followed by Deltamethrin 2.8 EC@ 10 ml lit. per 10 water .
g	Source of technology	:	Aanand Agriculture University, Aanand (Gujarat)
h	No. of farmers	:	10
i	Observations/parameters of study	:	1. Per cent rosette flowers, Per cent green boll damage 2. Yield 3. ICBR

Results of On Farm Trial

Crop/ enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter			Results of assessment	Feedback from the farmer	Any refinement needed	Justification for refinement
1	2	3	4	5	6	7	8			9	10	11	12
Cotton	Rainfed	Outbreak incidence of pink bollworm on Bt cotton in the year 2017-18	Management of Pink bollworm, <i>Pectinophora gossypiella</i> (Assessment)	13	Installation of pheromone traps @2/acre at square formation, Spray per 10 lit. Water at flower formation, ETL based application of Thiodicarb 75 WP 20 gm per 10 lit. Water followed by Deltamethrin 2.8 EC@ 10 ml lit. per 10 water .	1) % Green boll damage	T1	T2	T3	Farmers observed reduction in number of damaged pods (3.2) with the adoption of recommended pest management technology and harvested higher grain yield (16.80 q/ha) compared to their own practice.(10.90 q/ha).	ETL based management of pink bollworm results economically feasible over traditional management practices	--	--
						8.7	4.91	3.2					
						2) % Loculi damage	13.4	11.30	9.80				
						3) Yield (t/ha),	10.90	12.80	16.80				
						4) B:C ratio	1.43	1.64	2.26				

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	BC Ratio
13	14	15	16	17	18
T1 - Technology assessed- Monocrotophos 36 %	--	10.90	q/ha	41250	1.43
T2- Spraying of Ethion 50 % EC @ 15 ml/ 10 lit water,	Dr. PDKV, Akola	12.80	q/ha	42300	1.64
T3 Installation of Pheromone Traps @2/acre, Spray Azadirachtin 300 ppm @ 50ml/10 lit at flower initiation, Plucking of rosette flowers, ETL based spraying of Chorantraniliprol 18.5% SC @ 2 ml/10 liter of water.	Aanand Agriculture University, Aanand (Gujarat)	16.80		43800	2.26

08-OFT Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

a.	Title	:	Supplementation of probiotic(saccharomyces cerevisiae) in heifer
b.	Objectives	:	3. To enhance intestinal health by stimulating development microflora 4. To improve dry matter intake and weight gain
c.	Problem identified & its intensity	:	Low weight gain
d.	Intervention planned	:	Dietary supplementation of probiotic powder
e.	Treatments	:	T1:Fedding of heifer with locally available feeds and fodders T2:Probiotic powder@20gm/ heifer/dayx60 days
f.	Source of technology	:	ICAR,NDRI karnal 2013
g.	No. of farmers	:	13
h.	Area	:	-
e.	Observations/ parameters of study	:	Weight gain

Results of On Farm Trial

Sr. No.	Name of OFT	Place	Beneficiaries	Weight Gain		Increase in milk yield (%)
				Demo	Control	
1	Supplementation of probiotic (Saccharomyces cerevisiae) to Heifer	Walti	13	75.5 kg	62.5 kg	20.8%

Result: Supplementation of probiotic (Saccharomyces cerevisiae) to Heifer increases Weight Gain 20.8 % over control

09-OFT Details of each On Farm Trial for assessment to be furnished in the following format separately as per the following details

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
Nutrition security	Mono cropping system	Malnutrition of various nutrients	Assessment of the nutritional & health status of the farm family adopted under Farming system for nutrition approach model	20	Farming system for nutrition approach model	Health status <ul style="list-style-type: none"> Hb Blood glucose Height Weight Saving in <ul style="list-style-type: none"> vegetable purchasing Saving in eggs purchasing Savings in millets, legumes oilseed purchasing Saving on medicine & doctors fees	Increase nutritional status of family member and 59.28 % More & fresh consumption of organic vegetable in daily diet in demo, Reduction in expenditure by 78.66 % in on purchasing of vegetable & medicine	Treatment T2 was found superior than T1	Availability of fresh vegetables, nutri cereals, eggs improves health status of the family member.	Nil	Nil

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Mono cropping system	Soybean	800 kg/ acre	20000	2.67
Technology option 2	Farming system for nutrition approach model MSSRF, Chennai	Nutri-millet : Finger millet (5R)	50 kg/5R	750	1.6
		Codo Millet (5R)	50 kg/5R	750	1.6
		Foxtail Millet (5R)	50 kg/5R	750	1.6
		Barnyard Millet (5R)	50 kg/5R	750	1.6
		Legumes: Red gram 3R	30 kg/3R	1050	2.4
		Green Gram 2 R	20kg/ 2 R	900	2.8
		Black Gram 2R	20kg/2 R	900	2.8
		Oilseed: Soybean : 9R	180 kg/9 R	4500	2.67
		Vegetable 4 R: (Green Leafy vegetables, cucurbits and other vegetable)	300 kg 300 kg/bund	5400 3000	3.75 4.2
		Fruits Eggs 8 No. of birds milk (Cow) 1No	900 eggs/ year 200 lit/year	6000 8000	1.8 3.2

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

1	Title of Technology Assessed	:	Assessment of the nutritional & health status of the farm family adopted under Farming system for nutrition approach model
2	Problem Definition	:	Malnutrition of various nutrients
3	Details of technologies selected for assessment	:	Integrated farming system in 1 acre of farm
4	Source of technology	:	MSSRF, Chennai
5	Production system and thematic area	:	Nutrition Security for family nutrition
6	Performance of the Technology with performance indicators	:	<ul style="list-style-type: none"> Create awareness regarding family nutrition and FSN among villagers Finger millet var. Phule Nachani enriched in Iron & zink was introduced in the adopted village. 100 % More consumption nutria millets viz Phule Nachani , codo millet, little millet, fox tail millet & barnyard millet in daily diet in demo. Reducing the risk of harmful chemicals as the production of millets, legumes oilseed and vegetables were done by organic method. 65-70 % More & fresh consumption of organic vegetable rich in micronutrients such as minerals & vitamins in daily diet in demo . Reduction in expenditure by 75-80 % on purchasing of nutri millet & 68.29 % on purchasing of vegetable and eggs Increase nutritional status of family member & saving 65-70 % on medicine Natural stress reliever as gardening is a physical & mental exercise Nutritional & health security at household level Adoption is essential for nutritional & income security
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	Availability of fresh vegetables, nutri cereals, eggs improves health status of the family member.
8	Final recommendation for micro level situation	:	Treatment T2 was found superior than T1
9	Constraints identified and feedback for research and developmental departments	:	Nil
10	Process of farmers participation and their reaction	:	It was observed that due to the differences in cultivation and management practices of different crops the farmers were found it difficult. Also due to the marginal land holding of most of the farmers were preferred monocropping system

10. OFT Results of On Farm Trial

Crop/enterprise	Farming situation	Problem definition	Title of OFT	No. of trials	Technology Assessed	Parameters of assessment	Data on the parameter	Results of assessment	Feedback from the farmer
1	2	3	4	5	6	7	8	9	10
Value addition	-	Pearl Millet (Bajara) flour turns bitter & rancid during storage	Assessment of heat treatment in improving the shelf life of pearl millet flour(Bajara)	20	T1 Traditional method of bajara flour making T2.Dry heat treatment before milling, oven heating 100 ⁰ C for 2 hrs, CCSHAU, Hissar T3:.Blanching of seeds before milling, at 98 ⁰ C for 2 min MPKV, Rahuri	Shelf life of flour (days) 2.Organoleptic Evaluation: Taste, aroma and colour	shelf life T1 : shelf life of pearl millet flour(Bajara) was good for 8 to 10 days T2 : shelf life of pearl millet flour(Bajara) was good for 35-40 days in T2 T3: shelf life of pearl millet flour(Bajara) was good for 30-35 days in T3 Organoleptic Evaluation T1 : Taste, aroma and colour Of the flour was deteriorate after 10 days. It becomes bitter in taste due to the rancidity in pearl millet. T2 : Taste, aroma and colour of the flour was was good for 35 days days in T2 T3: Taste, aroma and colour of the flour was good for 30 - 35 days in T3	shelf life of pearl millet flour(Bajara) was good for 35-40 days in T2 & T3 as compared to 8 to 10 days in T1 It was observed that dry heat treatments to bajara seeds before milling improves the shelf life of flour up to 30-35 days in T3 & 35-40 days in T2	Blanching treatment is easy to apply at household level as compared to dry heat treatment in oven

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Technology Assessed	Source of Technology	Production	Please give the unit (kg/ha, t/ha, lit/animal, nuts/palm, nuts/palm/year)	Net Return (Profit) in Rs. / unit	B:C Ratio
13	14	15	16	17	18
Technology option 1 (Farmer's practice)	Traditional method of bajara flour making	-	-	-	
Technology option 2	CCSHAU, Hissar	-	-	-	
Technology option 3	MPKV, Rahuri	-	-	-	

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

1	Title of Technology Assessed	:	Assessment of heat treatment in improving the shelf life of pearl millet (Bajara) flour.
2	Problem Definition	:	Pearl millet (Bajara) flour turns bitter & rancid during storage
3	Details of technologies selected for assessment	:	T1 Traditional method of pearl millet (Bajara) flour making T2.Dry heat treatment to pearl millet (Bajara) grains before milling, CCSHAU, Hissar T3:.Blanching of pearl millet (Bajara) grains before milling, MPKV, Rahuri
4	Source of technology	:	CCSHAU, Hissar MPKV, Rahuri
5	Production system and thematic area	:	Processing & cooking
6	Performance of the Technology with performance indicators	:	Treatment T2 and T3 was found superior over T1 to increase the shelf life of pearl mille/ bajra flour for 31-40 days and the taste, colour and aroma of the flour was also improved as compared to 8 to 10 days in T1 It was observed that in T2 i.e. dry heat treatments to pearl millet grains before milling improves the shelf life of flour up to 35-40 days. Also there was improvement in taste, aroma & colour than T1 and in T3 i.e. Blanching treatment of pearl millet grains before milling to flour significantly improves the shelf life of flour up to 30-35 days . improvement in taste, aroma & colour than T1.
7	Feedback, matrix scoring of various technology parameters done through farmer's participation / other scoring techniques	:	During the technology assessment study it was observed that parameters i.e. improvement in taste, aroma and colour of flour result in increased shelf life of flour by 30-35 days by blanching treatment & 35-40 days in dry heat treatment respectively.
8	Final recommendation for micro level situation	:	Treatment T2 and T3 were found superior than T1. For encouraging the consumption of nutri millets i.e. bajra flour at domestic as well as commercial level, it is necessary to give heat processing methods before milling of pearl millet grains.
9	Constraints identified and feedback for research and developmental departments	:	Blanching treatment is easy to applicable at household level as compared to dry heat treatment due to the non availability of oven at rural household. Dry heat treatment needs oven/electric dryer for heating grains which is suitable for commercial level.
10	Process of farmers participation and their reaction	:	Farm women participated through trainings, group discussions, visits, etc. Though the result of dry treatment i.e. T2 was superior than T1 but it is not possible for the farmer rural women due to the non availability of oven.

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 2021 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	Onion	INM	Use of sulphur @ 30 kg/ha with RDF to improve yield of onion	Use of Bensulf @ 30 kg/ha with recommended dose of fertilizer at the time of transplanting of onion to improve yield as well as quality of onion bulb.	19	278	102
2	Cattle	Livestock production management	Supplementation of mineral lick blocks to local Cows	Supplementation of mineral lick blocks to local Cows enhance the milk production	5	85	-
3	Vegetable	Nutrition security	Nutrition Garden	Demonstration, Exhibition, training etc	01	08	0.08
4	Super grain bag	Storage loss minimization techniques	Demonstration on Introduce Scientific techniques in Food grain storage – Super grain bag	Demonstration, Exhibition, training etc	01	13	-
5	Back yard poultry keeping	Nutrition security	Household food security by Back yard poultry keeping	Demonstration, Exhibition, training etc	01	10	-

B. Details of FLDs implemented during 2021-22(**Kharif 2021, Rabi 2020-21, Summer 2022**) (Information is to be furnished in the following **three tables** for **each category** i.e. **cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.**)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration		
					Proposed	Actual	SC/ST	Others	Total
1	Onion	INM	Use of sulphur @ 30 kg/ha with RDF to improve yield of onion	Rabi 2020-21	5.2	5.2	04	09	13

Details of farming situation

Crop	Season	Farming situation (RF/Irrigated)	Soil type	Status of soil			Previous crop	Sowing date	Harvest date	Seasonal rainfall (mm)	No. of rainy days
				N	P	K					
Onion	Rabi	Irrigated	Heavy	Low	Sufficient	High	Onion	21.10.2020	15.04.2020	856	32

Technical Feedback on the demonstrated technologies

S. No	Feed Back
1 (Dr. A. S. Taru, SMS Horticulture)	Use of sulphur with RDF at the time of transplanting were showing very good results it helps to increase yield up to 10% increase quality of bulb too.

