

DETAILS OF ACTION PLAN OF KVK DURING 2023

(1stJanuary 2023 to 31stDecember 2023)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail	Website
Krishi Vigyan Kendra, Maulasar-Nagaur-II (Raj.)	Office	FAX	kvkmaulasar@gmail.co m	http://nagaur2.kvk 2.in
	01580-294546	-		

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

Address	Telephone		E mail	Website
	Office	FAX		
Agriculture University, Jodhpur Mandor, Jodhpur – 342304	0291-2570711	0291-2570710	vcunivag@gmail.co m	http://aujodhpur.a c.in/

1.2.b. Status of KVK website : Yes

1.2.c. No. of Visitors (Hits) to your KVK website (as on today) : 479136

1.2.d Status of ICT lab at your KVK : -Nil

1.3. Name of the Programme Coordinator with phone & mobile no.

Name	Telephone / Contact		
	Office	Mobile	Email
Dr. Arjun Singh Jat	01580-294546	9412357983	dr.asjat@gmail.com

1.4. Year of sanction: 2012

1.5. Staff Position (as on Dec. 2021)

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Grade Pay	Present basic (Rs.)	Date of joining	Permanent /Temporary	Category (SC/ST/OBC/ Others)	Email id/ Mobile No.	Please attach recent photograph
1	Senior Scientist & Head	Dr. Arjun Singh Jat	Senior Scientist & Head	Ph. D (Agronomy)	37400-67000	10000	153000	20/12/19	Perm anent	OBC	dr.asjat@gmail.com 9412357983	
2	Subject Matter Specialist1	Dr. Anop Kumari	SMS (Horticulture)	Ph. D (Horticulture)	15600-39100	5400	61300	20/02/18	Perm anent	OBC	anopflori.25@gmail.com 9079365543	
3	Subject Matter Specialist2	Dr. Mamta Devi Choudhary	SMS (Plant Protection)	Ph. D (Entomology)	15600-39100	5400	61300	20/02/18	Perm anent	OBC	mmtchoudhary233@gmail.com 9929036180	
4	Subject Matter Specialist3	Ms. Sumitra Devi Bamboriya	SMS (Agronomy)	M. Sc (Agronomy)	15600-39100	5400	61300	21/02/18	Perm anent	OBC	sumisaani@gmail.co m 9829654909	

5	Subject Matter Specialist4	Dr. L.R. Choudhary	SMS (Agri. Extension)	Ag. Ext.	15600-39100	5400	61300	20/02/18	Permanent	OBC	9928418261 lr85.rca@gmail.com	
6	Subject Matter Specialist5	Dr. Dheeraj Kumar Bagri	SMS (Animal Husbandry)	Animal Husbandry	15600-39100	-	39300	21/05/22	Permanent	SC	dheerajbagdi94@gmail.com 8854999388	
7	Subject Matter Specialist6	-	-	-	-	-	-	-	-	-	-	-
8	Programme Assistant	Sh. Rajkamal Dagar	Programme Assistant (computer)	B. Tech & MBA (IT)	9300-34800	4200	40100	05/10/18	Permanent	OBC	rajkamaldagar01@gmail.com 9928222225	
9	Farm Manager	Sh. Madan Lal	Farm Manager	B. Sc. (Hons) Agri.	9300-34800	4200	40100	09/10/18	Permanent	SC	madanlal1997@gmail.com 8104694898	
10	Programme Assistant	Miss Pushpa Kumawat	Programme Assistant (Lab Tech.)	M. Sc. (Agri. Ext.)	9300-34800	4200	40100	19/11/22	Permanent	OBC	kwt1995harsh@gmail.com 7742076510	
11	Accountant / superintendent	Vacant	-	-	-	-	-	-	-	-	-	-
12	Stenographer	Sh. Surendra Singh	Stenographer-III	B. Sc.	5200-20200	2400	22000	16/12/19	Permanent	OBC	8560920824	
13	Driver	Sh. Firoj Khan	Driver	-	9300-34800	4200	53900	13/05/14	Permanent	Gen	9982556730	
14	Driver	Sh. Dilip Singh	Driver	B. A.	5200-20200	2000	20400		Permanent	SC	7015813285	
15	Supporting staff	Sh. Harlal	Class- IV	-	5200-20200	1750	24800	02/01/13			9928207717	
16	Supporting staff	Vacant	-	-	-	-	-	-	-	-	-	-

1.6. Total land with KVK (in ha) : 20.0 ha.

S. No.	Item	Area (ha)
1	Under Buildings	900 Sq.M.
2.	Under Demonstration Units	1000 Sq. m
3.	Under Crops	17 ha
4.	Orchard/Agro-forestry	1.0 ha
5.	Others (Farm Pond)	484 Sq. M

1.7. Infrastructural Development: --

A) Buildings

S.	Name of	Source of	Stage
----	---------	-----------	-------

N.	building	funding	Complete			Incomplete		
			Completion Year	Plinth area (Sq.m)	Expenditure (Rs.)	Starting year	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	2018	550	1,49,00,000			
2.	Farmers Hostel	ICAR	2018	350	61,00,000			
3.	Staff Quarters (6)	NIL						
4.	Demonstration Units (2)	ICAR		42	65,700			
5.	Fencing							
6.	Rain Water harvesting system	ICAR		484	5,00,000			
7.	Threshing floor	NIL						
8.	Farm godown	Directorate of Arecanut & Spices Development, Calicut. Kerala	2018	50 Sq. M	10,99,300			
	Other	-						

B) Vehicles

Type of vehicle	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
BOLERO JEEP-(RJ 37 UA 3036)	2013	800000	119455 KM	Good
Tractor (RJ 37 RA 4190)	2013	475000	2090 Hrs	Good

C) Equipment's & AV aids: -

Name of the equipment	Year of purchase	Cost (Rs.)	Present status
Canon Photocopier	2016	127595	Good
Desktop- All in one Computer	2016	55891	Good
Projector (Hitachi)	2016	63548	Good
Laptop (Acer)	2016	55124	Good
Digital Camera (Canon)	2016	49850	Good
Office Furniture	2016	47879	Good
Air conditioner LG	2017	79600	Good
LG LED TV	2020	28000	Good
Desktop- All in one Computer (HP)	2021	50376	Good
Computer Desktop	2021	40016	Good
Geyser	2021	11017	Good
Water cooler with RO	2021	47500	Good
Office table	2021	30800	Good

Fridge	2021	41101	Good
Desktop- All in one Computer	2022	96299	Good
Digital Board with projector	2022	149500	Good
Furniture Iron Bed (20) for Farmers Hostel	2022	134520	Good
Dining Table Set	2022	42480	Good
Air conditioner (02)	2022	98900	Good
Desert Cooler with stand	2022	44100	Good

1.8. A). Details of SAC meetings to be conducted in the year

Sl. No.	Date
1. Scientific Advisory Committee	As per ATARI Jodhpur Directions

2. DETAILS OF DISTRICT

Nagaur district is situated in Western part of Rajasthan between 260 25' to 27040' North latitude and 730 18' to 750 15' East longitude. Nagaur district falls under agro climatic zone II-A called as transitional plans of inland drainage. It covers an area of 17778 sq. km. out of which 17448.5 sq. km is rural area and 269.5 sq. km is urban. The Nagaur district is bounded on the north by Bikaner and Churu districts, on the east by Sikar and Jaipur districts, on the south by Ajmer, and Pali districts and on the west by Jodhpur districts. There are 13 tehsil headquarters in the district viz. Nagaur, Khinwsar, Jayal, Degana, Didwana, Ladnun, Parbatsar, Makarana, Nawa, Kuchaman, Riyanbadi and Mundwa. The district is divided into 14 blocks (Panchayat Samitis) viz. Nagaur, Khinvsar, Mundwa, Jayal, Merta, Riyanbadi, Degana, Didwana, Maulasar, Ladnu, Parbatsar, Makarana, Nawa and Kuchaman. Out of which 7 Ladnu, Didwana, Kuchaman, Maulasar, Makarana, Nawa and Parbatsar are under jurisdiction of this KVK, Nagaur-II.

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

S. No	Farming system/enterprise
1	Crop production + Animal Husbandry
2	Crop production + Horticulture
3	Crop production + Horticulture + Animal Husbandry

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

a) Agro-climatic Zone

Sl. No.	Agro-climatic Zone	Characteristics
1	Transitional Plain of Inland Drainage (II A)	This zone comprises all tehsils of Nagaur, Sikar and Jhunjhunu districts, Churu district. The area is covered with sand dunes, inters-dunal sandy plains and occasional hills. Drainage is not well developed and streams, which flow in the rainy season, disappear in sandy fields after covering some distance. Climatically, this zone is slightly better as compared to the adjoining zone of the Arid Western Plain. The zone has average rainfall of 300-400 mm. Temperatures in summer months do go very high but the winters are very cold. Irrigation is restricted to areas with good groundwater potential. Bajra, sesamum and kharif pulses are the main crops of the rainy season. Wheat, barley, mustard and gram are grown as irrigated crops or on conserved soil moisture during Rabi. The area distinguishes from western sandy plain in having better Livelihood of villagers depends mainly on livestock rearing along with some rain-fed farming.

Climate & Rainfall:

The district experiences arid to semi-arid type of climate. Mean annual rainfall of the district is 363 mm. The rainy days are limited to maximum 15 in a year. Almost 80% of the total annual rainfall is received during the southwest monsoon. The probability of occurrence of mean annual rainfall is 38%. Based on agriculture criteria, the district is prone to mild and normal type of droughts. The monsoon enters the district in the first week of July and withdraws by the middle of September. As the district lies in the desert area, extremes of heat in summer and cold in winter are the characteristics of the desert. Both day and night temperatures increase gradually and reach their maximum values in May and June respectively. The temperature varies from 46 degree in summer to 7 degrees in winter. The winter season starts by middle of November and lasts till February. January is the coldest month with both mean maximum and minimum temperatures being lowest at 22.5° and 6.7° respectively. The minimum temperature sometimes drops down to below the freezing point of water and frost occurs. The diurnal variation in temperature during winter is as high as 16°C. Both maximum and minimum temperatures begin to rise rapidly from February onwards, reaching their respective maximum in late May or early June. The mean daily maximum temperature in May is 40.4°C and the mean daily minimum temperature is 25.7°C. Atmosphere is generally dry except during the monsoon period. Humidity is the highest in August with mean daily relative humidity at 80%. The annual maximum potential evapotranspiration in the district is quite high and it is the highest (255.1 mm) in the month of May and the lowest (76.5 mm) in the month of December.

b) Topography

S. No.	Agro ecological situation	Characteristics
1	AES-I	Semi-Arid dry land Area
2	AES-II	Double cropped sandy loam Area
3	AES-III	Semi-Arid Alkaline moderate productivity Area

2.3 Soil Types

S. No	Soil type	Characteristics	Area in ha
1	Sandy soil		562073
2	Sandy loam		478360
3	Clay Loam		155467

Four types of soils have been reported in the district viz, clay, clay loam, sandy loam and sandy soil. The general texture of the soil in the area is sandy loam to clayey loam which is further classified into “Barani” or un-irrigated and “Chahi” or irrigated soil. A part of Nagaur tehsil and south-eastern part of Merta tehsil have deep sandy loam, while red loamy soil exists elsewhere in Merta tehsil except on the banks of river Luni. Light loamy soil occurs in Parbatsar tehsil away from hill ranges. A longitudinal belt from Didwana to Nawa extending up to Sambhar Lake has the characteristics of alkaline soil.

S. N.	Soil type	Block	Area (ha.)	Area (%)	Characteristics
1	Sandy soil	Nagaur, Khuchaman, Jayal, Riyan, Merta, Degana, Makarana, Ladnun, Parbatsar, Didwana.	5,65,705	47.30	Sandy soils are often dry, nutrient deficient and fast-draining. They have little (or no) ability to transport water from deeper layers through capillary transport. Therefore, tillage of sandy soils in the spring should be kept to a minimum in order to retain moisture in the seedbed. Erodible and low organic matter. The nutrient- and water-holding capacity of sand soils can be improved through adding organic material.
2	Sandy	Makarana,	4,72,905	39.54	Erodible low organic matter. Sandy loam soils have visible

	loam soil	Ladnun, Parbatsar, Mundwa, Didwana, Nagaur, Kuchaman, Jayal, Riyan, Merta, Degana.			particles of sand mixed into the soil. Sandy loam soils are made of approximately 60 percent sand, 10 percent clay and 30 percent silt particles. When sandy loams soils are compressed, they hold their shape but break apart easily. Sandy loam soils have a high concentration of sand that gives them a gritty feel. In gardens and lawns, sandy loam soils are capable of quickly draining excess water but cannot hold significant amounts of water or nutrients for your plants. Plants grown in this type of soil will require more frequent irrigation and fertilization than soils with a higher concentration of clay and sediment. Sandy loam soils are often deficient in specific micronutrients and may require additional fertilization to support healthy plant growth.
3	Clay loam	Nagaur, Kuchaman, Jayal, Riyan, Merta, Degana, Makarana, Ladnun, Parbatsar, Mundwa, Didwana.	1,34,450	11.24	Saline & Saline Alkaline. Clay loam is a soil mixture that contains more clay than other types of rock or minerals. A loam is a soil mixture that is named for the type of soil that is present in the greatest amount. The particles of clay are very small, which is one of its most important characteristics. For this reason, loams that contain a great deal of clay tend to be heavy, because they are so dense. While this soil type can be difficult to work with, it can also be improved to be a very good growing medium. The density of clay is the cause of the two biggest drawbacks of clay loam. When it is very wet, it swells to retain water, which makes it difficult to work with. Over time, this poor drainage can also stunt plant growth. Dry clay shrinks but stays packed, forming dense clods and cracking the soil surface. These drawbacks can be lessened by adding organic matter over time. Usually clay loam contains a good deal of plant nutrients and supports most types of plants and crops. Clay loams can be improved to create better drainage without too much difficulty. In some wet weather or climates, the drainage problems may be harder to overcome.
4	Clay	Nagaur, Jayal, Merta, Riyan, Parbatsar	22,840	1.91	Though different soils have a wide range of colors, textures and other distinguishing features, there are only three types of soil particles that geologists consider distinct. The quality of soil depends on the amount of sand, loam and clay that it contains, because soils with differing amounts of these particles often have very different characteristics. Soil with a large amount of clay is sometimes hard to work with, due to some of clay's characteristics.
Total			1195900	100	

LAND USE

The land use pattern of a region determines the ecological balance in the region and helps to understand the environmental status as well. It includes the management and modification of natural environment in to build environment such as settlements, cultivated land etc. Approximately half of the area

of the Rajasthan state is under cultivation with an average Cropping Intensity of 125%. Nagaur district lying in the mid-western districts of arid and the semi-arid zone support only rain-fed crops in this area and because of low rainfall the percentage of fallow land is quite high. The net sown area is the highest in the semi-arid zone and the sub-humid parts of eastern Rajasthan which also accounts for extensive agriculture.

2.4. Area, Production and Productivity of major crops cultivated in the district (2020-21)

S. No.	Crop	Area (ha)	Production (q)	Productivity (kg /ha)
1.	Pearl millet	297239	262057	882
2.	Green gram	664128	331030	498
3.	Moth bean	45979	27496	598
4.	Groundnut	32453	62164	1916
5.	Sesame	8704	6689	768
6.	Cluster bean	94432	66503	704
7.	Sorghum	47019	35887	763
8.	Cotton	60419	93638	1550
9.	Wheat	45158	91004	2015
10.	Barley	6223	13417	2156
11.	Chickpea	99944	106533	1066
12.	Mustard	113214	159319	1407
13.	Taramira	66976	34447	813
14.	Cumin	38370	40801	1050
15.	Isabgol	42958	41900	975
16.	Fenugreek	5411	10058	1196
17.	Fennel	4079	6157	1509

2.5. Weather data

Month	Rainfall (mm)	Temperature ° C		Relative Humidity (%)
		Maximum	Minimum	
January, 2022	12.0	24	13	28
February, 2022	0.0	30	17	19
March, 2022	1.0	35	22	16
April, 2022	1.0	38	26	26
May, 2022	85.0	38	28	28
June, 2022	37.0	39	29	33
July, 2022	91.0	37	29	49
August, 2022	152.0	36	28	65
September, 2022	212.0	35	28	48
October, 2022	20.0	35	27	26
November, 2022	0.0	32	19	21
December, 2022	1.0	25	14	30
Total	612.0			

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

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	72611		
<i>Indigenous</i>	428979		
Buffalo	556598		
Sheep	584841		
Goats	1485051		
Camel	10578		
Rabbits	613		
Poultry			
Hens	74793		
<i>Desi</i>	74245		
Category		Production (Q.)	Productivity
Fish (Reservoir)	-	-	-

*Statistical report

2.7 Details of Operational area / Villages

S. N.	Taluk	Name of the block	Name of the village	Major crops & enterprises	Major problem identified	Identified Thrust Areas
1.	Didwana	Maulasar	Bedwa, Bhadliya, Dausar, Bardwa, Khanari, Badi Chhapari, Dabra, Kurli, Ladariya	Bajra, Guar, Greengram, Wheat, Barley, Mustard, Isabgol, Taramira, chilli & Onion	Lack of knowledge about improved variety seed	To popularize improved variety seed through FLDs
2.	Didwana	Didwana	Kharesh, Saniya, Thakriyawas, Khardiya, Singhana, Mawa	Bajra, Guar, Greengram, Mothbean, Wheat, Barley, Isabgol, onion	Lack of knowledge about improved variety seed	To popularize improved variety seed through FLDs
3.	Kuchaman	Kuchaman	Bheelal, Gugadwar, Bhawta, Indali, Hanumanpura, Todas, Nalot, Nangwara,	Bajra, Guar, Groundnut, Greengram, Wheat, Barley, Mustard, Isabgol, Citrus, Onion & Cucurbitaceous crop	Lack of knowledge about improved variety seed	To popularize improved variety seed through FLDs

4.	Nawa	Nawa	Gogor, Haripura, Lichana,	Bajra, Guar, Groundnut, Greengram, Cotton, Wheat, Barley, Mustard, Isabgol, Taramira, Tomato, chilli, onion & cucurbitaceous crop	Lack of knowledge about improved variety seed	To popularize improved variety seed through FLDs
5.	Ladnu	Ladnu	Baldu, Mindasri, Manu	Bajra, Greengram, Guar, Cotton, Wheat, Mustard, Isabgol, Cumin, Safflower	No seed & soil treatment	Trainings and method demonstration on seed & soil treatment
6.	Makrana	Makrana	Chandi, Dewali, Billu, Gelasar, Nimbadi	Bajra, Guar, Greengram, Sesame, Wheat, Isabgol, Taramira	Lack of knowledge about INM & IPM	Dissemination of dry land technology for major crops through recommended varieties, INM & IPM.
7.	Parbatsar	Parbatsar	Bhawasiya	Bajra, Guar, Greengram, Sesame, Wheat, Isabgol, Taramira, citrus, Ber	Lack of knowledge about improved variety seed	To popularize improved variety seed through FLDs

2.8 Priority thrust areas

KVK Name	THRUST AREA
KVK Nagaur-II	Dissemination of dry land farming techniques for enhancement of farmers income by optimal use of resources.
	Popularization of ICM, INM, IPM, IWM technologies for increase the productivity of crops.
	Crop diversification from conventional crops to seed spices and medicinal crops like Cumin, Fennel and Isabgol for better returns.
	Emphasis on micro irrigation, rain water harvesting and protected cultivation technologies for optimum use of natural resources and income enhancement.
	To organize long duration skill-oriented training programme for entrepreneurship development.
	To motivate the farming community about the Integrated Farming System, Organic farming, Natural farming.
	Introduction of improved and hybrid varieties of crops, vegetables, their package of practices and establishment of new fruit orchards and hi –tech horticulture.
	Post-harvest techniques for arid fruits.
	To increase milk production by better management and feeding of milch animals, selection of improved breeds and providing good hygienic conditions.
	Introduction of drudgery reducing techniques in agriculture and animal husbandry.