Extension and Training activities under FLD

Sr. No.	Activity	No. of activities organized	Date	Number of participants	Remarks
1	Field days	01	10/10/2020	126	
2	Farmers Training	2	1/6/2021 & 8/9/2021	232	
3	Media coverage	21			
4	Training for extension functionaries				
5	Farmers Training	02	17/11/2020 & 05/01/2021	101	
6	Media coverage	04			
7	Training for extension functionaries	01	19/01/2021	32	

C. Performance of Frontline demonstrations

Frontline demonstrations on oilseed crops

Crop	Thematic Area	technology demonstrated	Variety	No. of Farmers	Area (ha)	Yield (q/ha)			Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
						Demo		Demo	Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
						High	--											
Soybean	ICM	Use of improved variety of Soybean variety KDS-726	25	10	24.22	16.44	--	38.38		--	30829	64744	95573	3.10	27049	42019	69068	2.55
Linseed	IPM	Spraying of Azadirachtin 300 ppm @ 50 ml/10 lit water at bud initiation stage	PKV NL 260	25	10	4.80		2.91	4.60	11.80	9200	40800	31600	4.43	8500	224735	16235	2.91

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

Frontline demonstration on pulse crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)			Check	% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo					Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Chickpea	ICM	Use of improved variety of Chickpea variety PDKV-Kanchan	25	10	20.22	15.83	18.16	15.23	19.23%	-	-	28310	85007	56697	3.00	26461	71292	44830	2.69
Pigeonpea	ICM	Use of improved variety of Pigeonpea variety BDN-716	50	20	15.58	11.31	13.86	11.23	23.42%	-	-	32095	84761	52666	2.64	30123	68677	38555	2.28
Chickpea	IPM	Spraying of HaNPV @ 10 ml/10 liter of water at 50 % flowering and Spraying of Emamectin benzoate 5 SG @ 3 g/10 lit of water after 15 days of first spray.	25	25	15.9	9.7	15.40	12.90	16.23	2.60	3.42	32800	77000	44200	2.34	31200	64500	33300	2.06

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

FLD on Other crops

Category & Crop	Thematic Area	Name of the technology	No. of Farmers	Area (ha)	Yield (q/ha)				% Change in Yield	Other Parameters		Economics of demonstration (Rs./ha)				Economics of check (Rs./ha)			
					Demo			Check		Demo	Check	Gross Cost	Gross Return	Net Return	BCR (R/C)	Gross Cost	Gross Return	Net Return	BCR (R/C)
					High	Low	Average												
Vegetables																			
Drumstick	ICM	Use of improved variety of Drumstick PKM-1	13	5.2	117.8	62.6	90.2	71.6	25.98	--	--	52500	207460	154960	3.95	50300	164680	114380	3.27
Onion	INM	Use of sulphur @ 30 kg/ha with RDF to improve yield of onion	13	5.2	328.2	292.6	310.4	272.2	14.03	-	-	81720	232800	151080	2.85	80540	204150	123610	2.53

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone. , ** BCR= GROSS RETURN/GROSS COST

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	1	Supplementation of mineral lick blocks to local cows	13	26	5.50	4.18	24	-	-	-	-	-	-	-	-	-	-

* Economics to be worked out based total cost of production per unit area and not on critical inputs alone.

** BCR= GROSS RETURN/GROSS COST

FLD on Women Empowerment

Category	Name of technology	No. of demonstrations	Name of observations	Demonstration	Check
Household family Nutrition Security	Backyard poultry keeping for family Nutrition	10	Eggs consumption /week/family	35-40 eggs / family/week	15-18 eggs/ family
			Expenditure on purchase of eggs/week/family	Nil	250/week/family

FLD on Farm Implements and Machinery

Name of the implement	Crop	Technology demonstrated	No. of Farmer	Area (ha)	Major Parameters yield	Filed observation (yield)		% change in major parameter
						Demo	Check	
BBF Planter	Soybean	Use of BBF Planter for Sowing of soybean	15	06	17.74	18.97	16.53	14.76
BBF planter	Chickpea	Use of BBF Planter for Sowing of Chickpea	15	06	18.97	18.54	16.38	13.18

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)
Vegetable seed, and seedlings, fruit sampling	Household family Nutrition Security by nutrition gardening	20000	100	100	300	50	83.33	6-8	6-8	1600	6000	4400	3.75	400	1000	600	2.5

*check maybe family adopting different Nutrition garden model/ no adoption of Nutrition garden model
Savings from produce of Nutrition garden used for home consumption

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

Farmers' Training including sponsored training programmes (on campus)

Thematic area	No. of courses	Participants								
		Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
I Crop Production										
Weed Management	2	140	9	149	22	4	26	162	13	175
Integrated Crop Management	2	170	7	177	11	1	12	181	8	189
Integrated nutrient management	4	387	12	399	43	8	51	430	20	450
Others (pl. specify)	1	11	5	16	4	2	6	15	7	22
Total	9	708	33	741	80	15	95	788	48	836
b) Fruits										
Cultivation of Fruit	3	93	19	112	34	7	41	127	26	153
Management of young plants/orchards	2	78	29	107	27	12	39	105	41	146
Total (b)	5	171	48	219	61	19	80	232	67	299
c) Ornamental Plants										
Nursery Management	2	42	17	59	18	9	27	60	26	86
Total (c)	2	42	17	59	18	9	27	60	26	86
IV Livestock Production and Management										
Dairy Management	3	95	78	173	25	18	43	173	43	216
Poultry Management	1	11	5	16	4	5	9	16	9	25
Feed & fodder technology	3	75	26	101	23	11	34	101	34	135
Production of quality animal products										
Total	7	181	109	290	52	34	86	290	86	376
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	3	155	128	283	20	52	72	175	180	355
Design and development of low/minimum cost diet	01	38	07	45	13	6	19	51	13	64
Designing and development for high nutrient efficiency diet	01	08	06	14	02	02	04	10	08	18
Women empowerment	2	28	45	73	5	36	41	33	81	114
Women and child care	2	40	75	115	20	68	88	60	143	203
Entrepreneurial development of farmers/youths	3	50	90	140	5	80	85	55	170	225
Total	12	319	351	670	65	244	309	384	595	979
VI Agril. Engineering										
Farm Mechanization and BBF Technology	03	50	10	60	20	12	32	70	22	92
Importance of micro irrigation systems and Improved irrigation technology	01	25	0	0	0	0	0	25	0	25
Small scale processing and value addition	02	40	15	45	20	05	25	60	30	80
Soil and Water Conservation	01	31	0	31	0	0	0	31	0	31
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	7	146	25	136	40	17	57	186	52	228
VII Plant Protection										
Integrated Pest Management	03	248	8	256	43	04	47	291	12	303
Others (pl specify) Sericulture	01	30	20	50	7	3	10	37	23	60
Total	4	278	28	306	50	7	57	328	35	363
GRAND TOTAL	46	1845	611	2421	366	345	711	2268	909	3167

Farmers' Training including sponsored training programmes (off campus)

[illegible]

Integrated nutrient management	1	25	0	25	2	0	2	27	0	27
Others (pl specify)	2	42	2	44	3	0	3	45	2	47
Total	7	133	4	137	10	1	11	143	5	148
II Horticulture										
a) Vegetable Crops										
Integrated crop management	2	62	12	74	36	8	44	98	20	118
Commercial production of vegetables	5	206	69	275	73	29	102	279	98	377
Total (a)	7	268	81	349	109	37	146	377	118	495
IV Livestock Production and Management										
Dairy Management	2	60	15	75	35	7	44	75	44	119
Animal Nutrition Management	1	42	4	46	3	0	3	46	3	49
Feed & fodder technology	1	15	4	19	2	0	2	19	2	21
Others (pl specify) Goat farming	1	22	7	29	6	3	9	29	9	38
Total	5	139	30	169	46	10	58	167	60	229
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	5	21	119	140	10	13	23	31	132	163
Design and development of low/minimum cost diet	01	01	20	21	00	05	05	01	25	26
Designing and development for high nutrient efficiency diet	01	01	10	11	0	11	11	01	21	22
Value addition	2	0	18	18	0	8	8	0	26	26
Women empowerment	01	06	13	19	01	03	04	07	16	23
Entrepreneurial development of farmers/youths	01	04	20	24	0	16	16	04	36	40
Total	11	33	200	233	11	56	67	44	256	300
VI Agril. Engineering										
Farm Mechanization and BBF Technology	01	25	0	25	07	0	07	25	07	33
Soil and Water Conservation	01	15	0	15	05	0	05	20	0	20
Total	2	40	0	40	12	0	12	45	7	53
VII Plant Protection										
Integrated Pest Management	1	55	10	65	10	05	15	65	15	80
Production of bio control agents and bio pesticides	2	160	14	174	44	0	44	190	28	220
Total	3	215	24	239	54	5	59	255	43	300
X Capacity Building and Group Dynamics										
Importance of Demonstration, Farmers Study Tour and Training for farmers	1	18	1	19	2	1	3	20	2	22
Use Of ICT in Agriculture	1	18	0	18	0	0	0	18	0	18
Awareness about Different Central & State Government Agriculture Schemes	1	22	1	23	2	0	0	24	1	25
Total	3	58	2	60	4	1	3	62	3	65
GRAND TOTAL	38	886	341	1227	246	110	356	1093	492	1590

[illegible]

Cultivation of Fruit	3	93	19	112	34	7	41	127	26	153
Management of young plants/orchards	2	78	29	107	27	12	39	105	41	146
Total (b)	5	171	48	219	61	19	80	232	67	299
c) Ornamental Plants										
Nursery Management	2	42	17	59	18	9	27	60	26	86
Management of potted plants										
Others (pl specify)										
Total (c)	2	42	17	59	18	9	27	60	26	86
IV Livestock Production and Management										
Dairy Management	5	155	93	248	60	25	87	248	87	335
Poultry Management	1	11	5	16	4	5	9	16	9	25
Animal Nutrition Management	1	42	4	46	3	0	3	46	3	49
Feed & fodder technology	4	90	30	120	25	11	36	120	36	156
Others (pl specify)Goat Management	1	22	7	29	6	3	9	29	9	38
Total	12	320	139	459	98	44	144	459	144	603
V Home Science/Women empowerment										
Household food security by kitchen gardening and nutrition gardening	8	176	247	423	30	65	95	206	312	518
Design and development of low/minimum cost diet	2	39	27	66	13	11	24	52	38	90
Designing and development for high nutrient efficiency diet	2	9	16	25	2	13	15	11	29	40
Value addition	2	0	18	18	0	8	8	0	26	26
Women empowerment	3	34	58	92	6	39	45	40	97	137
Women and child care	2	40	75	115	20	68	88	60	143	203
Entrepreneurial development of farmers/youths	4	54	110	164	5	96	101	59	206	265
Total	23	352	551	903	76	300	376	428	851	1279
VI Agril. Engineering										
Farm Mechanization and BBF Technology	04	75	10	85	27	12	39	95	29	125
Importance of micro irrigation systems and Improved irrigation technology	01	25	0	0	0	0	0	25	0	25
Small scale processing and value addition	02	40	15	45	20	05	25	60	30	80
Soil and Water Conservation	02	46	0	46	05	0	05	51	0	51
Others (pl specify)	0	0	0	0	0	0	0	0	0	0
Total	9	186	25	176	52	17	69	231	59	281
VII Plant Protection										
Integrated Pest Management	4	303	18	321	53	9	62	356	27	383
Production of bio control agents and bio pesticides	2	160	14	174	44	0	44	190	28	220
Others (pl specify)	1	30	20	50	7	3	10	37	23	60
Total	7	493	52	545	104	12	116	583	78	663
X Capacity Building and Group Dynamics										
Importance of Demonstration, Farmers Study Tour and Training	1	18	1	19	2	1	3	20	2	22
Use Of ICT in Agriculture	1	18	0	18	0	0	0	18	0	18
Awareness about Central & State Government Agriculture Schemes	1	22	1	23	2	0	0	24	1	25
Total	3	58	2	60	4	1	3	62	3	65
GRAND TOTAL	84	2731	952	3648	612	455	1067	3361	1394	4755