3. TECHNICAL PROGRAMME

3. A. Details of targeted mandatory activities by KVK

OFT (1)		FLD (2)	
Number of OFTs	Number of Farmers	Area (ha. /No.)	Number of Farmers
6	76	120	315

Training (3)		Extension Activities (4)	
Number of Courses	Number of Participants	Number of activities	Number of participants
61	1515	444	14710

Seed Production (q) (5)	Planting material (Nos.) (6)	Fish seed prod. (Nos) (7)	Soil Samples (8)
180	143900	-	1000

3. B. Abstract of interventions to be undertaken

S. No	Thrust area	Crop/ Enterprise	Identified Problem	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel if any	Extension activities	Supply of seeds, planting materials etc.
1	INM	Chickpea	Lack of knowledge about use of liquid fertilizer		Productivity enhancement in chickpea by foliar spray of NPK	INM	-	Field visit & field days	NPK (19:19:19)
2	Weed management	Green gram	Severe weed infestation		Herbicidal weed management in green gram	-	-	Field visit & field days	Herbicide
3	Nutrition Management	Varieties of seasonal vegetables and fruits	Problems of less consumption of vegetable and fruits		Improved household food security through Nutri garden	Management of Nutri Garden	Balanced diet and Poshan Thali	Field days	Seasonal vegetable seeds and plantlets
4	Water management	Moth bean	Low water retention capacity of soil			Productivity enhancement in moth bean by adding organic manures	--	Field Visits	-
5	Natural farming	Wheat	Soil degradation		FLDs on natural farming	Training on natural farming		Trainings, field visits, field days	Drums and other materials

6	IPM	Groundnut	Lack of knowledge about suitable insecticides		Management of white grub in groundnut	IPM	-	Field visit & Field Day	Pheromone trap, clothianidin 50 WP and Imidacloprid 17.8 SL
7	IPM	Mustard	Lack of knowledge about suitable insecticides		Evaluation of yellow sticky trap in mustard	IPM		Field visit & field days	Yellow sticky trap
8	Resource conservation	Tomato	High seedling mortality, high weed infestation	Evaluation of Arka Microbial Consortium and pro tray for healthy tomato seedling production			INM in tomato	Field visit & field days	Pro-tray, AMC
9	Varietal evaluation	Chilli	Lack of knowledge about disease resistant varieties	Assessment of Chilli (<i>Capsicum annum L.</i>) Hybrids for Growth and Yield Characters	-	-	INM in chilli	Field visit & field days	Seed
10	Resource conservation	Chilli	High weed infestation & more water requirement of crop		Effect of plastic mulch in Chilli		Protected cultivation of vegetables	Field visit & field days	Mulch
11	INM	Tomato	lack of awareness about INM in tomato		Impact assessment of INM in tomato		INM I tomato	Field visit & trainings	Arka vegetable micronutrient formulation

3.1 Technologies to be assessed and refined

A.1 Abstract on the number of technologies to be assessed in respect of **crops**

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	Tuber Crops	TOTAL
Varietal Evaluation					1					1
Seed / Plant production										
Weed Management	1									1
Integrated Crop Management										
Integrated Nutrient Management										
Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Value addition										
Integrated Pest Management	1									1
Integrated Disease Management					1					1
Resource conservation technology					1					1
Small Scale income generating										

enterprises										
TOTAL	2				3					05

A.2. Abstract on the number of technologies to be refined in respect of crops

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Kitchen garden	Tuber Crops	TOTAL
Varietal Evaluation										
Seed / Plant production										
Weed Management										
Integrated Crop Management										
Integrated Nutrient Management										
Integrated Farming System										
Mushroom cultivation										
Drudgery reduction										
Farm machineries										
Post Harvest Technology										
Integrated Pest Management										
Integrated Disease Management										
Resource conservation technology										
Small Scale income generating enterprises										
TOTAL										

A.3. Abstract on the number of technologies to be assessed in respect of livestock / enterprises

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Wormi culture	Fisheries	TOTAL
Evaluation of Breeds								
Nutrition Management	1							1
Disease of Management								
Value Addition								
Production and Management								
Feed and Fodder								
Small Scale income generating enterprises								
TOTAL	1							01

A.4. Abstract on the number of technologies to be refined in respect of livestock / enterprises

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

B. Details of On Farm Trial

OFT-1: Weed management in pearl millet

Problem diagnoses	Poor yield of pearl millet
Causes	Severe weed infestation (Grassy and Broadleaf weeds) and problem in manual weeding at optimum time due to rains in kharif season, Lack of knowledge about herbicides and use of un-decomposed FYM
Title	Weed management in pearl millet
Thematic area	Weed management
Farming situation	Rainfed, Sandy loamy soils, Previous crops- Wheat/Fallow
Possible solution	Hand weeding, Use of herbicides
Treatments	
Farmers practice	T ₁ : Hand weeding at 20-25 DAS
Details of technologies selected for assessment	T ₂ : Tembotrione 42% SC @ 120 g a.i./ha at 20 DAS
Source of technology	IARI, New Delhi
Area of trial/ treatments	Per farmer (ha) - 0.4 Total area (ha) – 04
Number of farmers	10
Critical inputs to be applied	Herbicides
Cost of Critical inputs	8000/-
Performance Indicators:	
Technical performance	Weed population & dry matter at 30 DAS, No. of tillers/plant, No. of ear/plant, Grain and stover yields (q/ha)
Economical parameters	Cost of cultivation (Rs. /ha), Gross return (Rs. /ha), Net Return (Rs. /ha) and B:C ratio
Farmer perception	Suitability, Easy assessable and Appropriateness

OFT-2: Seedling management in tomato

Problem diagnoses	Low yield of tomato
Causes	High seedling mortality, high weed and disease infestation
Title	Seedling management in tomato
Thematic area	Resource conservation
Farming situation	Irrigated, Sandy loam soils
Possible solutions	Use of Arka Microbial Consortium and pro tray for tomato seedling production
Treatments:	
Farmers practice	T ₁ : seed sown in direct soil (nursery bed)
Details of technologies selected for assessment	T ₂ : Seed sowing in pro tray +seed treatment with Arka Microbial Consortium @10gm/100gm seed
Source of technology	IIHR, Bengaluru (2011)
Area of trial/ treatments	Per farmer (ha) – 0.1 Total area (ha) – 1.0
Number of farmers	10
Critical inputs to be applied	Pro tray and Arka microbial consortium
Cost of Critical inputs	Rs. 15000/
Performance Indicators:	

Technical performance	Seed germination (%), weed population (per m ²), seedling growth parameters and survival percentage
Economical parameters	Cost of cultivation (Rs/ha), Gross return (Rs./ha), Net Return (Rs./ha), and B:C ratio
Farmer perception	Suitability, Easy assessable and Appropriateness

OFT-3: Assessment of Chilli (*Capsicum annuum* L.) Hybrids

Problem diagnoses	Low yield in chilli
Causes	Low yield due to high incidence of Chilli leaf curl virus and powdery mildew in the varieties prevailing in the area
Title	Assessment of Chilli (<i>Capsicum annuum</i> L.) hybrids
Thematic area	Varietal evaluation
Farming situation	Irrigated, Sandy loam soils, Previous crops- Fallow
Possible solution	Use of tolerant/ resistant hybrids, timely management of chilli leaf curl virus and powdery mildew, seedling grow in protected nursery area etc.
Treatments:	
Farmer's practice	T ₁ –Farmer practice (growing of sensitive varieties- Calix Krishna, Syngenta Royal Bullet etc.)
Details of technologies selected for assessment	T ₂ – Hybrid Arka Meghna T ₃ – Hybrid Arka Saanvi
Source of technology	IIHR, Bangalore
Area of trail/treatments	0.5 ha
Number of farmers	6
Critical inputs to be applied	Seed
Performance Indicator:	
Technical performance	Plant height (cm), Days to 50 per cent flowering (days), Days to first harvest
Economical parameters	No. of fruits per plant, Average fruit length (cm), Yield per plant (g), Yield per ha (t/ha), Market preference
Farmer perception	Suitability, Easily Accessible, Appropriateness

OFT- 4: Management of termite, (*Odontotermes obesus* R.) in wheat

Problem diagnoses	Low yield of wheat
Causes	Severe infestation of termite, Lack of knowledge about suitable insecticides and management practices
Title	Management of termite, (<i>Odontotermes obesus</i> R.) in wheat
Thematic area	Integrated pest management
Farming situation	Irrigated, Sandy loam soils, Previous crops- Green gram/ Pearl millet/ Cluster bean
Possible solutions	Seed treatment with Imidacloprid 600 FS and drenching with suitable insecticide Fipronil 40 % + Imidacloprid 40 % at %) at 50 DAS
Treatments:	
Farmer's Practice	T ₁ : Chlorpyrifos 20 EC @ 4 L/ha
Details of technologies selected for assessment	T ₂ : Seed treatment with Imidacloprid 600 FS 6 ml/kg seed and drenching with Fipronil 40 % + Imidacloprid 40 % 500 ml/ha
Source of technology	RARI, Durgapura, Jaipur
Area of trial/ treatments	Per farmer (ha) - 0.4 Total area (ha) – 04
No. of farmers	10
Critical Inputs to be applied	Imidacloprid 600 FS and Fipronil 40 % + Imidacloprid 40 %

Cost of critical inputs	Per farmer (Rs. - 900/-) Total cost- (Rs. - 9000/-)
Performance Indicators:	
Technical performance	No. of damage plant /meter row and Yield (q /ha)
Economical parameters	Cost of cultivation (Rs. /ha), Gross return (Rs. /ha), Net Return (Rs. /ha) and B:C ratio
Farmer perception	Suitability, Easy assessable and Appropriateness

OFT- 5: Management of Anthracnose/twister disease in onion (*Allium cepa* L.)

Problem diagnoses	Low yield of onion
Causes	Severe infestation of Anthracnose/twister disease, Lack of knowledge about suitable fungicides
Title	Management of Anthracnose/twister disease in onion (<i>Allium cepa</i> L.)
Thematic area	Integrated diseases management
Farming situation	Irrigated, Sandy loam soils, Previous crops- Fallow
Possible solutions	Soil treatment with <i>Trichoderma harzianum</i> @10kg/ha with vermicompost 5 q/ha, Seed treatment with <i>T. harzianum</i> 6g/kg seed, seedling treatment with <i>Pseudomonas fluorescens</i> @10 g/lit of water and Spray with Trifloxystrobin 25% WG+Tebuconazole 50% @ 0.1% at 30 DAT
Treatments:	
Farmer's Practice	T1: Foliar spray with Tebuconazole 50% @ 0.1%
Details of technologies selected for assessment	T2: Soil treatment with <i>Trichoderma harzianum</i> @10kg/ha with vermicompost 5 q/ha, Seed treatment with <i>T. harzianum</i> 6g/kg seed, seedling root treatment with <i>Pseudomonas fluorescens</i> @10 g/lit of water and Spray with Trifloxystrobin 25% WG+Tebuconazole 50% @ 0.1% at 30 DAT
Source of technology	DOGR, Pune
Area of trial/ treatments	Per farmer (ha) - 0.1 Total area (ha) – 01
No. of farmers	10
Critical Inputs	<i>Trichoderma harzianum</i> @10kg/ha, <i>T. harzianum</i> 6 g/kg seed, <i>pseudomonas fluorescens</i> 10 g/lit. water and Trifloxystrobin 25% WG+Tebuconazole 50% @ 0.1%
Cost of critical inputs	Per farmer (Rs.- 900/-) Total cost- (Rs.- 9000/-)
Performance Indicators:	
Technical	% Disease severity and Yield (q /ha)
Economical	Cost of cultivation (Rs./ha) , Gross Return (Rs./ha),Net Return (Rs./ha) ,B:C Ratio
Farmers perception	Suitability, Easily Accessible, Appropriateness

OFT-6: Effect of mineral mixture supplementation and deworming on productive and reproductive performance of buffalo

Problem diagnoses	Low milk yield and low reproduction performance in Buffaloes
Causes	Malnutrition problem, imbalanced use of feed and fodder, no use of mineral mixture and de-worming agents, poor knowledge of management practices.

Title	Effect of mineral mixture supplementation and deworming on productive and reproductive performance of buffalo	
Thematic area	Animal nutrition	
Treatments		
Farmers practice	T1: Farmers practices	
Details of technologies selected for assessment	T2: T1 + 50gm mineral mixture / buffalo from the day one after calving to 100 days and deworming with one bolus (80mg) ivermectin 5 days after calving.	
Source of technology	National dairy research institute, Karnal	
Sample size	2 Animals/ farmers	Total: 40 animals
Number of farmers	20	
Critical inputs to be applied	Mineral mixture, Ivermectin Bolus (80 mg.)	
Cost of Critical inputs	16000/-	
Performance Indicators:		
Technical performance	<ol style="list-style-type: none"> 1. Average milk yield (lit/day/buffalo) 2. Onset of first oestrus after calving (Days) 3. No. of AI/service required for Conception 4. Service period (days) 	
Economical parameters	B:C Ratio	
Farmer perception	Suitability, Easy assessable and Appropriateness	

3.2 Frontline Demonstrations

A. Details of FLDs to be organized -

Sl. No.	Crop	Variety	Thematic area	Technology for demonstration	Critical inputs	Season and year	Area (ha)	No. of farmers/ demon.	Parameters identified
1	Sesame	RT-372	ICM	Improved variety, INM, IWM & IPM	Improved variety: RT-372 Hexaconazole, Streptocyclin, consortia, Imidacloprid waste decomposer, ZnSO ₄ , NPK (18:18:18)	Kharif-2023	10	25	Yield, Net returns and B:C ratio
2	Groundnut	RG-510/GJG-19	ICM	Improved variety, INM, IWM & IPM	Improved variety (RG-510), Tebuconazole, consortia, Imazethapyr Imidacloprid, Trichoderma, Gypsum	Kharif-2023	20	50	Yield, Net returns and B:C ratio
3	Mustard	DRMR 1165-40	ICM	Improved variety, INM, IWM & IPM	Improved variety: DRMR-1165-40 Metalaxyl, consortia, Pendimethalin, Acetamiprid ZnSO ₄ , S, NPK (18:18:18), Gypsum	Rabi-2023-24	20	50	Yield, Net returns and B:C ratio
4	Green gram	GM-7/Virat	ICM	Improved variety, INM, IWM & IPM	Improved variety: GM-7 Hexaconazole, consortia, Imazethapyr Imidacloprid, waste decomposer, ZnSO ₄ , NPK (18:18:18)	Kharif-2023	20	50	Yield, Net returns and B:C ratio
5	Moth bean	RMO-225-1	ICM	Improved variety, INM, IWM & IPM	Improved variety: RMO-225-1 Hexaconazole, consortia, Neem oil, waste decomposer, ZnSO ₄ , NPK (18:18:18)	Kharif-2023	20	50	Yield, Net returns and B:C ratio
6	Chickpea	GNG-2144/GNG-2171	ICM	Improved variety, INM, IWM & IPM	Improved variety (GNG 2144), Tebuconazole, consortia, Pendimethalin, Trichoderma, Indoxacarb	Rabi-2023-24	10	25	Yield, Net returns and B:C ratio
7	Pearl millet	HHB-299	ICM	High yielding biofortified variety INM, IWM & IPM	High yielding variety (HHB-299) Propiconazole, consortia, NPK	Kharif-2023	10	25	Yield, Net returns and B:C ratio

					Imidacloprid, waste decomposer, ZnSO ₄ , NPK (18:18:18)				
8	Chilli		Resources conservation	Mulching in Chilli	Plastic mulch	Zaid-2023	1.0	10	Weeds/m ² , Yield/plant, yield/ha, economics
9	Tomato		INM	Vegetable micronutrient formulation	Vegetable micronutrient formulation	Rabi 2023	1.0	10	Yield, Net returns and B:C ratio
10	Groundnut	-	IPM	Use of suitable Insecticides	Pheromone trap, clothianidin 50 WP and Imidacloprid 17.8 SL	Kharif 2023	04	10	Yield, Net returns and B:C ratio
11	Mustard	-	IPM	Use of suitable Insecticides	Yellow sticky trap @ 20 trap/ha and spray with NSKE 5% at flowering stage	Rabi, 2023-24	04	10	Yield, Net returns and B:C ratio

Sponsored Demonstration (CFLDs)

Crop	Area (ha)	No. of farmers
Groundnut	20	50
Sesame	10	25
Mustard	20	50
Green gram	20	50
Moth bean	20	50
Chickpea	10	25
Pearl millet	10	25

B. Extension and Training activities under FLDs

S. No.	Activity	No. of activities	Month	Number of participants
1	Field days	12	Jan-Dec	1400
2	Farmers Training	10	Jan-Dec	350
3	Media coverage	15	Jan-Dec	Mass
4	Training for extension functionaries	03	Jan-Dec	150

C. Details of FLD on Enterprises

(i) Farm Implements

Name of the implement	Crop	Season and year	No. of farmers	Area (ha)	Critical inputs	Performance parameters / Indicators

(ii) Livestock Enterprises

Enterprise	Breed	No. of farmers	No. of animals, poultry birds/ha. etc.	Critical inputs	Performance parameters / Indicators
Buffalo	-	10	10	Azolla	Milk yield Fat percentage B:C Ratio

3.3 Training (Including the sponsored and FLD training programmes):

A) ON Campus

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	

(A) Farmers & Farm Women								
I Crop Production								
Weed Management								
Resource Conservation Technologies								
Cropping Systems								
Crop Diversification								
Integrated Farming								
Water management	1	15	05	20	05	00	05	25
Seed production								
Nursery management								
Integrated Crop Management	2	40	0	40	10	0	10	50
Fodder production								
Production of organic inputs								
II Horticulture								
a) Vegetable Crops								
Production of low volume and high value crops								
Off-season vegetables								
Nursery raising	1	10	5	15	10	0	10	25
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)	1	10	5	15	10	0	10	25
b) Fruits								
Training and Pruning								
Layout and Management of Orchards								
Cultivation of Fruit								
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques	1	10	5	15	10	0	10	25
c) Ornamental Plants								
Nursery Management								
Management of potted plants								
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
d) Plantation crops								
Production and Management technology								
Processing and value addition								
e) Tuber crops								
Production and Management technology								
Processing and value addition								
f) Spices								
Production and Management technology								
Processing and value addition								
g) Medicinal and Aromatic Plants								
Nursery management								
Production and management technology								
Post-harvest technology and value addition								
III Soil Health and Fertility Management								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management								
Production and use of organic inputs								
Management of Problematic soils								
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing								
IV Livestock Production and Management								
Dairy Management								
Poultry Management								

Piggery Management									
Rabbit Management/goat	1	20	0	20	5	0	5	25	
Disease Management	1	20	0	20	5	0	5	25	
Feed management	1	20	0	20	5	0	5	25	
Production of quality animal products									
V Home Science/Women empowerment									
Household food security by kitchen gardening and nutrition gardening	1	00	20	20	00	05	05	25	
Design and development of low/minimum cost diet									
Designing and development for high nutrient efficiency diet									
Minimization of nutrient loss in processing									
Gender mainstreaming through SHGs									
Storage loss minimization techniques									
Value addition									
Income generation activities for empowerment of rural Women									
Location specific drudgery reduction technologies									
Rural Crafts									
Women and child care									
VI Agricultural Engineering									
Installation and maintenance of micro irrigation systems									
Use of Plastics in farming practices									
Production of small tools and implements									
Repair and maintenance of farm machinery and implements									
Small scale processing and value addition									
Post-Harvest Technology									
VII Plant Protection									
Integrated Pest Management	2	30	05	35	10	05	15	50	
Integrated Disease Management	1	15	00	15	05	05	10	25	
Bio-control of pests and diseases									
Production of bio control agents and bio pesticides									
VIII Fisheries									
Integrated fish farming									
Carp breeding and hatchery management									
Carp fry and fingerling rearing									
Composite fish culture									
Hatchery management and culture of freshwater prawn									
Breeding and culture of ornamental fishes									
Portable plastic carp hatchery									
Pen culture of fish and prawn									
Shrimp farming									
Edible oyster farming									
Pearl culture									
Fish processing and value addition									
IX Production of Inputs at site									
Seed Production									
Planting material production									
Bio-agents production									
Bio-pesticides production									
Bio-fertilizer production									
Vermi-compost production									
Organic manures production									
Production of fry and fingerlings									
Production of Bee-colonies and wax sheets									
Small tools and implements									