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
Mushroom Production	01	15	25	40	10	30	40	25	55	80
Small scale processing	01	15	25	40	10	30	40	25	55	80
Profitable dairy farming	1	22	16	38	5	2	7	38	7	44
Total	3	52	66	118	25	62	87	88	117	204

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
Low cost and nutrient efficient diet designing	2	11	26	37	3	16	19	14	42	56
Goat farming Management	1	26	11	37	3	16	19	14	42	56
Poultry farming Management	1	32	0	32	12	2	14	32	14	46
Total	4	69	37	106	18	52	60	60	98	158

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
Mushroom Production	01	15	25	40	10	30	40	25	55	80
Small scale processing	01	15	25	40	10	30	40	25	55	80
Profitable dairy farming	1	22	16	38	5	2	7	38	7	45
Low cost and nutrient efficient diet designing	2	11	26	37	3	16	19	14	42	56
Goat farming Management	1	26	11	37	3	16	19	14	42	56
Poultry farming Management	1	32	0	32	12	2	14	32	14	46
Total	7	121	103	224	43	114	147	148	215	363

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
TOTAL	-	-	-	-	-	-	-	-	-	-

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
Integrated Pest Management	01	50	15	65	7	3	10	57	18	75
Low cost and nutrient efficient diet designing	03	11	38	49	3	30	33	14	68	82
Any other (pl.specify) Sericulture	01	25	5	30	10	0	10	35	5	40
TOTAL	5	86	58	144	20	33	53	106	91	197

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
Integrated Pest Management	01	50	15	65	7	3	10	57	18	75
Low cost and nutrient efficient diet designing	3	11	38	49	3	30	33	14	68	82
Any other (pl.specify) Sericulture	01	25	5	30	10	0	10	35	5	40
TOTAL	5	86	58	144	20	33	53	106	91	197

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
Production of Inputs at site (Tricoderma Prod.)	1	25	5	30	10	0	10	35	5	40
Capacity Building and Group Dynamics	3	72	15	87	12	21	33	85	35	120
GRAND TOTAL	4		20	117	22	21	43	120	40	160

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

Area of training	No. of Courses	No. of Participants								
		General/ Others			SC/ST			Grand Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Value addition	01	05	19	24	01	06	07	06	25	31
Grand Total	01	05	19	24	01	06	07	06	25	31

3.5. Extension Programmes

Activities	No. of programmes	No. of farmers	No. of Extn. Personnel	TOTAL
Advisory Services (FAPs-DAMU)	18	1127	71	1198
Diagnostic visits	3	23	15	38
Field Day	6	231	25	256
Group discussions	4	157	19	176
Kisan Ghosthi	5	237	8	245
Film Show	0	0	0	0
Self -help groups	0	0	0	0
Kisan Mela	2	255	15	270
Exhibition	1	167	3	170
Awareness campaign on importance of nutrition and medicinal value of wild vegetable and exhibition of wild vegetable	01	80	19	99
Scientists' visit to farmers field	18	131	74	205
Plant/animal health camps	0	0	0	0
Farm Science Club	0	0	0	0
Ex-trainees Sammelan	0	0	0	0
Farmers' seminar/workshop	2	147	5	152
Method Demonstrations	2	277	3	280
Celebration of important days	1	102	8	110
Special day celebration	7	0	0	0
Exposure visits	0	0	0	0
Others (pl.specify)	0	0	0	0
National Balika Diwas 2021	01	64	18	82
International Women's Day 8 th March 2021	01	31	10	41
Rashtriya Mahila Kisan Diwas 15 th Oct 2021	01	40	12	62
World Food Day 16 th Oct 2021	01	90	18	108
Method demonstration Low cost high nutrient recipe	01	22	3	26
Exhibition Low cost high protein recipe	01	25	05	30
Total	76	3206	331	3548

Details of other extension programmes:

Particulars	Number
Electronic Media (CD./DVD)	01
Extension Literature	06
Newspaper coverage	65
Popular articles	27
Radio Talks	0
TV Talks	9
Animal health camps (Number of animals treated)	0
Others (pl. specify) Research Paper	2
Total	110

3.6 Online activities during year 2021-22

S. No.	Activity Type	Mode of implementation	Title of Program	No. of Programmes	No. of Participants/ Views
A	Farmers training				
1	Farmers training	Zoom	Integrated weed management in Maize	1	11
2	Farmers training	Zoom	Balance use of fertilizers (Farmers awerness campaign)	1	93
3	Farmers training	Facebook Live	Balance use of fertilizers : A way to	1	150

			sustainable agriculture		
4	Farmmers Training	Facebook Live	Care and Management of old fruit orchards Plantation of new fruit crops with PoCRA, Buldhana	01	1800
5	Farmmers Training	Facebook Live	Care and Management of old fruit orchards Plantation of new fruit crops	01	3800
6	Farmmers Training	Facebook Live	Improved cultivation practices in bengal gram	01	15000
7	Farmers training	Facebook Live/Zoom	BBF Technology	01	32
8	Farmers training	Facebook Live/Zoom	BBF Technology	01	31
9	Farmers training	Facebook Live/Zoom	Efficient Use Of Water	01	25
10	Farmers training	Facebook Live/Zoom	BBF Technology	01	100
11	Farmers training	You Tube (14.03.2021)	Significance of DAMU for farming community	1	47
12	Farmers training	You Tube (23.03.2021)	World Meteorological Day	1	54
13	Farmers training	Zoom (08.05.2021)	Challenges for Farmers during Climate Change era	1	32
14	Farmers training	You Tube (05.06.2021)	Environment : Climate Resilient Agriculture	1	52
15	Farmers training	Facebook Live (09.06.2021)	Role of Agromet. Advisories in crop production	1	78
16	Farmers training	Zoom app	Processing & Value addition in Agro commodities and entrepreneurship development	01	280
17	Farmers training	Zoom app	Preparation of eco friendly Holi colour online training	01	47
18	Farmers training	Zoom app	Mushroom production and post harvest technology and value addition	01	80
19	Farmers training	Zoom app	Agri based entrepreneurship development and labelling, packaging, branding and marketing pf product	01	80
20	Farmers training	Zoom app	Pickle making enterprise	01	95
21	Farmers training	Zoom app	Processing and value addition of millets and entrepreneurship development	01	55
	Total			21	21942
B	Farmers scientist's interaction programme				
1		YouTube Live	Integrated nutrient and weed management of major kharif crop	1	164
2		Google Meet (27.05.2021)	Climate change: Sustainable Farming	1	41
3		Zoom (11.07.2021)	Climate change, Agriculture & Role of Agrometeorology	1	44
	Total			3	249
1	(KisanMelava)	YouTube Live	Online Kharif melava	1	150
2	Mahila Kisan Diwas	Zoom app	Equity and Empowerment	01	62
3	World Food Day		Processing of fruits and vegetable and entrepreneurship generation	01	108
	Total			3	320
	Grand Total (A+B+C+D+E)			27	22511

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
Pulses	Kharif-Greengram	BM-2003-2	-	5	40000	-
	Blackgram	AKU-10-1	-	4	40000	-
	Soybean	Phule Sangam	-	5	35000	-
	Rabi- Gram	PDKV-Kanchan	-	67	402000	-
Total				81	517000	

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	Guava	L 49	--	4800	288000	27
	Sapota	Kalipatti	--	350	31500	19
	Custard apple	Balanagar	--	5100	127500	21
Total				10250	447000	67

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

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

B. Literature developed/published

Item	Title	Authors name	Number
Research papers	1. Impact of Frontline Demonstrations on onion in Buldhana District of Maharashtra 2. Impact of Cluster Frontline Demonstrations on Productivity of Soybean in Buldhana District of Maharashtra	Taru, A. S., Tijare, B. R. and Chavan , R. T Tijare, B. R., Taru, A. S. and Wadkar, J. R.	02
Technical reports	Annual progress report , action plan report , QPR	-	03
News letters	Integrated Pigeonpea Management Madh (20.06.2021) Nutrient and weed Management in Kharif crop (07.07.2021) Nutrient and weed Management in Kharif crop (06.07.2021) Nutrient and weed Management in Kharif crop (09.07.2021) Nutrient and weed Management in Kharif crop (11.07.2021) Field visit and training – pokhari (16.09.2021) Field day on soybean (26.09.2021) Field day on soybean (06.10.2021) Integrated chickpea management training 10.11.2021 World soil day 06.12.2021 Field day : Pigeonpea 16.12.2021	Tarun Bharat AdhayanSamachar SamacharDastak SamacharDastak Maharashtra Dastak Divya Marathi Divyamarathi and punyanagari Tarun Bharat Divya Marathi Divyamarathi and lokmat Divyamarathi and lokmat	65
Popular articles	Seed treatment : Rabi cropsImportance of water soluble fertilizer Web series I (World soil day) Web series II (World soil day) Web series III (World soil day)	Dr. Bharti R. Tijare and Dr. Anil S. Taru	05
	पिक संरक्षणासाठी ट्रायकोडर्माचा वापर	Shri. P. P. Deshpande	01
TOTAL			76

C. Details of Electronic Media Produced

S. No.	Type of media (CD / VCD / DVD/ Audio-Cassette)	Title of the programme	Number
01	CD	Use of BBF for sowing	01

D. Details of Social Media Platforms Created / Used

S. No.	Type of social media platform	Title of social media	Number of Followers/ Subscribers
1	YouTube Channel	जिल्हा कृषी हवामान केंद्र, बुलढाणा	6258
2	Facebook page/ Account	जिल्हा कृषी हवामान केंद्र, बुलढाणा	3712
3	Mobile Apps	MEGHDOOT, DAMINI	8530
4	WhatsApp groups	GKMS-DAMU, Buldhana	47512
5	WhatsApp groups 6 group	Krusha Mal Prakriya Online training group regarding health, diet and entrepreneurship development	200

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

Title	:	Entrepreneurship development in Papad and shevya making : Mrs. Kavita Arun Garole : A Role Model for rural women
Name and address	:	Mrs. Kavita Arun Garole, C/o Tejswi Papad Udyog, Near Gajanan Maharaj Mandir, Vishnuwadi, Buldhana
Age	:	42 years
Contact No.	:	9405002682 / 8421193984
Category	:	Value addition
Background		
<p>Mrs. Kavita Arun Garole from Buldhana has started her own small scale enterprise of processing and value added product making from agro commodities with brand name Tejaswi Papad Udyog. In this enterprise she is preparing and selling papad, shevaya and similar value-added products.</p> <p>She got married in 2003 to Mr. Arun Kashinath Garole, a resident of Varodi village in Sindkhedraja taluka of Buldhana district. In 2008-09, Kavita taken admission for B.ED. course and she went to Buldhana for further education .</p> <p>So her family was shifted from Varodi to Buldhana. After completion of B.Ed. she tried at various education society to got a job as a teacher .But at every private school where she was trying to get job demanded rupees 8 - 10 lakhs donations and offering only Rs.4000/month salary. But she was not willing to do a job on this minimum salary.</p> <p>Kavita's husband was in government job and Kavita's father-in-law was involved in the business of grocery shop and saumill. Kavita was assisting in the business of her father in law and getting the knowledge of business management .Kavita had learned a lot about how to do business after five years of her marriage .Therefore, when she faced difficulties in getting a job, and a demands of donation of Rs. 8to 10lakhs for getting a job Kavita and her family decided to establish her own business instead of working for Rs./4000month salary. For this Kavita took a loan by pledging her jewelery in a bank and from 2010 she started her own small scale enterprise named Tejswi Papad Udyog.</p> <p>For the establishment of her enterprise she invested a total of Rs. 3lakh. She spent Rs. 80, -/000for shed making and Rs. 20, /000for 3phase electric power connection and other necessary works. Also she bought the necessary machinery required like flour grinding machine ,papad dough making machine, and electric roller papad making machine, etc worth Rs. 2lakhs. The capacity of the papad machine was one quintal papad making / day. With the help of this machinery she runs her business of making papad from Diwali till the onset of monsoon.</p> <p>After getting success in papad manufacturing business in the first year, she decided to produce shevaya along with papad with a view of expansion of business and in 2011 she bought machinery of shevaya making. The capacity of electric vermicelli.making machinery was 25 kg / hour</p>		
Interventions Process Technology		
<p>During 13-2012, 14-2013, Mrs. Kavita and her husband Arun came in contact with the Krishi Vigyan Kendra, Buldhana working under Dr. Punjabrao Deshmukh Krishi Vidyapeeth, Akola.</p> <p>Both of them were actively participated for the first time in a vocational training programme on topic . Processing and value added products making from agro commodity, Soybean processing and value addition organized by the Home Science Department of KVK, Buldhana. Both of them learned about the value addition technology and used this knowledge in preparing the value added products in very creative way. Now a days, urad-soya papad, urad-mug papad, rice-beet papad, rice-spinach papad, rice-tomato papad, various flavored vermicelli etc. are produced under the brand name Teswi papad udhyog, Buldhana.</p>		

The duration of their papad & shevya making business is started from Diwali upto the onset of monsoon. But the pick period is started from the month of March which is 3.5 to 4 months. Besides this till 2018 Tejaswi Papad Udyog, also provides service of making Papad at the rate of Rs. / 40kg and vermicelli making at the rate of Rs. / 10kg from materials brought by the customers from Buldhana city as well as surrounding villages.