Production of livestock feed and fodder								
Production of Fish feed								
X Capacity Building and Group Dynamics								
Leadership development	1	15	00	15	05	05	10	25
Group dynamics	1	15	00	15	05	05	10	25
Formation and Management of SHGs	1	15	00	15	05	05	10	25
Mobilization of social capital								
Entrepreneurial development of farmers/youths	1	15	00	15	05	05	10	25
WTO and IPR issues								
XI Agro-forestry								
Production technologies								
Nursery management								
Integrated Farming Systems								
XII Others (Pl. Specify)								
TOTAL	17	250	45	295	95	35	130	425
(B) RURAL YOUTH								
Mushroom Production								
Bee-keeping								
Integrated farming								
Seed production								
Production of organic inputs								
Integrated Farming (Medicinal)								
Planting material production								
Vermi-culture								
Sericulture								
Protected cultivation of vegetable crops	1	10	5	15	3	2	5	20
Commercial fruit production								
Repair and maintenance of farm machinery and implements								
Nursery Management of Horticulture crops								
Training and pruning of orchards								
Value addition								
Production of quality animal products								
Dairying	1	10	5	15	3	2	5	20
Sheep and goat rearing								
Quail farming								
Piggery								
Rabbit farming								
Poultry production								
Ornamental fisheries								
Para vets								
Para extension workers								
Composite fish culture								
Freshwater prawn culture								
Shrimp farming								
Pearl culture								
Cold water fisheries								
Fish harvest and processing technology								
Fry and fingerling rearing								
Small scale processing								
Post-Harvest Technology								
Tailoring and Stitching								
Rural Crafts								
TOTAL	2	20	10	30	6	4	10	40
(C) Extension Personnel								
Productivity enhancement in field crops	01	15	05	20	05	00	05	25
Integrated Pest Management	01	15	05	20	05	00	05	25
Integrated Nutrient management								
Rejuvenation of old orchards								

Protected cultivation technology	01	15	05	20	05	00	05	25
Formation and Management of SHGs								
Group Dynamics and farmers organization								
Information networking among farmers								
Capacity building for ICT application	01	15	05	20	05	00	05	25
Care and maintenance of farm machinery and implements								
WTO and IPR issues								
Management in farm animals	01	15	05	20	05	00	05	25
Livestock feed and fodder production								
Household food security								
Women and Child care								
Low cost and nutrient efficient diet designing								
Production and use of organic inputs								
Gender mainstreaming through SHGs								
Any other (Pl. Specify)								
TOTAL	5	75	25	100	25	0	25	125
G. Total	24	345	80	425	126	39	165	590

B) OFF Campus

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women								
I Crop Production								
Weed Management	1	15	05	20	05	00	05	25
Resource Conservation Technologies								
Cropping Systems								
Crop Diversification								
Integrated Farming								
Water management	1	15	03	18	05	02	07	25
Seed production								
Nursery management								
Integrated Crop Management	2	30	06	36	10	04	14	50
Fodder production	1	15	03	18	05	02	07	25
Production of organic inputs	1	15	03	18	05	02	07	25
II Horticulture								
a) Vegetable Crops								
Production of low volume and high value crops								
Off-season vegetables	1	15	05	20	05	00	05	25
Nursery raising	2	15	10	25	15	10	25	50
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)								
b) Fruits								
Training and Pruning								
Layout and Management of Orchards	1	15	05	20	05	00	05	25
Cultivation of Fruit								
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques	1	10	5	15	10	0	10	25
c) Ornamental Plants								
Nursery Management								
Management of potted plants								

Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
d) Plantation crops								
Production and Management technology								
Processing and value addition								
e) Tuber crops								
Production and Management technology								
Processing and value addition								
f) Spices								
Production and Management technology								
Processing and value addition								
g) Medicinal and Aromatic Plants								
Nursery management								
Production and management technology								
Post-harvest technology and value addition								
III Soil Health and Fertility Management								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management	2	15	10	25	15	10	25	50
Production and use of organic inputs								
Management of Problematic soils	1	15	05	20	05	00	05	25
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing	1	15	05	20	05	00	05	25
IV Livestock Production and Management								
Dairy Management	4	60	20	80	20	00	20	100
Poultry Management								
Piggery Management								
Rabbit Management /goat								
Disease Management	2	15	10	25	15	10	25	50
Feed management								
Production of quality animal products								
V Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	01	00	20	20	00	05	5	25
Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing								
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
Value addition	01	00	20	20	00	05	5	25
Income generation activities for empowerment of rural Women								
Location specific drudgery reduction technologies								
Rural Crafts								
Women and child care								
VI Agril. Engineering								
Installation and maintenance of micro irrigation systems								
Use of Plastics in farming practices								
Production of small tools and implements								
Repair and maintenance of farm machinery and implements								
Small scale processing and value addition								
Post-Harvest Technology								
VII Plant Protection								
Integrated Pest Management	6	75	30	105	40	05	45	150
Integrated Disease Management	3	35	15	50	15	10	25	75
Bio-control of pests and diseases								

Production of bio control agents and bio pesticides									
VIII Fisheries									
Integrated fish farming									
Carp breeding and hatchery management									
Carp fry and fingerling rearing									
Composite fish culture									
Hatchery management and culture of freshwater prawn									
Breeding and culture of ornamental fishes									
Portable plastic carp hatchery									
Pen culture of fish and prawn									
Shrimp farming									
Edible oyster farming									
Pearl culture									
Fish processing and value addition									
IX Production of Inputs at site									
Seed Production									
Planting material production (Horti.)									
Bio-agents production									
Bio-pesticides production									
Bio-fertilizer production									
Vermi-compost production (Horti.)									
Organic manures production (A.S.)									
Production of fry and fingerlings									
Production of Bee-colonies and wax sheets									
Small tools and implements									
Production of livestock feed and fodder									
Production of Fish feed									
X Capacity Building and Group Dynamics									
Leadership development	1	15	05	20	05	00	05	25	
Group dynamics	1	15	05	20	05	00	05	25	
Formation and Management of SHGs (HS)	1	15	05	20	05	00	05	25	
Mobilization of social capital	1	15	05	20	05	00	05	25	
Entrepreneurial development of farmers/youths (Agro.)	1	15	05	20	05	00	05	25	
WTO and IPR issues									
XI Agro-forestry									
Production technologies									
Nursery management									
Integrated Farming Systems (Agro)									
XII Others (Pl. Specify)									
TOTAL	37	450	205	655	205	65	270	925	

C) Consolidated table (ON and OFF Campus)

Thematic Area	No. of Courses	No. of Participants						Grand Total
		Others			SC/ST			
		Male	Female	Total	Male	Female	Total	
(A) Farmers & Farm Women								
I Crop Production								
Weed Management	1	15	05	20	05	00	05	25
Resource Conservation Technologies								
Cropping Systems								
Crop Diversification								
Integrated Farming								
Water management	2	30	08	38	10	02	12	50
Seed production								
Nursery management								
Integrated Crop Management	3	45	11	56	15	04	19	75
Fodder production	1	15	03	18	05	02	07	25

Production of organic inputs	1	15	03	18	05	02	07	25
II Horticulture								
a) Vegetable Crops								
Production of low volume and high value crops								
Off-season vegetables	1	15	5	20	5	0	5	25
Nursery raising	3	25	15	40	25	10	35	75
Exotic vegetables like Broccoli								
Export potential vegetables								
Grading and standardization								
Protective cultivation (Green Houses, Shade Net etc.)	1	15	5	20	5	0	5	25
b) Fruits								
Training and Pruning								
Layout and Management of Orchards	1	15	5	20	5	0	5	25
Cultivation of Fruit								
Management of young plants/orchards								
Rejuvenation of old orchards								
Export potential fruits								
Micro irrigation systems of orchards								
Plant propagation techniques	2	25	10	35	15	0	15	50
c) Ornamental Plants								
Nursery Management								
Management of potted plants								
Export potential of ornamental plants								
Propagation techniques of Ornamental Plants								
d) Plantation crops								
Production and Management technology								
Processing and value addition								
e) Tuber crops								
Production and Management technology								
Processing and value addition								
f) Spices								
Production and Management technology								
Processing and value addition								
g) Medicinal and Aromatic Plants								
Nursery management								
Production and management technology								
Post-harvest technology and value addition								
III Soil Health and Fertility Management								
Soil fertility management								
Soil and Water Conservation								
Integrated Nutrient Management	2	25	10	35	15	0	15	50
Production and use of organic inputs								
Management of Problematic soils	01	15	05	20	05	00	05	25
Micro nutrient deficiency in crops								
Nutrient Use Efficiency								
Soil and Water Testing	01	15	05	20	05	00	05	25
IV Livestock Production and Management								
Dairy Management	4	60	20	80	20	00	20	100
Poultry Management								
Piggery Management								
Rabbit Management/goat	01	20	0	20	5	0	5	25
Disease Management	03	35	10	45	20	10	30	75
Feed management	01	15	05	20	05	00	05	25
Production of quality animal products								
V Home Science/Women empowerment								
Household food security by kitchen gardening and nutrition gardening	02	00	40	40	00	10	10	50