But for the last three years, Tejaswi Papad Udyog has increased the service rates for making papad and shevaya by Rs 10 per kg. And nowadays they are providing service for papad making at the rate of Rs. 50 / kg and shevaya making at the rate of Rs.20 / kg.

Impact Horizontal Spread

KVK, Buldhana (II) organizing visit of the trainees taking training on Agro commodities processing and value addition and entrepreneurship development at KVK, Buldhana (II) to her Tejswi Papad Udyog, Buldhana. Most of the trainees were get inspire from her work. And they also planning to start business on agro processing.

Economic gains

During this period, daily production of about 200 kg of various types of papad and 50 kg of shevaya. 150kg papad per day are prepared with Rs. / 50kg making charges. from the grocery brought by customers. From this they get an income of Rs. 7500 / - per day. The firm Tejswi papad udyog preparing their own 50 kg papad per day and sold at the rate of /220kg. From this they get an income of Rs. 11,000/day . Thus the total daily income is 18500per day.

Rs.500 to Rs.700 per day expenditure was on electricity bill and maintenance of machinery ,The labour cost is Rs. / **250- 200**day /labour. Expenditure on wages of five labours are Rs.1250 per day and the expenditure on raw material i.e. on grocery is Rs 6,000 per day .It costs a total of Rs **8000**per day. After deducting expenses, they get a net profit of Rs. **10, 000**per day

With a view to expansion of business in the coming year Tejaswi Papad Udyog is going to take the the technical guidance of Krishi Vigyan Kendra, Buldhana production and sell of papad, kharodya from the minor millets like nachani, mug wadya, bibde ,various flavored vermicelli such as tomato, beet, spinach, mango vermicelli are being considered for production.

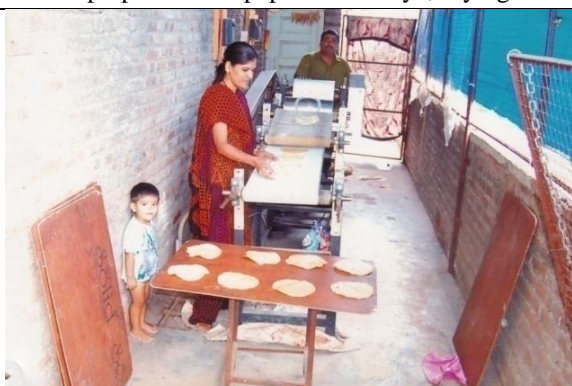
She is repaying the loan installments with the profit received from this business and purchased **2.5**gunthas of land at Buldhana and built a new shed on this land. Rs **5**lakh has been spent for erection of shed. Also in 2018 Tejaswi Papad Udyog purchased new automatic electric papad machine with dryer and other necessary machinery worth Rs. 13.50 lakhs and has been set up a new papad production unit at this place.

Two days per week during the month of October to February means a total of 40 to 42 days she earned approximately Rs. 4.20 lakhs rupees In a total of 90 to 107 days from the month of March to the onset of monsoon, she get an income of Rs.10 to 10.50 lakhs. In total, she get an annual income of Rs **14**lakh to Rs **15**lakh. Kavita avoided investing too much amount in the early stage of business .Today she has achieved this success due to her step by step efforts in terms of business growth. Kavita is successfully running her processing business by taking care of the house as well as her two young children. By starting her own business without relying on a job now she has become a successful entrepreneur .But in her business, she has also created jobs for five to six other needy people.

Kavita Arun Garole guides the women who are visited to her Agri commodities processing and value added products making unit i.e. Tejswi Papad Udhyog with utmost kindness.

Employment Generation

A total of five persons, i.e. four women and one man, have been provided employment and engaged for grinding of flour, kneading of flour in machine and preparation of papad & shevaya, drying it and another related work.



Success Story of Integrated and Low Cost Farming

Name of Farmers : Mr. Mohan Tejrao Jagtap
Age : 37 yrs.
Address : At Post Walti, Tq. Chikhali
Dist. Buldhana (MS) 443 201
Contact No. : 9823272541
Category : Integrated farming system



Mr. Mohan is contact farmer of KVK, Buldhana and always try new things on his farm with a view of its adaptability, climatic conditions and available resources which gives him success in adoption of variety practices, technology and crops,. He tried integration of climate resilient/agro-ecologically suitable horticultural crop along with use of low cost self-invented techniques with his own ideology for achieving best management while cultivating crops. This ultimately brought prosperity in his life and uplifted socio-economic status.

Challenge Start with the challenge, problem, issue or opportunity that has aimed to address:

Rain-fed Agro ecological situation and least returns from traditional farming i.e. growing of agronomical crops with high cost of cultivation.

Initiative Describe what activity or activities done to address the challenge.

- Adaption of dry land fruit crops with advance cultivation techniques i.e. High Density Planting (HDP) in custard apple and medow orchard in guava. Use of advance pruning and crop management techniques. Cultivation of dry land fruit and vegetable crops i.e. Apple ber and dragon fruit, drumstick.
- Shri. Mahon TejraoJagtap is a very enthusiastic farmer and curious about advance agricultural techniques and hence he visited no. of farms and Agricultural institutions i.e. SAUs, KVKs, ARS, NRCs and State level Exhibitions within and outside of state in search of new innovative techniques.
- Through his visits curiousness he realized that instated of growing agronomical crops only, additional income can be generated by growing horticultural crops along with agronomical crops. So he decided to bring half of farm area under horticultural crops.
- He is having 09 acres of land in which 04 acres he brought under irrigation by constructing a farm pond (20m x 25m x 8m). The farm pond is the source of irrigation on his field for the protective irrigation to the plantation crops as well as field crops.
- In 2001, he planted 0.25 acres area under Mango crop. In 2009 he planted custard apple on 0.50 acres area and drumstick on 0.12 acres of area. In 2011 he planted guava on 0.75 acre area and Kagzi lime on 0.50 acres of area in the year 2015. Planted apple ber in 2016 on 0.12 acres area. Total area under horticulture crops is 04 acres.
- Last year (2016-17) he earned Rs.46000/- from guava, Rs.35000/-from Custard apple, Rs.18000/- from apple ber, Rs.17000/- from Drumstick and Rs.25000/- from Mango crop.

From all horticultural crops Rs.141000/-. With this earning he prepared 25000 grafts of Guava and 30000 grafts of Custard apple.

- He planned to sell these grafts in 2018 (monsoon) and will generate an additional income of Rs.12-15 lakhs approximately. From these all above activities he can able to earn about Rs.12-16 lakhs of annual income from 04 acres of area.
- JADU Farm (Jagatap Agricultural Development Unit) is well known farm to the farmers, State Agril. Department officials and other Govt. officials in the district and Maharashtra. This is because of the continuous efforts of Shri. Mohan Tejrao Jagtap and his family, in his family his father, mother, wife, brother and brothers wife total six members are totally dependent on farming. Mohan's father had B.Sc. (Agri.) degree and served in state department.
- From the childhood due to the fathers interest in farming Mohan started thinking cultivation of crops differently and experimented number of practices. He developed a small experimental unit with all crops, adopted technologies and named it as JADU farm (Jagtrap Agricultural Development Unit). Farmers from Buldhana district, other districts of Maharashtra and nearby states give visits to this farm.
- He has completed his post-graduation in arts. As farming is his interesting field he decided to go for farming and started farming under the guidance of his father. From the childhood he observed lower returns with regular kharif and rabi crops as in rainfed condition and not having proper irrigation sources.
- So he decided to go for cultivation of horticultural crops and he has selected fruit crops suitable for rainfed condition. Meanwhile he decided to develop farm pond for protective irrigation for fruit crops and with the help of State Dept. he constructed one farm pond. He has decided to plant Custard apple, Guava, Drumstick, Apple ber, Mango etc. Out of his 09 acres of land he brought 04 acres area under irrigation by constructing a farm pond (20m x 25m x 8m). The farm pond is the source of irrigation on his field for the protective irrigation to the plantation crops as well as field crops.

First Innovation

While cultivating he found in fruit crops fruit fly is a major problem. He was searching to solve the problem of fruit fly and he found number of chemicals and feromon traps. For control of fruit fly chemical control method was felt temporary and biological method i.e. feromon was found more effective and needs low cost for control. So he decided to use feromon traps for control of

fruit traps. He found high cost of feromon trap and decided to prepare own designed pheromone trap and used plastic bottle as feromon tarp as shown in photograph no.1.



**Photograph no.1
:Mr. Mohan
Jagtap used low
cost fruit fly trap**

Second Innovation

He is using drip irrigation method to irrigate fruit crops. From last three years he observed that blockages of drip nozzles and weed occurrence near drippers and need weeding. So last year he heard about use of diffusers for irrigation. Earthen made diffusers can be used to irrigate fruit crops. He decided to use diffusers but he found that one diffusers cost is Rs. 60/- and he found not feasible as its cost for all plants. Then he decided to use water bottles as diffusers and now he is practicing diffusers to irrigate fruit crops. With his this innovation he saved water, cost of weeding and reduced cost of diffusers.



Mr. Mohan Jagtap decided to practice two bottles diffusers instead of one bottle diffuser



Mr. Mohan Jagtap with awards and their mini lab.



Mr. Mohan Jagtap using honey bee boxes on his farm.

Plantation of custard apple in high density with 5 ft x 5 ft. distance. He decided to plant custard apple in high density and practice pruning to maintain vegetation of plants. After successful



Shri. Mohan Tejrao Jagtap farm of Guava plantation



Guava harvesting, grading, packaging and marketing at Akola (Year 2017).



Vemi-compost unit on his farm



Gobar Gas unit.

plantation of custard plants initially he found less numbers of fruits on plants. He decided to go for pruning the plants and maintain vegetation of plants. With this practice he found best quality fruits on plants and vigorous growth of fruits with increase in size. He said that uptill now no one has practiced pruning and high density planting in custard apple and with his experiment farmers will start high density in cultivation in custard apple and also practice pruning. His experiment is shown in photograph number 3.

Along with this he also practicing integrated farming system and has utilizing several of technologies. This JADU farm has got identity and is ideal model for the farmers who having rainfed farming situation and also an example for integration of all beneficial technologies i.e. planting distance of horticultural crops, pruning, irrigation, farm waste recycling, natural and biological plant protection measures etc.