Design and development of low/minimum cost diet								
Designing and development for high nutrient efficiency diet								
Minimization of nutrient loss in processing								
Gender mainstreaming through SHGs								
Storage loss minimization techniques								
Value addition	1	00	20	20	00	05	05	25
Income generation activities for empowerment of rural Women								
Location specific drudgery reduction technologies								
Rural Crafts								
Women and child care								
VI Agril. Engineering								
Installation and maintenance of micro irrigation systems								
Use of Plastics in farming practices								
Production of small tools and implements								
Repair and maintenance of farm machinery and implements								
Small scale processing and value addition								
Post-Harvest Technology								
VII Plant Protection								
Integrated Pest Management	08	105	38	143	48	09	57	200
Integrated Disease Management	04	50	16	66	30	14	34	100
Bio-control of pests and diseases								
Production of bio control agents and bio pesticides								
VIII Fisheries								
Integrated fish farming								
Carp breeding and hatchery management								
Carp fry and fingerling rearing								
Composite fish culture								
Hatchery management and culture of freshwater prawn								
Breeding and culture of ornamental fishes								
Portable plastic carp hatchery								
Pen culture of fish and prawn								
Shrimp farming								
Edible oyster farming								
Pearl culture								
Fish processing and value addition								
IX Production of Inputs at site								
Seed Production								
Planting material production								
Bio-agents production								
Bio-pesticides production								
Bio-fertilizer production								
Vermi-compost production								
Organic manures production								
Production of fry and fingerlings								
Production of Bee-colonies and wax sheets								
Small tools and implements								
Production of livestock feed and fodder								
Production of Fish feed								
X Capacity Building and Group Dynamics								
Leadership development	02	30	05	35	10	05	15	50
Group dynamics	02	30	05	35	10	05	15	50
Formation and Management of SHGs	02	30	05	35	10	05	15	50
Mobilization of social capital	01	15	05	20	05	00	05	25
Entrepreneurial development of farmers/youths	02	30	05	35	10	05	15	50
WTO and IPR issues								
XI Agro-forestry								
Production technologies								
Nursery management								
Integrated Farming Systems								

Sponsored training								
TOTAL	54	700	250	950	300	100	400	1350
(B) RURAL YOUTH								
Mushroom Production								
Bee-keeping								
Integrated farming								
Seed production								
Production of organic inputs								
Integrated Farming								
Planting material production								
Vermi-culture								
Sericulture								
Protected cultivation of vegetable crops	01	10	5	15	3	2	5	20
Commercial fruit production								
Repair and maintenance of farm machinery and implements								
Nursery Management of Horticulture crops								
Training and pruning of orchards								
Value addition								
Production of quality animal products								
Dairying	1	10	5	15	3	2	5	20
Sheep and goat rearing								
Quail farming								
Piggery								
Rabbit farming								
Poultry production								
Ornamental fisheries								
Para vets								
Para extension workers								
Composite fish culture								
Freshwater prawn culture								
Shrimp farming								
Pearl culture								
Cold water fisheries								
Fish harvest and processing technology								
Fry and fingerling rearing								
Small scale processing								
Post-Harvest Technology								
Tailoring and Stitching								
Rural Crafts								
TOTAL	2	20	10	30	6	4	10	40
(C) Extension Personnel								
Productivity enhancement in field crops	01	15	05	20	05	00	05	25
Integrated Pest Management	01	15	05	20	05	00	05	25
Integrated Nutrient management								
Rejuvenation of old orchards								
Protected cultivation technology	01	15	5	20	5	0	5	25
Formation and Management of SHGs								
Group Dynamics and farmers organization								
Information networking among farmers								
Capacity building for ICT application	01	15	5	20	5	0	5	25
Care and maintenance of farm machinery and implements								
WTO and IPR issues								
Management in farm animals	01	15	5	20	5	0	5	25
Livestock feed and fodder production								
Household food security								
Women and Child care								
Low cost and nutrient efficient diet designing								
Production and use of organic inputs								

Gender mainstreaming through SHGs								
Any other (Pl. Specify)								
TOTAL	5	75	25	100	25	0	25	125
G. TOTAL	61	795	285	1080	331	104	435	1515

*Details of training programmes attached in **Annexure -I**

3.4. Extension Activities (including activities of FLD programmes)

Nature of Extension Activity	No. of activities	Farmers			Extension Officials			Total		
		Male	Female	Total	Male	Female	Total	Male	Female	Total
Field Day	18			950			50			1000
Kisan Mela	01			900			100			1000
Kisan Ghosthi	05			280			20			300
Exhibition	03			1750			250			2000
Film Show	10			450			50			500
Farmers Seminar	2			95			05			100
Workshop	02			90			10			100
Group meetings	04			180			20			200
Lectures delivered as resource persons	25			-			-			Mass
Newspaper coverage	35			-			-			Mass
Radio talks	06			-			-			Mass
TV talks	02			-			-			Mass
Popular articles	15			-			-			Mass
Extension Literature	15			500			500			5500
Advisory Services	150			1400			100			1500
Scientific visit to farmers field	65			190			10			200
Farmers visit to KVK	50			500			0			500
Diagnostic visits	10			10			10			20
Exposure visits	05			05			0			05
Ex-trainees Sammelan	02			200			0			200
Soil health Camp	01			190			10			200
Animal Health Camp	01			180			20			200
Agri mobile clinic										
Soil test campaigns	01			180			20			300
Farm Science Club Conveners meet										
Self Help Group Conveners meetings	04			90			10			100
Mahila Mandals Conveners meetings	01			30			0			30
Celebration of important days (specify)	08			475			25			500
Krishi Mohotsav										
Krishi Rath										
Pre Kharif workshop	01			90			10			100

Pre Rabi workshop	01		90		10		100
PPVFRA workshop							
Any Other (Specify)	01		50		05		55
Total	444		8875		1235		14710

3.5 Target for Production and supply of Technological products SEED MATERIALS

SI. No.	Crop	Variety	Quantity (q)
CEREALS			
OILSEEDS	Sesame	RT-351/372	5.0
PULSES	Green gram	MH-421/GM-7/Virat	70.0
	Moth bean	RMO-225-1	5.0
VEGETABLES			
OTHERS (Specify)	Cluster bean	RGC-1033	100.0
		Total	180

PLANTING MATERIALS

SI. No.	Crop	Variety	Quantity (Nos.)
FRUITS			
1.	Drum stick	PKM-1	3000
2.	Ber	Gola, Seb, Umran	500
SPICES			
VEGETABLES	Tomato	-	30000
	Chilli	-	30000
	Cole crops	-	40000
	Brinjal	-	40000
FOREST SPECIES			
ORNAMENTAL CROPS	Bougainvillea		100
	Nerium		200
	Jasmine		100
		Total	143900

Bio-products

SI. No.	Product Name	Species	Quantity	
			No	(kg)

BIO PESTICIDES				
1				
2				

LIVESTOCK

Sl. No.	Type	Breed	Quantity	
			(Nos)	Unit
Cattle				
GOAT	Demonstration unit to be established at KVK farm in the year 2023	Saujat	10 +1	
SHEEP				
POULTRY	Demonstration unit to be established at KVK farm in the year 2023	Kadakhnath / Partap Dhan	50+10	
Pig farming				
FISHERIES				

3.6. Literature to be Developed/Published

(A) KVK News Letter

Date of start : April, 2023

Number of copies to be published : 1000

(B) Literature developed/published

S.No.	Topic	Number
1	Research paper each scientist	04
2	Technical reports	05
3	News letters	01
4	Training manual all discipline	05
5	Popular article	13
6	Extension literature	12
	Total	40

(C) Details of Electronic Media to be Produced

S. No.	Type of media (CD / VCD / DVD / Audio-Cassette)	Title of the programme	Number
1			

3.7. Success stories/Case studies identified for development as a case. - 5

a. Brief introduction:

b. Interventions:

c. Output:

d. Outcomes:

e. Impact

i) Social economic

ii) Bio-Physical

f. Good Action Photographs

3.8 Indicate the specific training need analysis tools/methodology followed for Practicing Farmers

- a) Through observation
- b)
- c)

Rural Youth

- a) Through pre testing
- b)
- c)
- d)

In-service personnel

- a)
- b)
- c)

3.9 Indicate the methodology for identifying OFTs/FLDs

For OFT:

- i) PRA
- ii) Problem identified from Matrix
- iii) Field level observations
- iv) Farmer group discussions
- v) Others if any

For FLD:

- i) New variety/technology
- ii) Poor yield at farmer's level
- iii) Existing cropping system
- iv) Others if any

3.10 Field activities

- i. Name of villages identified/adopted with block name (from which year) - Village-Gogor, Block-Nawa
- ii. No. of farm families selected per village: 50
- iii. No. of survey/PRA conducted: 2
- iv. No. of technologies taken to the adopted villages: 02
- v. Name of the technologies found suitable by the farmers of the adopted villages:
- vi. Impact (production, income, employment, area/technological– horizontal/vertical)
- vii. Constraints if any in the continued application of these improved technologies

3.11. Activities of Soil and Water Testing Laboratory

Status of establishment of Lab:

1. **Year of establishment** :

2. **List of equipment purchase with amount**

Sl. No.	Name of the equipment	Quantity	Cost (Rs)
1	pH meter	01	30000/-
2	EC meter	01	20000/-
3	TDS analyzer	01	5000/-
4	Temp. Thermometers	02	5000/-

3. Targets of samples for analysis:

Details	No. of Samples	No. of Farmers	No. of Villages	Amount to be realized
Soil Samples	800	800	40	100000
Water	200	200	15	
Plant				
Total	1000	1000	55	100000

4.0 LINKAGES**4.1 Functional linkage with different organizations**

Sl. No.	Name of organization	Nature of Linkage
1.	Women and Child development	Celebration of nutrition month and nutrition week
2.	Central Arid Zone Research Institute, Jodhpur Central Institute of Arid Horticulture, Bikaner Central Sheep and Wool Research Institute, Avikanagar National Research Centre on Seed Spices, Ajmer Directorate on Rapeseed and Mustard, Bharatpur National Research Centre on Camel, Bikaner MPUA&T, Udaipur SK Rajasthan Agriculture University, Bikaner SDAU, Dantiwara Agriculture University, Kota SKN Agriculture University, Jobner Arid Forest Research Institute, Jodhpur	Technical guidance and receive the new technologies for the area, Seeds & planting material.
3.	Agriculture Department	Coordination to imparting training & different programmes for farming community.
4.	National Horticulture Mission	Coordination to imparting training & different programmes for farming community.
5.	Department of Animal Husbandry	Coordination to imparting training & different programmes for farming community.
6.	NABARD, Jaipur/Nagaur	Provide financial help for TTC / Kisan club programme & training programmes

4.2 Details of linkage with ATMA

a) Is ATMA implemented in your district Yes

S. No.	Programme	Nature of linkage
1	Management Committee meeting	Participation in meeting
2	Governing Board Committee meeting	Participation in meeting
3	BTT meeting	Participation in meeting
4	Farmers training	Participated as trainer or some conducted at KVK
5	Krishak Mitra training	To be Organized
6	FLD/On farm testing	To be Conducted

4.3 Give details of programmes under National Horticultural Mission

S. No.	Programme	Nature of linkage
1		
2		

4.4 Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage
1		
2		

5.0 Utilization of hostel facilities

S. No.	Programme	No. of days
1	Practicing Farmers trainings	40
2	Rural Youth trainings	30
3	Extension Functionaries trainings	10
4	Farmers visit from other districts	05
	Total	

6.0 Convergence with departments:

Initiated linkage development with all departments for technology backup, inputs and participation in different activities.

7.0 Feedback of the farmers about the technologies demonstrated and assessed:

1. Barley variety- KRL-283 is tolerant to saline soils as well as salty water and give better yield performance in stress condition also.
2. Flower and fruit drop of chilli in hot summer season due to high temperature and heat waves resulted in low production of chilli in the area, If spray of NAA @ 20 PPM at the time of first flowering and 20 days after first flowering has positive effect on early flower initiation and plant height which resulted in higher yield. This is an important factor considered by the farmers as they can be able to harvest their produce by one week earlier, which leads to fetch more prices in the market.
3. Growing nursery of tomato in flat bed method have serious problem of damping off in seedlings, but if seeds can be sown in pro tray + Seed treatment with Arka Microbial Consortium @ 10 g/100 g seed was found beneficial as the seed treated with this microorganism favour the better seed germination, seedling growth & reduced cost of cultivation and ultimately increase the production and profit in tomato cultivation.
4. Severe infestation of collar rot (*Aspergillus niger*) in groundnut crop is prevailing in the area and framers have lack of knowledge about suitable fungicide and other management technologies. Soil treatment with *Trichoderma viride* @ 5 kg/ha, seed treatment with *Trichoderma viride* @ 10 g/kg seed and drenching with Propiconazole 25 EC @ 500 ml/ha at 25 DAS reduces the infestation of collar rot and increase the yield of groundnut. Farmers appreciated these fungicides due to better control of collar rot which resulted in higher yield.
5. Green gram is the main kharif pulse crop in the area and severely infested with yellow vein mosaic virus resulted in lower yield. Farmers appreciated the green gram variety MH-421 due to bold seed and resistant to YMV under ICM Technology to increase the yield and profit.
6. Chickpea is the main rabi pulse in the area and farmers appreciated the chickpea variety GNG-2144 under ICM technology due to better yield and profit.
7. Sesame is also grown in the area and farmers liked sesame variety RT-351 due to pale white bold seeds and better yield under ICM technology. Seed treatment is effective in reducing disease & pest problem.
8. Mustard variety RH-725 liked by farmers due to more height and bold seeds resulted in higher yield. Thiourea is effective in frost control. Gypsum enhanced yield of mustard.
9. Farmers appreciated the Pearl millet hybrid MPMH-17 with ICM technology due to better grain as well as stover yield in light soils and low rainfall conditions. Long bristle on ear head reduces losses by birds.
10. Farmers appreciated the cumin variety GC-4 with ICM technology due to better yield.
11. The yield of cumin was adversely affected by rainfall and cloudy weather during its flowering stage. The yield losses are more than 50%.
12. Farmers appreciated the Isabgol variety RI-1 due to better seed yield but needs non shattering varieties for the area and tolerant to downy mildew disease for better profit of the farmers.

8.0 Feedback from the KVK Scientists (Subject wise) to the research institutions/universities:

- 1) The yield under CFLDs, OFTs and other activities was increased smoothly which resulted increase in farmers income and living standard.
- 2) Post-harvest handling and development of suitable processed product of cereals, millets, pulses, fruit and vegetables etc. need proper attraction.

- 3) Systemic research efforts have not been made to tap potential of the fruit and vegetable crops in the district. Research efforts are needed to develop appropriate production technologies especially for tomato.
- 4) Studies on integrated farming system approach, integrating crop production and livestock production is required.
- 5) Research on animal management to upgrade the indigenous cattle, buffaloes and dual-purpose goats breed through appropriate breeding methodology needs to be initiated.
- 6) Cumin, Isabgol, Fennel and cotton are important commercial crops grown in this area, so needs high yielding and resistant, tolerant varieties specially against blight and wilt for this region.
- 7) Emphasis should be given on research work related to less water requiring crops, horticultural crops, irrigation methods, evaporation loss reduction technologies for livelihood security of the farmers of the area.

Training Programme

i) Farmers & Farm women (On Campus)

Date	Clientele	Title of the training programme	Duration in days	Number of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
Crop Production										
June	PF	Production technology of pearl millet and green gram	04	15	5	20	5	0	5	25
October	PF	Water and weed management in wheat and barley	04	15	5	20	5	0	5	25
November	PF	Integrated crop management in mustard	04	15	5	20	5	0	5	25
Horticulture										
July	PF	Propagation techniques in fruit plants	04	10	5	15	10	0	10	25
September	PF	Nursery raising techniques in vegetables	04	10	5	15	10	0	10	25
November	PF	Protected cultivation of vegetables	04	10	5	15	10	0	10	25
Soil Health and Fertility Management										
Agri. Extension										
January	PF	Formation and management of Self Help Groups for economic development	04	20	0	20	5	0	05	25
February	PF	Entrepreneurship development of farmers through dairy farming	04	20	0	20	5	0	05	25
March	PF	Leadership development of progressive farmers for sustainable development	04	20	0	20	5	0	05	25
April	PF	Management and coordination of FPOs	04	20	0	20	5	0	05	25
Livestock Production and Management										
March	PF	Commercial poultry farming (housing, feeding and disease management)	04	20	0	20	5	0	05	25
May	PF	Management and feeding practices of cattle and buffalo	04	20	0	20	5	0	05	25
August	PF	Scientific sheep and goat rearing	04	20	0	20	5	0	05	25
Agril. Engg.										
	PF									
	PF									
	PF									
Home Sc.										
July	PF	Management of nutri-garden	04	00	20	20	00	05	5	25
Plan protection										
May	PF	Integrated management of white grub & termite in Groundnut & Pearl millet	04	15	05	20	05	00	05	25
July	PF	Integrated pest management in kharif pulses (Green gram and Moth bean)	04	15	00	15	05	05	10	25
October	PF	Integrated Disease management in cumin and isabgol	04	15	00	15	05	05	10	25
Fisheries										
	PF									
	PF									
	PF									
	PF									
	PF									

i) Farmers & Farm women (Off Campus)

Date	Clientele	Title of the training programme	Duration in days	No. of participants			Number of SC/ST			G. Total
				M	F	T	M	F	T	
Crop Production										
March	PF	Vermicompost production technology	01	15	3	18	5	2	7	25
April	PF	Napier grass production technology	01	15	3	18	5	2	7	25
June	PF	Rain water harvesting and its management	01	15	3	18	5	2	7	25
July	PF	Weed management in greengram and mothbean	01	15	5	20	5	0	5	25
October	PF	Production technology of mustard	01	15	3	18	5	2	7	25
November	PF	Integrated crop management wheat & barley	01	15	3	18	5	2	7	25
Horticulture										
April	PF	Layout and management of ber and citrus orchards	1	15	5	20	5	0	5	25
June	PF	Nursery raising technique in kharif onion	1	15	5	20	5	0	5	25
July	PF	Plant propagation techniques in ber and citrus	1	15	5	20	5	0	5	25
August	PF	Production technology of cole crops	1	15	5	20	5	0	5	25
December	PF	Off-season cultivation of cucurbits	1	15	5	20	5	0	5	25
Soil health management										
January	PF	INM in onion crop	1	15	5	20	5	0	5	25
February	PF	INM in tomato and chilli	1	10	5	15	10	0	10	25
May	PF	Soil and water testing- useful for sustainable agriculture	1	15	5	20	5	0	5	25
December	PF	Problematic soils of KVK jurisdiction area and their management	1	15	5	20	5	0	5	25
Agri. Extension										
March	PF	Management of SHGs for income Generation	1	15	5	20	5	0	5	25
May	PF	Agri-entrepreneurship development among farmers	1	15	5	20	5	0	5	25
August	PF	Leadership development of progressive farmers for sustainable development	1	15	5	20	5	0	5	25
October	PF	Seed production through farmer participatory mode	1	15	5	20	5	0	5	25
November	PF	Capacity building of farmers through ICT application	1	15	5	20	5	0	5	25
Livestock Production and Management										
March	PF	Management of pregnant cattle and buffalo	01	15	5	20	5	0	5	25
April	PF	Management of buffalo in summer season	01	15	5	20	5	0	5	25
July	PF	Parasitic disease management in livestock and poultry	01	15	5	20	5	0	5	25
August	PF	Scientific quail farming	01	15	5	20	5	0	5	25
October	PF	Management of newborn calves	01	15	5	20	5	0	5	25
November	PF	Management of LSD in cattle								
Home Sc.										
September	PF	Nutritional security through nutri garden	01	00	20	20	00	05	5	25
June	PF	Value addition and processing of desert vegetables (ker, sangri, kachri)	01	00	20	20	00	05	5	25
Plant Protection										
January	PF	Diseases management in isabgol	01	10	05	15	05	05	10	25
April	PF	Insect pest management in cucurbits	01	15	05	20	05	00	05	25
May	PF	Management of white grub in groundnut & pearl millet	01	15	05	20	05	00	05	25
June	PF	Soil & seed treatment in kharif crops	01	10	05	15	05	05	10	25
July	PF	Insect pests management in green gram	01	15	05	20	05	00	05	25
September	PF	Soil & seed treatment in rabi crops	01	10	05	15	10	00	10	25
September	PF	Fruit fly and fruit rot management in ber	01	15	05	20	05	00	05	25
October	PF	Insect pest management in onion	01	10	05	15	10	00	10	25
December	PF	Insect pest management in chickpea	01	10	05	15	10	00	10	25
Fisheries										

Special National / International programmes

1. Celebration of International Year of Millets (IYM)- Year 2023:

Millets are very important for health, nutritive, climate resilient, lead to sustainable development and help ensure food security and nutrition for all. This provides an opportunity to promote millets crops and aware farmers about its cultivation, consumption, its nutritive values and importance towards health aspects. KVK will organize training programmes for farmers.