For his efforts and innovativeness he get appreciated from Agrwon and awarded him with 'Vidharbhas Smart Shetkari Award'. In last few years numbers of newspapers published his success stories and he got various awards from various agencies i.e. State Department of Agriculture, Zillha Parishad etc. his efforts proved the saying 'Changes call for innovation and innovation lead to progress'



LOW COST PROTECTED STRUCTURES FOR VEGETABLE SEEDS PRODUCTION

Name: Mr. Dnyaneshwar Laxman Shingane

1. **Father's Name: Mr. Laxman Shigane**
2. **Address of correspondence: At Post. Ancharwadi,
Tal.- Chikhali, Dist.- Buldhana 443 201**
3. **Mobile No.: 9923190183**
4. **Education :- 10th Std 6.0 Land holding (acres): 4.0**



Cultivated traditional crops and vegetables in the area of 4.0 acre of land but faced problems of low rates for produce, less returns, water scarcity and attack of pest and diseases. He is a beneficiary trainee and had training on protected cultivation of vegetables jointly organized by Krishi Vigyan Kendra, Buldhana and Agricultural Technology Management Agency, Buldhana under STRY, GOI.

Innovative Practice:- To overcome that problem, out of total land holding he established four low cost Net-Shade houses for vegetables seed production which are on 1 acre of area (10 R for each Net-Shade house), costing 1 lakh for each Net-Shade house. With this he is getting very good returns with best quality vegetables chasing more rates and having stable socio-economic life.

Practical utility:- Mr. Dnyaneshwar Shingane having 4 structures of low cost Net-Shade houses which are made up of iron angles outer frame and inner support with bamboos and using covering material for at least 6 years and his wife and family members help him to raise that net structures.

Potential:- This type of low cost protected structures are used for vegetables seed production with optimum use of irrigation as well as better management of pests and diseases. The production cost for vegetable seed production like chilli, cucumber, bitter guard etc in this type of single protected structure is Rs. 75-85 thousand for single crop and he is getting up to Rs. 2.5 lakh as total returns i.e. up to Rs. 1.65 net profit in just 10 R area.



Dnyaneshwar Shingane is having four structures i.e. shed nets and Rs. 3.0 lakh of annual production cost of vegetables seed and getting up to Rs. 5.0 lakh net returns annually. In this way he achieved his goals today and proved the saying **‘When there is a will, there is a way ...’**

New improved Soybean variety MAUS-158 brought prosperity to Buldhana District farmer

1. **Name: Mr. Prasant Balkrushana Autkar**
2. **Father's Name: Mr. Balkrushana Autkar**
3. **Address of correspondence: At Post. Pokhari,
Tal. Dist. Buldhana 443 201**
4. **Mobile No.: 9637415133**
5. **Education :- 10th 6.0 Land holding (acres): 5.0**



Mr. Prasant Balkrushana Autkar is contact farmer of KVK, Buldhana. He has five acres of land under the cultivation. In *Kharif* he cultivates crops i.e. Soybean, Black gram, Green gram and in *Rabi* season Bengal gram is a regularly cultivated crop. He used to cultivate soybean variety JS-335 which is available locally with conventional practices. Continuous use of variety JS-335 leads to an enormous reduction in the yield and income and also found more pest infestation.

Under the programme cluster front line demonstration on oilseed during 2017-18 organized by KVK, Buldhana Mr. Prashant was the beneficiary farmer for the demonstration of Soybean variety MAUS-158. The KVK introduced improved soybean variety MAUS-158 with detailed package of practices on his field. Consecutive field visits have been made to his field by the KVK scientists in order to implement improved package of technologies in Soybean. He also advised to attend the trainings programmes organized by KVK and department of agriculture to have a detailed knowledge of growing Soybean.



New improved Soybean variety MAUS-158 at Prasant Balkrushana Autkar Farm

Mr. Prashant adopted the new technologies like seed treatment with bio fertilizer, integrated nutrient management, proper weed management, integrated disease and pest management etc. as suggested by KVK scientists in his field. As a result, he achieved higher yield of 21.28 Q/ha with MAUS 158 compared to 16.34 Q/ha with conventional JS-335 variety. This was 30.23 percent higher than JS-335 cultivated variety. He obtained an average net income of Rs. 46614 per hectare during kharif season. By seeing the economic benefit of Mr. Prashant other farmers also have come forward to adopt the new improved variety and technology for soybean cultivation.

Young Farmer Selected Horticultural Crops With Integration To Become Economically Stable

Name of Farmers : **Dipak Ganesh Pandhare**
Age : 29 yrs.
Address : **At Girola, Post. Kelwad, Tq. Chikhali,**
Dist. Buldhana (MS) 443 201
Contact No. : **09423047686**
Category : **Horticulture**



Young graduate choose farming as a profession and grow fruit crops and vegetables to become economically stable. Having 6 ha. under horticultural crops from last 5 years. With good management and guidance of KVK Scientist Mr. Dipak Pandhare earn profit of Rs. 15.00 Lakh during 2020-21 from 06 ha. of land with horticultural crops.

Challenge Start with the challenge, problem, issue or opportunity that has aimed to address:

- Buldhana district having only 735 mm annual rainfall therefore irrigation is the biggest challenge.
- Labour availability throughout the year for many horticultural practices is also challenge.
- Increasing cost due to excess use of fertilizers which also affect the health of soil.
- Lack of knowledge about integrated pest and disease management in fruit crops.

Initiative Describe what activity or activities done to address the challenge.

- To overcome irrigation problem Mr. Dipak Pandhare took 3 boar wells and collect the water from such boar wells in big size 200 ft. deep well to store this water. Install Drip irrigation system on all 6 ha. of land to cover irrigation to Pomegranate, Guava as well as onion seed production plot.
- Made farming with machineries and minimizing need of labours. Use of tractors for inter cultivation operations. Centralized all irrigation facilities with fertilizer tank for fertigation. Fertigation helps to minimizing loss of fertilizers as well as helps to save labours.
- Mr. Dipak Pandhare having small size indigenous cow unit (13 Cows) which gives sufficient quantity of FYM every year which helps to control excess use of fertilizers and improve soil health.
- From last two years Mr. Dipak Pandhare regularly visited Krishi Vigyan Kendra, Buldhana-II, took guidance regarding management fruit crops, participated farmers training organized by KVK, regularly organized Scientist visits to his farm to improve his knowledge and gain new technologies.

Key result/insight/interesting fact Describe the key result/insight/interesting fact stemming from the activity.

Crop grown by him in 6 ha. of land needs irrigation in different time span of year means all three crop not required large quantity of irrigation in same duration of year it helps to manage available quantity of stored water and he used it very smartly.

The detail gains of Mr. Dipak Pandhare from last year (2020-21) from these crops are as follows-

Crop	Area (Ha.)	Production (Tones)	Cost of production (Rs.)	Gross Returns (Rs.)	Net Returns (Rs.)	B:C ratio
Pomegranate	02	34.5	308115	1050500	742385	2.41
Guava	03	62.0	195000	715000	520000	2.66
Onion Seed Production	01	0.5	145680	452500	306820	2.11
Total	06		648795	2218000	1569205	

From 6 ha. land with good management and guidance of KVK Scientist Mr. Dipak Pandhare earn profit of Rs. 15.00 Lakh during 2020-21 from 06 ha. of land with horticultural crops.

Impact – Mr. Dipak Pandhare convert is farm from traditional cropping to horticultural crops from last 2015-16. From 2018-19 his income from these crops were started. Every year he got more than Rs. 8 lakh net profit from 6 ha. of land. His socio-economic status due to this is improved. He purchase one tractor, one JSB machine from his income generated employment for rural youths. Now a days he having 10 labours on his farm and working on his machineries throughout the years. As shown above his farm of 6 ha. land is a example for many other farmers of the district for assured income. Following graph also focused on his last year Cost of Production with his growth in income.

Lessons Learned

1. What did you learn in this process? What was difficult or challenging?

An effort of Mr. Dipak Pandhare at his young age is really appreciated. Irrigation management in such district where annual rainfall is very low. To manage such condition for said farming is difficult.

2. How did you overcome the challenges faced?

Growing of such three horticultural crop which are having different seasons of production is required irrigation in different period is actually helps to manage protected irrigation.

3. If you were to do it all over again, what would you do differently? (100-150 words):

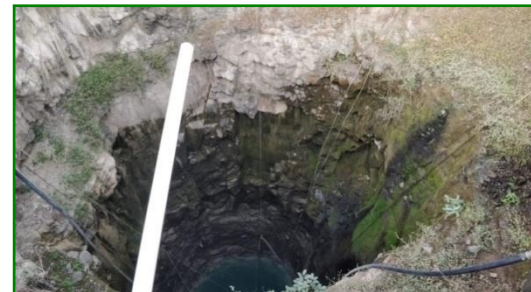
To minimizing loss of irrigation and increasing efficiency of water I will used natural mulching for fruit crops. I will defiantly increase the use of organic manures and put the step toward organic farming which give more rates to farm produce. The farm of Mr. Dipak Pandhare is located at high way (road) site and I will take benefit of this to start selling point at

farm and later on it will convert into Agro-Tourism centre, it help to increase income because families of district places are always trying to find the places where they can spend their weekend for that I will add this additional component in this farm.

Supporting Quotes and Images First person accounts



Farmer Mr. Dipak Ganesh Pandhare at his Farm with Having Plantation of Pomegranate var. Bhagwa, Guava var. L-49, and plot of Onion seed production.



Here Farmer Mr. Dipak Ganesh Pandhare store water from different sources which later used for protected irrigation for fruit crops



A Unit of Indigenous Cows were started from last year from that very good quantity of FYM were collected and used for Horticultural crops.

ULTRA HIGH DENSITY MANGO ORCHARD INCREASES ANNUAL INCOME OF SMALL LAND HONDING FARMER

Name of Farmers : Auchitrao Ramrao Palkar

Age : 47 yrs.

**Address : At Satgaon Mhasla, Post. Mhasala Bk,
Tq. & Dist. Buldhana (MS) 443 201**

Contact No. : 08975803860

Category : Horticulture



Innovative Farmer Mr. Auchitrao Palkar established and maintains mango orchard with ultra high density planting technique grown 800 mango plants on 3 m x 2 m in 0.5 ha of land during 2013 from 2016-17 he started taking production from this orchard. Selling fruits himself at district place got very good returns from this orchard and become a successful farmer. He also has vegetable crops like peas, drumstick and garlic with small unit of indigenous poultry birds in another 1 ha of land.

Challenge Start with the challenge, problem, issue or opportunity that has aimed to address:

- As mango plants need lots of irrigation during summer season for that irrigation is the biggest challenge.
- SAU's recommendations for mango high density planting is 5 m x 5 m therefore ultra high density planting is really challenging to manage for Mr. Auchitrao Palkar.
- Marketing of mango through middleman was resulting low profit through the orchard.
- Carrying intercultural operations manually is hurdle to maintain such kind of dense orchard.
- Lack of knowledge about integrated nutrient, pest and disease management in fruit crops.

Initiative Describe what activity or activities done to address the challenge.

- Lift irrigation from nearest dam from about 8 km were done to overcome irrigation problem Mr. Auchitrao Palkar having 3 wells to store this water and used to irrigate mango orchard this protected irrigation also helps to produce vegetable during summer season which give additional income to his farm.
- To manage dense population of mango trees he use to prune trees every year after harvesting, due to lack of knowledge about mango pruning techniques he took guidance from KVK scientist as well as attained training sessions about pruning of fruit crops organized by Krishi Vigyan Kendra, Buldhana II. Now a days he and both his child are doing this pruning without any help of other labours.
- To avoid middleman in marketing Mr. Auchitrao Palkar and his two sons Sandip and Dipak they own sell all their farm produce nearest market of district place and increases their profit from mango orchard.

- Improve farm mechanisation by small farm tractor having boom sprayer for spraying in such dense orchard which also helps to minimizing labour requirement.
- He regularly visited KVK and also organized farm visits of KVK scientists and discussed about integrated managements of nutrients, pest and diseases. Follow recommendations of State Agriculture Universities of Maharashtra about Mango Cultivation.

Key result/insight/interesting fact Describe the key result/insight/interesting fact stemming from the activity.

Mr. Auchitrao Palkar established and maintains mango orchard with ultra high density planting technique grown 800 mango plants on 3 m x 2 m in 0.5 ha of land during 2013 from 2016-17 he started taking production from this orchard. Economy of this orchard from 2016-17 is as follows-

Crop	Year	Production (Tones)	Cost of production (Rs.)	Gross Returns (Rs.)	Net Returns (Rs.)	B:C ratio
Mango var. Keshar	2018	2.1	45600	256050	210450	4.62
	2019	6.2	72700	395500	322800	4.44
	2020	7.6	78500	405500	327000	4.17
	2021	4.7	60900	355000	294100	4.82
Total	04 yrs	20.6	257700	1412050	1154350	4.51

Income from mango has started from 3rd year of planting, cost up to this 3 years obtained from drumstick which grown as a intercrop for first three years and from this intercrop Mr. Auchitrao Palkar got Rs. 6.50 lakh net profit (3 years). Therefore **he earns more than Rs. 17.00 Lakh during last 5 years only from 0.5 ha. of land.**

6. Impact – Provide a short summary of the actual change (on knowledge, attitude, skills, practice, Economic status, employment, or policy) that took place and how this could lead to large-scale impact at system level and significant progress towards the activity.

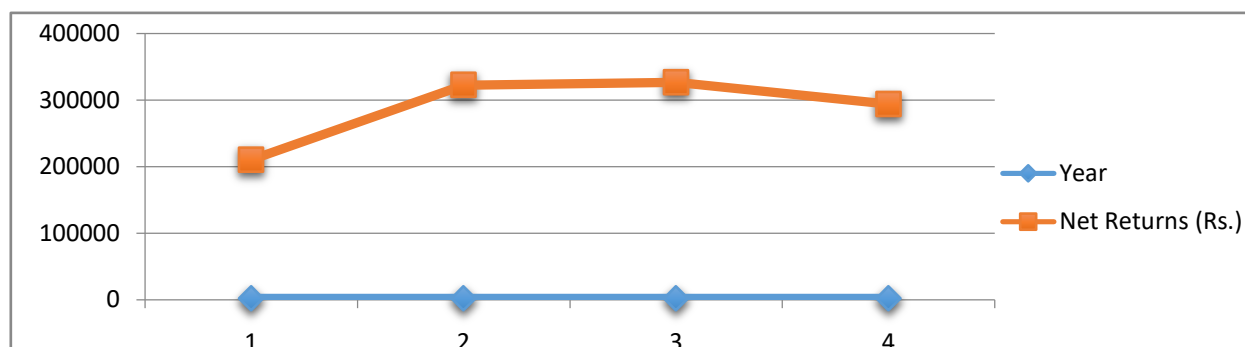
A farmers who took initiative for doing some innovative things in farming and grow more than 800 plants of mango in small piece of land i.e. 0.5 ha with ultra high density techniques in Buldhana district (MS) where commercial mango growers are very few means count on fingers and got net average profit of Rs. 3.0 lakh per year is making opportunities for other farmers of district who want to grow fruit crops.

Lessons Learned

1. What did you learn in this process? What was difficult or challenging?

Biggest challenge from above farming situation is to maintain very high dense population of mango with integrated management of irrigation, nutrients, and pest and diseases. Even he doesn't that much knowledge about such conditions.

His idea of “Farm produce to Direct Consumer” makes him more innovative and hard worker and improves his income as shown in following graph of his income.



2. How did you overcome the challenges faced?

Continuously taking knowledge about crop management from KVK Scientists. Took initiative to learn about pruning techniques do hard work with his both sons and doing self marketing for your farm produced.

3. If you were to do it all over again, what would you do differently? (100-150 words):

Innovation of planting distance done by Mr. Auchitrao Palkar i.e. 3 m x 2 m is very useful to increase plant population for low land holders therefore I will defiantly continue with this spacing. But, I will plant at least three different mango varieties in this situation to get production from an interval will help me to sell it easily at different intervals. Rest all the efforts and management strategies I will follow as he doing in his farm.



Farmer Mr. Auchitraob Ramrao Palkar at his Farm with ultra high density orchard of Mango var. Keshar.



Mr. Auchitrao Palkar and his younger son Dipak showing pruning techniques in mango trees.

5.1. Indicate the specific training need analysis tools/methodology followed for**A. Practicing Farmers**

- i) Field level observations
- ii) Farmer group discussions

B. Rural Youth

- a) Field level observations
- b) Farmer group discussions

5.2. Indicate the methodology for identifying OFTs/FLDs**For OFT:**

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

For FLD:

- i) New variety/technology
- ii) Poor yield at farmers level
- iii) Existing cropping system

5.3. Field activities

- i. Name of villages identified/adopted with block name (from which year) – 12 villages (from 2015)
- ii. No. of farm families selected per village : 120
- iii. No. of survey/PRA conducted : Survey
- iv. No. of technologies taken to the adopted villages:20

6. LINKAGES**A. Functional linkage with different organizations**

Name of organization	Nature of linkage
District Superintending Agricultural Officer, Buldhana	Participation in trainings and farmers melava as Master Trainers, organizing joint monthly visits to farmers fields and extending technical support in plant protection and related agricultural problems.
Project Director, Agricultural Technology Management Agency (ATMA), Buldhana	Prepared strategic research and extension plan (SREP) of Buldhana district for implementation under ATMA.
Agricultural Development Officer, Zilla Parishad, Buldhana	Member of District Enquiry Committee. Participation in meetings, seminar and conduction of diagnostic team visits. Obtained land use and crop cultivation record of the district.
NEERI, Nagpur	Safe water for drinking in Buldhana district
NHB and NHM	Funding agency for establishment of nursery at KVK, Buldhana
MSSCI, Buldhana	Act as a supply source of seed material of agronomical and horticultural crops to KVK, Buldhana for farm demonstrations, OFT and FLDs.
ATMA	Funds mobilized for Innovative Extension Education programmes and entrepreneurship development
District Dealers Association, Buldhana	Jointly organization training and Krishi Mela and Technology dissemination through Krishi Sanwadini distribution.
District Collectorate and revenue	As a ATMA district member. Involvement of KVK in Extension programme.
District Information Office	Technical dissemination and news publish.
Agro-One (Daily News Paper for farmers)	Jointly Krishi Mela organization and technical support in form of resource persons.
PHC, (Yelgaon, Nandrakoli, Hatedi)	Medical camp organization of OFT, FLD's
Govt. Hospital Buldhana	Medical camp organization of OFT, FLD's
MAU Parbhani	Technical FLD, OFT's
MAVIM, Buldhana	For SHG training & entrepreneurship development in Buldhana district
ICDS, Buldhana	For Anganwadi Sevika training in Buldhana district
District Sericulture Officer, Buldhana	Jointly organized the training programme on mulberry cultivation and silkworm rearing to promote sericulture as a agri entrepreneurship to fulfill the sustainability in agriculture.

B. List special programmes undertaken by the KVK and operational now, which have been**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? **Yes**

Coordination activities between KVK and ATMA

S. No.	Programme	Particulars	No. of programmes attended by KVK staff	No. of programmes Organized by KVK
01	Meetings	District monthly workshop and other meeting	32	07

02	Research projects	-	-	-
03	Training programmes	Skill Training	12	12
04	Demonstrations	-	-	-
05	Extension Programmes	Kharif malava, Ranbhaji Mahotsav, Zilla krushi mahotsav, Soil health campaign and world soil day, Farmers Scientist Interaction	10	10

F. Details of linkage with RKVY (Rashtriya Krishi Vikas Yojana)

S. No.	Programme	Nature of linkage	Funds received if any Rs.	Expenditure during the reporting period in Rs.	Remarks
1	Soybean + Tur Intercrop Production technology (35 Demo)	TOT	14.07	13.98	
2	Phytophthora management in orange (25 Demo)				
3	Bacterial Blight management in pomegranate (30 Demo)				

8. Innovative Farmers Meet

S.No.	Particulars	Details
1.	Have you conducted Farm Innovators meet in your district?	No

13. IMPACT

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

Impact of Chickpea PDKV-Kanchan Front Line Demonstrations (FLDs) demonstrated by KVK, Buldhana

Introduction:-

Krishi Vigyan Kendra, Buldhana is playing important role in popularizing improved technologies. KVK organized Front Line Demonstration (FLD) on chickpea variety PDKV –Kanchan in 2021-22. FLDs are demonstrated on farmer's field and on their farming situation. The FLD conducted on farmer's field are closely monitored by the KVK scientists. KVK arranged different extension activities like field day and Kisan Goshti to visualize the result of FLD over conventional method.

Objectives of the study:-

- 1) To study the profile of the selected respondents.
- 2) To study impact of chickpea PDKV-Kanchan FLD demonstrated by KVK, Buldhana on its beneficiaries.
- 3) To Study the Constraints faced by farmers in adoption of demonstrated technology.

Methodology: -

- 1) **Research design used for the study:** - The Ex-post facto research design of the social research was used in the present study as it aimed to ascertaining the impact of the FLD on the Chickpea PDKV-Kanchan growers.
- 2) **Locale of study:** - Present study was conducted in Deulgaon Mali village of Buldhana district where Front Line Demonstration on chickpea PDKV-Kanchan were organised by Krishi Vigyan Kendra, Buldhana.
- 3) **Selection of Taluka and Villages** - For the study one village was selected where the Frontline Demonstration on chickpea PDKV-Kanchan was demonstrated. KVK, Buldhana demonstrated 25 demonstrations in rabi season in last year at Mehakar block of Buldhana district.

- 4) **Selection of farmers as respondents** – A list of farmers in selected village was obtained where the FLD on chickpea PDKV-Kanchan were conducted KVK, Buldhana. All 25 FLD beneficiary and 25 non beneficiary Chickpea growers were the sample respondents for the study.

Variables and their measurement

A) Independent Variables

- 1) **Age:** It is operationally defined as, chronological age of Chickpea growers in completed years at the time of interview.
- 2) **Education:** It is operationally defined as, the formal level of education measured in years of schooling completed by the Chickpea growers.
- 3) **Experience of farming:** It is operationally defined as, the experience of Chickpea growers in performing various farm activities in completed years.
- 4) **Land Holding:** It is operationally defined as, the actual total land put under the enterprise by the Chickpea growers.
- 5) **Annual Income:** It is operationally defined as, total income generated by Chickpea grower in the study year.
- 6) **Scientific orientation:** Scientific orientation is operationally defined as the degree to which farmers are oriented towards the use improved technology of Chickpea and decision making. It was measured with the help of scale developed by supe, 1969. Scientific orientation has been categorized as i) Low ii) Medium iii) High on the basis of mean \pm SD.
- 7) **Economic motivation:** Economic motivation is defined s the degree to which an individual respondents is oriented towards profit maximization in main occupation and the relative valued placed by the respondent on economic ends. It was measured with the help of scale developed by supe, 1969. Economic motivation has been categorized as i) Low ii) Medium iii) High on the basis of mean \pm SD.
- 8) **Risk preference:** Risk preference is operationally defined as the degree to which a farmer is preferred towards risk and has courage to face the problems in farming. It was measured with the help of scale developed by supe, 1969. Risk preference has been categorized as i) Low ii) Medium iii) High on the basis of mean \pm SD.

B) Intervening Variables

- 1) **Knowledge:** It is operationally defined as body of understood information possessed by an individual about Chickpea recommended technologies. It will be measured with the help of following formula.

$$\text{Knowledge Index} = \frac{\text{Actual obtained score}}{\text{Maximum obtainable score}} \times 100$$

- 2) **Adoption:** It is operationally defined as the degree of actual use of Chickpea recommended technologies by an individual. It will be measured with the help of following formula.

$$\text{Adoption Index} = \frac{\text{Actual obtained score}}{\text{Maximum obtainable score}} \times 100$$

C) Dependent Variables

- 1) Impact:** In operational term, it is defined as the effect of recommended technologies of Chickpea on the growers. The effect was ascertained in terms of change in knowledge, adoption, yield and annual income of Chickpea growers.

$$\text{Impact} = \frac{\text{Percent change in knowledge} + \text{percent change in adoption} + \text{percent change in yield} + \text{percent change in annual income}}{4}$$

- a) **Change in Knowledge:** Percent change in knowledge will be measured on the basis of difference between the mean knowledge score of beneficiary farmers and non beneficiary farmers.

$$\text{Change in Knowledge} = \frac{\text{Mean knowledge score of Beneficiary farmer's} - \text{Mean knowledge score of non-beneficiary farmers}}{\text{Mean knowledge score of non-beneficiary farmers}} \times 100$$

- b) **Change in Adoption:** Percent change in adoption will be measured on the basis of difference between the mean adoption of beneficiary farmers and non beneficiary farmers

$$\text{Change in Adoption} = \frac{\text{Mean Adoption score of Beneficiary farmer's} - \text{Mean Adoption score of non-beneficiary farmers}}{\text{Mean Adoption score of non-beneficiary farmers}} \times 100$$

- c) **Change in Yield:** Percent change in yield will be measured on the basis of difference between the mean yield of beneficiary farmers and non beneficiary farmers.

$$\text{Change in Yield} = \frac{\text{Mean yield score of Beneficiary farmer's} - \text{Mean yield score of non-beneficiary farmers}}{\text{Mean yield score of non-beneficiary farmers}} \times 100$$

- d) **Change in Income:** Percent change in income will be measured on the basis of difference between the mean income of beneficiary farmers and non beneficiary farmers

$$\text{Change in Income} = \frac{\text{Mean income score of Beneficiary farmer's} - \text{Mean income score of non-beneficiary farmers}}{\text{Mean income score of non-beneficiary farmers}} \times 100$$

Collection and analysis of data

The interview schedule was constructed in accordance with the study objectives and it was used for data collection. The respondents were contacted and the information in the interview schedule was collected. The information obtained from 25 beneficiaries and 25 non beneficiaries were taken for analysis. The information is analysed with statistical tools like frequency, percentage, mean etc.

Results

Profile of respondents

The data with respect to various characteristics of the respondents have been furnished in Table 1.

Table 1. Distribution of respondents according to their selected characteristics

Sr. No	Characteristics	Chickpea growers				Total (N=50)	
		Ben. (N=25)		Non-Ben.(N=25)		No.	Per cent
		No.	Per cent	No.	Per cent		
1	Age						
i	Young	04	16.00	06	24.00	10	20.00
ii	Middle	15	60.00	12	48.00	27	54.00
iii	Old	06	24.00	07	28.00	13	26.00
2	Education						
i	Illiterate	02	08.00	03	12.00	05	10.00
ii	Primary	03	12.00	02	08.00	05	10.00
iii	Middle school	18	72.00	17	68.00	35	70.00
iv	High school	01	04.00	01	08.00	02	04.00
v	Higher secondary school and college	01	04.00	02	08.00	03	06.00
3	Experience of farming						
i	Small	05	20.00	06	24.00	11	22.00
ii	Medium	18	72.00	14	56.00	32	64.00
iii	High	02	08.00	05	20.00	07	14.00
4	Land holding						
i	Marginal	06	24.00	07	28.00	13	26.00
ii	Small	08	32.00	05	20.00	13	26.00
iii	Semi-medium	08	32.00	11	44.00	19	38.00
iv	Medium	03	12.00	02	08.00	05	10.00
5	Annual income						
i	Low	03	12.00	04	16.00	07	14.00
ii	Medium	18	72.00	17	68.00	35	70.00
iii	High	04	16.00	04	16.00	08	16.00
6	Scientific orientation						
i	Low	02	08.00	05	20.00	07	14.00
ii	Medium	15	60.00	14	56.00	29	58.00
iii	High	08	32.00	06	24.00	14	28.00
7	Economic Motivation						
i	Low	04	16.00	08	32.00	12	24.00
ii	Medium	17	68.00	13	52.00	30	60.00
iii	High	04	16.00	04	16.00	08	16.00
8	Risk preference						
i	Low	05	20.00	08	32.00	13	26.00
ii	Medium	18	72.00	08	32.00	26	52.00
iii	High	02	08.00	09	36.00	11	22.00

I) Knowledge

Table2. Practice wise knowledge about recommended technologies of Chickpeacultivation by the beneficiary and non beneficiary respondents

SN	Particulars	Beneficiary (N=25)				Non Beneficiary (N=25)			
		Yes	Per cent	No	Per cent	Yes	Per cent	No	Per cent
1	Land preparation	23	92.00	02	08.00	20	80.00	05	20.00
2	Types of soil requ.	21	84.00	04	16.00	13	52.00	12	48.00
3	Sowing method	20	80.00	05	20.00	14	72.00	11	44.00
4	Sowing time	23	92.00	02	08.00	17	68.00	08	32.00
5	Recommended seed rate	22	88.00	03	12.00	18	72.00	07	28.00
6	Recommended verities	16	64.00	09	36.00	16	64.00	09	36.00
7	Recommended spacing	15	60.00	10	40.00	17	68.00	08	32.00
8	Seed treatment	24	96.00	01	04.00	18	72.00	07	28.00
9	Recommended FYM applications	14	56.00	11	44.00	08	32.00	17	68.00
10	Fertilizer application	25	50.00	00	00.00	10	40.00	15	60.00
11	Irrigation application for critical crop stage	21	84.00	04	16.00	12	48.00	13	52.00
12	Plant protection-pest & disease control	15	60.00	10	40.00	14	56.00	11	44.00

Table 3. Distribution of respondents according to extent of overall knowledge about recommended technologies of Chickpea

Sr. No	Knowledge category	Chickpea respondents				Total (N=50)	
		Beneficiary (N=25)		Non Beneficiary (N=25)			
		No	Percent	No	Percent	No	Percent
1	Low	09	36.00	07	28.00	16	32.00
2	Medium	06	24.00	17	68.00	23	46.00
3	High	10	40.00	01	04.00	11	22.00
	Total	25	100.00	25	100.00	50	100.00

II) Adoption

Table 4. Practice wise adoption about recommended technologies of Chickpeato the beneficiary and non beneficiary respondents

Sr. No.	Particulars	Beneficiary (N=25)				Non Beneficiary (N=25)			
		Yes	Percent	No	Percent	Yes	Percent	No	Percent
1	Land preparation	20	80.00	05	20.00	13	52.00	12	48.00
2	Types of soil requ.	18	72.00	07	28.00	07	28.00	18	72.00
3	Sowing method	17	68.00	08	32.00	08	32.00	17	68.00
4	Sowing time	19	76.00	06	24.00	12	48.00	13	52.00
5	Seed rate	25	100.00	00	00.00	11	44.00	14	56.00
6	Recommended verities	25	100.00	00	00.00	12	48.00	13	52.00
7	Recommended spacing	22	88.00	03	12.00	10	40.00	15	60.00
8	Seed treatment	25	100.00	00	00.00	08	32.00	17	68.00
9	Recommended FYM applications	03	12.00	22	88.00	05	20.00	20	80.00
10	Fertilizer application	24	96.00	01	04.00	08	32.00	17	68.00
11	Irrigation application for critical crop stage	25	100.00	00	00.00	07	28.00	18	72.00
12	Plant protection-pest & disease control	08	32.00	17	68.00	08	32.00	17	68.00

Table 5. Distribution of respondents according to extent of overall adoption about recommended technologies of Chickpea

Sr. No	Adoption category	Chickpea respondents				Total (N=50)	
		Beneficiary (N=25)		Non Beneficiary (N=25)			
		No	Percent	No	Percent	No	Percent
1	Low	05	20.00	06	24.00	11	22.00
2	Medium	11	44.00	12	48.00	23	46.00
3	High	09	36.00	07	28.00	16	32.00
	Total	25	100.00	25	100.00	50	100.00

Impact of frontline demonstration of Chickpea on respondents

Table 6. Impact of frontline demonstration of Chickpea on respondents

Sr. No	Impact Dimension	Mean Score		Per cent change
		Beneficiary (N=25)	Non Beneficiary (N=25)	
1	Knowledge	21.12	17.98	17.46
2	Adoption	19.52	17.03	14.62
3	Yield	18.16	15.23	19.23
4	Annual income	175.46	131.26	33.67
Impact = Overall percent change				21.24

Results of the study showed that 17.46 per cent change in knowledge, 14.62 per cent in adoption, 19.23 per cent change in yield and 33.67 per cent in annual income. The overall change i.e. impact observed over non beneficiaries was 21.24 per cent.

Table 7. Constraints encountered by respondents

Sr. No	Problems/ Constraints	Beneficiary (N=25)	Per cent	Non-Beneficiary (N=25)	Per cent	Total (N=50)	Per cent
1	Non availability of seed for sowing in market	17	68.00	19	76.00	36	72.00
2	Non availability of electricity for irrigation	16	64.00	18	72.00	34	68.00
3	high wages and non availability of labour	15	60.00	21	84.00	36	72.00
4	Non availability of bio fertilizers	13	52.00	05	20.00	18	36.00
5	High prices of fertilizer, pesticides and other inputs	11	44.00	13	52.00	24	48.00
6	Non availability of loan at the time of input purchase	09	36.00	03	12.00	12	24.00
7	Infestation of pest and disease	08	32.00	05	20.00	13	26.00

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
April 2021	03	30099	-
May 2021	20	40960	-
Jun 2021	270	69120	-
Jul 2021	127	32512	-
Aug 2021	35	24642	-
Sept 2021	107	24772	-
Oct 2021	101	25620	-
Nov.2021	116	25634	-
Dec.2021	169	25634	-
Jan 2022	126	25820	-
Feb 2022	126	40118	-
March 2022	126	40118	-
Total	1326	405049	

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
KVK, Buldhana II	Text only	412	303	216	117	238	40	1326
	Voice only							
	Voice & Text both							
	Total Messages							1326
	Total farmers Benefitted							405049

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	
Pulses									
Green Gram	10.07.21	14.10.21	5	BM-2003-2	Seed Production	5	100000	40000	
Blackgram	20.07.21	20.10.21	5	AKU-10-1		4	60000	40000	
Chickpea	20.11.21	12.03.22	10	PDKV Kanchan		67	60000	402000	
Oilseeds									
Soybean	15.07.21	28.10.21	0.80	Phule Sangam	Seed Production	5	30000	35000	

E. Utilization of hostel facilities: Accommodation available (No. of beds) : 22

Months	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
April 2021	0	0	COVID 19
May 2021	0	0	COVID 19
June 2021	0	0	COVID 19
July 2021	0	0	COVID 19
August 2021	0	0	-
September 2021	0	0	-
October 2021	0	0	-
November 2021	0	0	-
December 2021	0	0	-
January 2022	0	0	-
February 2022	0	0	-
March 2022	0	0	-

F. Database management

S. No	Database target	Database created
01	14000	17790

H. Performance of Nutritional Garden at KVK farm

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

If yes,

Nutritional Garden developed at KVK farm

Area under nutritional garden (ha)	Component of Nutritional Garden	No. of species / plants in nutritional garden	No. of farmers visited
0.02	Vegetable crops (Green leafy vegetable: Spinach, ambat chukka, shepu, coriander etc), Other vegetable: Gawar, Okra, Cow Pea, Brinjal. Beet Root, Radish etc, Cucurbits: Bitter guard, round guard, bottle guard, ridge guard, sponge guard, cucumber etc)	-	300
	Fruit crops (Guava, Anola, Custard Apple, Mango, Ber)		
	Others if any (Drumstick, Tamarind)		

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
05	Vegetable crops (Green leafy vegetable: Spinach, ambat chukka, shepu, coriander etc), Other vegetable: Gawar, okra, cow pea, brinjal. Beet root, radish etc, Cucurbits: Bitter guard, round guard, bottle guard, ridge guard, sponge guard, cucumber etc)		100
	Fruit crops (Guava, anola, custard apple, mango, ber)		
	Others if any (drumstick, tamarind)		

18. 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	SBI	Buldhana	SBIN0000340	11257955311	443002905	SBIN0000340	SBI
With KVK	SBI	Buldhana	SBIN0000340	31834968531	443002905	SBIN0000340	SBI

B. Utilization of KVK funds during the year 2021-22 (Rs. in lakh)

SN	Particulars	Sanctioned	Released	Expenditure
A. Recurring Contingencies				
1	Pay & Allowances	158.00	158.00	150.96
2	Traveling allowances	0.75	0.75	0.745
3	Contingencies			
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	11.89	11.89	15.715
B	POL, repair of vehicles, tractor and Equipments			
C	Meals/refreshment for trainees (ceiling upto Rs.40/day/trainee be maintained)	0	0	0
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)	0	0	0
E	Frontline demonstration except oilseeds and pulses (minimum of 30 demonstration in a year)	0	0	0
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)	0	0	0
G	Training of extension functionaries	0	0	0
H	Maintenance of buildings	0	0	0
I	Establishment of Soil, Plant & Water Testing Laboratory	0	0	0
J	Library	0	0	0
TOTAL (A)		170.64	170.64	167.42
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)		00	00	00
C. REVOLVING FUND		--	-	-
GRAND TOTAL (A+B+C)		170.64	170.64	167.42

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

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance in hand as on 1 st April of each year
April 2019 to March 2020	2,91,634.50	16,93,443	11,99,471	7,85,606.50
April 2020 to March 2021	7,85,606.50	13,16,342	12,92,436.50	8,09,512
April 2021 to March, 2022	8,09,512	1,27,532	3,43,857	5,93,187

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
Snehalata Prabhakar Rao Bhagwat	Assistant Professor, Home Science	Mushroom production and value addition	MANAGE, Hyderabad	Online	-
Dr. J. R. Wadkar	Assistant Professor, Home Science	Mushroom production and value addition	MANAGE, Hyderabad	Online	-

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

Name of the village	Total No.
Chautha, Madh, Pokhari, Sawana, Kinhola, Aaregaon, Sakhal, Nasirabad, Nasirabad, Warvand	110

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

S. No.	Name of the programme	No. of villages adopted	Key activities performed	No. of activities carried out	No. of families covered
1	Activities under NARI	Nandrakoli, Kolwad, Chautha	Training, OFT, FLD	11	345

20. Details of Progress of ARYA Project: Nil**21. Details of SAP**

S. No.	Types of major Activity conducted- Swachhta Pakhwada, Cleaning, Awareness Workshop, Microbial based Agricultural Waste Management by Vermicomposting etc.	No. of Programmes conducted	No. of Participants
1	Awareness Rallies, Essay writing competition, swachhta programmes, waste to wealth cerami composting, etc	25	632

APR SUMMARY

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

1. Training Programmes

Clientele	No. of Courses	Male	Female	Total participants
Farmers & farm women	84	3361	1394	4755
Rural youths	07	148	215	363
Extension functionaries	05	106	91	197
Sponsored Training	04	120	40	160
Vocational Training	01	06	25	31
Total	101	3741	1765	5506

2. Frontline demonstrations

Crops/Enterprise	No. of Farmers	Area(ha)	Units/Animals
Oilseeds	35	34.22	-
Pulses	100	55	-
Cereals	-	-	-
Vegetables	26	10.4	-
Other crops	-	-	-
Hybrid crops	-	-	-
Total	161	99.62	-
Livestock & Fisheries	13	-	26
Other enterprises	140	12	100
Total	153	12	126
Grand Total	314	111.62	126

3. Technology Assessment & Refinement

Category	No. of Technology Assessed & Refined	No. of Trials	No. of Farmers
Technology Assessed			
Crops	08	08	128
Livestock	01	01	13
Various enterprises	01	01	13
Total	10	10	154
Technology Refined			
Crops	-	-	-
Livestock	-	-	-
Various enterprises	-	-	-
Total	-	-	-
Grand Total	10	10	154

4. Extension Programmes

Category	No. of Programmes	Total Participants
Extension activities	76	3548
Other extension activities	27	22511
Total	103	26059

5. Mobile Advisory Services

Name of KVK	Message Type	Type of Messages						
		Crop	Livestock	Weather	Marketing	Awareness	Other enterprise	Total
	Text only	412	303	216	117	238	40	1326
	Voice only							
	Voice & Text both							
	Total Messages	412	303	216	117	238	40	1326
	Total farmers Benefitted							405049

6. Seed & Planting Material Production

	Quintal/Number	Value (Rs.)
Seed (q)	81	517000/-
Planting material (No.)	10250	447000/-

7. Soil, water & plant Analysis

Samples	No. of Beneficiaries	Value (Rs.)
Soil	1800	35105
Total	1800	35105

8. HRD and Publications

Sr. No.	Category	Number
1	Workshops	15
2	Conferences	02
3	Meetings	32
4	Trainings for KVK officials	02
5	Visits of KVK officials	07
6	Book published	01
7	Training Manual	00
8	Book chapters	00
9	Research papers	02
10	Lead papers	00
11	Seminar papers	00
12	Extension folder	05
13	Proceedings	04
14	Award & recognition	01
15	On-going research projects	02

Annexure I

दिनांक २९ जुलै २०२१ , रोजी शास्त्रीय सल्लागार समिती मध्ये घेण्यात आलेले निर्णय

अ. क्र.	निर्णय	कार्यवाही अनुपालन अधिकारी
१.	डॉ .पं.वी.कृ.दे. अकोला विद्यापीठाने प्रसारित केलेल्या वाणांचा प्रथम रेषीय प्रात्याक्षिक व चाचणी प्रयोगांमध्ये समावेश करावा .	कार्यक्रम समन्वयक, कृ. वि. के.बुलढाणा व सर्व विषय विशेषज्ञ
२.	समाज कल्याण विभाग अंतर्गत प्रशिक्षण कार्यक्रमाचे आयोजन करावे	कार्यक्रम समन्वयक, कृ. वि. के.बुलढाणा व विषय विशेषज्ञ सर्व
३.	रब्बी हंगामामध्ये हरभरा पीक प्रात्यक्षिकांमध्ये पीडीकेव्ही कनक या वाणाचा समावेश करावा.	कार्यक्रम समन्वयक, कृ. वि. के.बुलढाणा व विषय विशेषज्ञ कृषी विद्या विभाग
४.	श्री औचीतराव.पालकर बुलढाणा .जि .ता (.म्ह) सातगाव .रा ,यांच्या शेतावर शेती दिनाचे आयोजन करावे व यशोगाथा तयार करून प्रकाशित करावी.	कार्यक्रम समन्वयक, कृ. वि. के.बुलढाणा व विषय विशेषज्ञ ,उद्यानविद्या विभाग
५.	अॅग्री क्लिनिक अॅग्री बिझनेस संदर्भात मॅनेजहैदराबाद येथे संपर्क करावा , कृषी विज्ञान केंद्र, बुलढाणा येथे कृषि पदविका आणि पदवीधारकांना अॅग्री क्लिनिक बिझनेस प्रशिक्षण केंद्राची सुरवात करावी.	कार्यक्रम समन्वयक, कृ. वि. के.बुलढाणा व विषय विशेषज्ञ, विस्तार शिक्षण
६.	उच्च पोषणमूल्य असलेल्या विविध पिकांच्या वाणाचे प्रक्रियायुक्त पदार्थ तयार करणे याबाबत प्रशिक्षणाचे आयोजन करावे आणि प्रशिक्षण घेतलेल्या लाभार्थींना अशा मूल्यवर्धित उत्पादनाची विक्री करण्यासाठी प्रोत्साहित करावे.	कार्यक्रम समन्वयक, कृ. वि. के.बुलढाणा व विषय विशेषज्ञ गृह विज्ञान विभाग

Annexure II

दिनांक १ डिसेंबर २०२१ रोजी शास्त्रीय सल्लागार समिती मध्ये घेण्यात आलेले निर्णय

अ.क्र.	निर्णय	कार्यवाही अनुपालन अधिकारी
१	येणाऱ्या खरीप हंगामापासून एक गाव दत्तक घेऊन गावातील सिंचन क्षेत्र, चारा पिकाखालील क्षेत्र त्याचप्रमाणे दुध उत्पादकता वाढविणे, सर्व विषय विशेषज्ञ यांनी प्रात्यक्षिक राबविणे. तसेच सर्व संलग्नीत विभागाला सहभागी करून घ्यावे.	कार्यक्रम समन्वयक, कृ. वि. के. बुलढाणा व सर्व विषय विशेषज्ञ
२	एकात्मिक शेती पद्धतीच्या मॉडेल अंतर्गत कृषि विज्ञान केंद्र, बुलढाणा यांच्या प्रक्षेत्रावर अ) रेशीम उद्योग } आ) मधुमक्षिका पालन } इ) कुक्कुटपालन } ई) मशरूम उत्पादन } उ) कृषी मालप्रक्रिया } ऊ) शेततळे यांचे मॉडेल (युनिट) तयार करणे	विषय विशेषज्ञ (पिक संरक्षण) विषय विशेषज्ञ (पशु संवर्धन आणि दुग्धशास्त्र) विषय विशेषज्ञ (गृह विज्ञान) विषय विशेषज्ञ (कृषि अभियांत्रिकी)
३	काजू, स्ट्रॉबेरी आणि अंजीर पिकाची जिल्ह्यास ओळख करून देणे आणि कृषी विज्ञान केंद्राच्या प्रक्षेत्रावर प्रात्यक्षिक तत्वावर (युनिट) लागवड करावी.	विषय विशेषज्ञ (उद्यानविद्या)
४	विस्तार शिक्षण संचालनालय, डॉ.पं.दे.कृ.वि, अकोला द्वारा प्रकाशित होणाऱ्या कृषि पत्रिकेसाठी शेतकऱ्यांची यशोगाथा नियमित पाठवाव्यात.	सर्व विषय विशेषज्ञ
५	सर्व संलग्नित विभागांच्या कर्मचाऱ्यांचा whatsapp ग्रुप बनवावा आणि त्यावर नियमित कृषी सल्ला पत्रिका आणि हवामान अंदाज पाठवावा	विषय विशेषज्ञ (विस्तार शिक्षण आणि कृषी हवामानशास्त्र)
६	रोटाव्हेटरचा अतिरिक्त वापर टाळण्यासाठी शेतकऱ्यांना मार्गदर्शन करण्याकरिता प्रशिक्षण कार्यक्रम आयोजित करावे.	विषय विशेषज्ञ (कृषि अभियांत्रिकी)
७	पैनगंगा फार्मर प्रोड्यूसर कंपनी, चिखली यांना भेट देऊन हळद उत्पादन आणि कुरकुमीन उत्पादनाची संपूर्ण माहिती जमा करून त्या संदर्भात निर्यातीची क्षमता कशी वाढविता येईल याबद्दल त्यांना मार्गदर्शन करावे.	विषय विशेषज्ञ (उद्यानविद्या) व विषय विशेषज्ञ (विस्तार शिक्षण)
८	सुवर्ण सोया + पीडीकेव्ही आंबा + फुले संगम या सोयाबिनीच्या वाणांचा प्रयोगात्मक अभ्यास करावा. या तिन्ही वाणाबद्दल शेतकऱ्यांच्या प्रतिक्रिया नोंदवाव्यात आणि अहवाल तयार करून मा.संचालक संशोधन, डॉ.पं.दे.कृ.वि, अकोला यांना सादर करावा.	विषय विशेषज्ञ (कृषिविद्या) व (विस्तार शिक्षण)
९.	जैविक खते निर्मितीच्या युनिटचा प्रस्ताव सादर करावा	विषय विशेषज्ञ (पिक संरक्षण)
१०.	जिल्ह्यातील दोन रान भाज्यांचे प्रात्यक्षिक कृ.वि.के. प्रक्षेत्रावर लावावेत	विषय विशेषज्ञ (गृह विज्ञान)
११.	कृषी माल प्रक्रिया करून एक उत्पादक कृषि विज्ञान केंद्राच्या नावाने प्रसिद्ध करावे आणि ॲगोरेक / एटिक मध्ये विक्रीस ठेवावे	विषय विशेषज्ञ (गृह विज्ञान)
१२.	मागील तीस वर्षांचा हवामानाचा आढावा घेऊन बदलत असलेल्या हवामान घटकांची वारंवारता लक्षात घेऊन जिल्ह्यासाठी पिक व्यवस्थापन पद्धती मध्ये बदल करून हवामान आधारित कृषि सल्याचे सर्व प्रमुख पिकांसाठी संग्रहित पुस्तिका तयार करणे.	विषय विशेषज्ञ (कृषी हवामानशास्त्र)
१३.	“कृषि अवजारे बँक ” तयार करण्याकरिता कृषि विभागाला प्रस्ताव सादर करावा, जिल्ह्याच्या पिक पद्धतीला लागणारे नवीन अवजारे कृषि विज्ञान केंद्राला घेण्यात यावे.	विषय विशेषज्ञ (कृषि अभियांत्रिकी)
१४.	नवीन तंत्रज्ञानाचे घडीपुस्तिका, तांत्रिक पुस्तिका तयार कराव्यात	विषय विशेषज्ञ (विस्तार शिक्षण)
१५.	कृषि सल्ला पत्रिका विद्यापीठ संकेत स्तळावर नियमित अपलोड कराव्यात.	विषय विशेषज्ञ (विस्तार शिक्षण आणि कृषी हवामानशास्त्र)