Details of programme under IYM-2023:

S. N.	Name of activity	No. of Activities	No. of villages to be covered	Approx. No. of Farmers
1.	Training on “Production technologies of millets”	04	10	100
2.	Awareness campaign for millets promotion and production	02	15	300
3.	Millet Rath Rally for millet awareness in each block of jurisdiction	01	25	5000
4.	Promotion of value addition millets/ Millet Thali and documentation of local millet recipes and Mahila goshies	05	05	150
5.	Publication of folders pertaining to millet cultivation and its value addition	02	20	500
6.	Scientist Farmer Interaction on millets	02	20	300
7.	Kisan Goshies	05	10	250
8.	FLDs on millets (20 ha)	02	05	50
9.	Publicity/ Awareness programmes on millets through All India Radio/ Doordarshan DD Kisan Channel etc.	05	Mass	Mass

2. Nutri Sensitive Agricultural Resources and Innovations (NARI):

Under this programme various trainings, goshies, demonstrations are being carried out in the adopted village Dabda in Maulasar block since 2018 onward for establishment and promotion of nutrition related technologies such as Nutri Garden, Nutri thali, Medical Health camp for monitoring the hemoglobin levels and general medical checkup of rural women and adolescent girls with the help of government personnel from line departments including Doctors, ANMs, Anganwadi workers and Nurses.

OBJECTIVES

- Linking agriculture and nutrition to promote nutri-sensitive agriculture
- Creating awareness on nutri-sensitive agriculture among farm women and rural youth
- Creating awareness on nutritional horticulture

Action plan of NARI Programme (January 2023- December 2023)

Name of the New selected village: Village- Nimod, Panchayat Samiti- Didwana, District – Nagaur

Nutritional needs of the village according to PRA:

- ✓ Low levels of awareness regarding balanced diet and nutrition
- ✓ Problems of under nutrition prevalent in women and children
- ✓ Very few families grow nutritional garden or kitchen garden
- ✓ Less consumption of fruits and green leafy vegetables
- ✓ No knowledge on food safety and adulteration

Thus, during the entire year demonstrations and trainings will be provided and nutritional gardens will be established keeping in view the above points.

Activity Chart

S. N.	Aspects	Activities
1	Awareness generation and knowledge enhancement	<ul style="list-style-type: none"> • Importance of balanced diet and nutrition • Fortification of conventional foods • Cultivation of nutritional crops • Diet calendar and poshan thali according to availability of five food groups • Busting faulty eating habits and myths related to food • Importance of growing nutritional garden • Importance of breast feeding, weaning and complementary feeding. • Safe food storage practices • Food quality, safety and hygiene
2	Skill development trainings (Demonstrations)	<ul style="list-style-type: none"> • Value addition of traditional and locally available cereals, fruits and vegetables- Bajra biscuits, Bajra til ladoo, Aonla candy, Aonla jam, dehydrated ker and kaachari. • Management of nutritional garden

NARI Awareness programme: -

Sr. No.	Month	Title	Days	Participants
1.	March 2023	Green leafy vegetables for anemia prevention in adolescent girls	1	25
2.	August 2023	Nutri cereals for food security	1	25
3.	September 2023	Poshan Mahh celebration	1	25

Demo Unit Development at KVK Premises: -

1. Nutri garden Demo unit Kharif 2023.
2. Nutri garden Demo unit Rabi 2023.

3. Natural Farming:

Activities to be conducted under the project entitled “Out scaling of Natural Farming through KVKs” during 2023

As per the guidelines and directives of ICAR-ATARI, Jodhpur and ICAR-Division of Agricultural Extension, New Delhi following activities to be undertaken by KVKs under the project entitled 'Out scaling of Natural Farming through KVKs', as mentioned below-

S. N.	Name of Activity	Number of activities/ Area (ha)	Total Participants
1.	Development of Natural Farming Block at KVK	0.4	Mass
2.	Exposure visits of group of farmers to the Natural Farming block of KVK	Every week	Mass
3.	Exposure visits of farmers to the farm of the successful Natural Farming practicing farmers	05	50
4.	Method demonstrations on preparation of different inputs of Natural Farming	10	250
5.	Group meetings of the farmers at village level	15	300
6.	Arrangement of exhibition at the KVK premises on Natural Farming along with poster presentation	5	500
7.	Preparation and distribution of leaflets, pamphlets and other literary sources regarding Natural Farming to the farmers	10	5000
8.	Placing hoardings and posters on Natural farming at the village level	100	Mass
9.	Awareness among farmers using audio-visual aids (short films)	15	550
10.	Delivering short WhatsApp messages having content related to Natural farming to the farmer groups in respective villages	50	Mass
11.	Radio talks/ TV Shows on Natural farming	5	Mass
12.	Testing of the soil sample (physical and chemical properties including Soil Organic Carbon and other essential parameters)	500	500
13.	Demonstrations at farmers' fields in the same plot in two cropping seasons i.e., <i>kharif</i> and <i>rabi</i> in a year	8	8
14.	Drums and other necessary inputs should be provided to the selected farmers	16	08
15.	On Camus training	03	120

4. Action Plan for Schedule Caste Sub Plan Scheme (SCSP) during 2023

As per the guidelines and directives of director ICAR-ATARI, Jodhpur following mandatory activities to be undertaken by KVKs under the scheme entitled **Schedule Caste Sub Plan** as mentioned below-

1. Trainings

A. On campus

S. N.	Month	Title	(Duration) Days	No. of participants
1	March	Importance of mineral mixture in ration of animals	2	25
2	April	Layout and management of orchard	4	25
3	May	Management of poultry	2	25
4	June	Production technology of cluster bean	2	25
5	July	Scientific cultivation of pearl millet	2	25
6.	October	Integrated crop management in isabgol	2	25
7.	November	Integrated pest management in wheat	2	25
8	November	Nursery raising of horticultural crops	4	25

B. Off campus

S. N.	Month	Title	Duration (Days)	No of participants
1	February	Disease management of goat and sheep	01	25
2	April	Layout and management of orchard	01	25
3	May	Feeding management of different classes of goat and sheep	01	25
4	July	Production technology of Napier hybrid bajra	01	25
5	October	Scientific cultivation of mustard	01	25
6	October	Nursery raising of horticultural crops	01	25
7	October	Integrated crop management in wheat	01	25

II. Vocational Training (Capacity building / Entrepreneurship development)

S. N.	Month	Title	Duration (Days)	No of participants
1.	February	Poultry farming	7/ 21	25
2.	May	Goat farming	7/ 21	25
3.	August	Vermicomposting	7/ 21	25
4.	October	Protective cultivation (mulching, low tunnel, net house etc.)	7/ 21	25
5.	December	Value addition of agriculture product	7/ 21	25

III. Extension activity

S. N.	Activities	No. of activities	Participants
1.	Animal health camp	01	100
2.	Field day	10	700
3.	Kisan gosthies	02	120
4	Field visit	30	200
5.	Farmer-scientist interaction	03	150

IV. Planting materials

S. N.	Month	Activities	No of Seedlings	No. of Partner Farmers
1.	January	Tomato	2500	25
2.	January	Chilli		25
3.	January	Brinjal	2500	25

4.	October	Cauliflower	2500	25
5.	October	Cabbage	2500	25

V. Front line demonstrations: -

1. FLD: mustard

Thematic area	ICM
Crop	Mustard
Technology for demonstration	Varietal evaluation
Season and year	Rabi 2023-24
Area (ha)	20 ha.
No. of farmers/ demon.	50
Critical inputs	Variety (DRMR-1165-40), NPK Consortia, Zink sulphate, Acetamiprid, Metalaxyl, gypsum
Parameters identified	Yield, economics

2. FLD: ISABGOL

Thematic area	ICM
Crop	Isabgol
Technology for demonstration	Varietal evaluation
Season and year	Rabi 2023-24
Area (ha)	20 ha.
No. of farmers/ demon.	50
Critical inputs	Improved variety RJ-1, Metalaxyl, NPK Consortia, Zink sulphate, Waste decomposer
Parameters identified	Yield, economics

3. FLD: Wheat

Thematic area	Varietal evaluation
Crop	Wheat
Technology for demonstration	KRL- 283 Variety
Season and year	Rabi 2022-23
Area (ha)	4 ha.
No. of farmers/ demon.	10
Critical inputs	Seed
Parameters identified	Yield, economics

4. FLD: Napier

Thematic area	Varietal evaluation
Crop	Napier
Technology for demonstration	
Season and year	Rabi 2023-24
Area (ha)	5 ha.
No. of farmers/ demon.	50
Critical inputs	Co-3 variety of Napier bajra
Parameters identified	Yield, economics

5. FLD: Pearl millet

Thematic area	Varietal evaluation
Crop	Pearl millet
Technology for demonstration	High yielding biofortified variety
Season and year	Kharif, 2023
Area (ha)	10 ha.
No. of farmers/ demon.	25
Critical inputs	High yielding variety (HHB-299) Propiconazole, NPK consortia, Imidacloprid, waste decomposer, ZnSO ₄ , NPK (18:18:18)

Parameters identified	Yield, Net returns and B:C ratio
-----------------------	----------------------------------

6. FLD: Cluster bean

Thematic area	Varietal evaluation
Crop	cluster bean
Technology for demonstration	
Season and year	Kharif 2023
Area (ha)	10 ha.
No. of farmers/ demon.	25
Critical inputs	RGC-1033
Parameters identified	Yield, economics

7. FLD: Wheat

Thematic area	IPM
Crop	Wheat
Technology for demonstration	Seed treatment with <i>metarhizium anisopliae</i> 10gm/kg seed and drenching with fipronil 5 SC 3 lit./ha at 40 DAS
Season and year	Rabi 2023-24
Area (ha)	4 ha.
No. of farmers/ demon.	10
Critical inputs	<i>Metarhizum anisopliae</i> and fipronil 5 SC
Parameters identified	No. of damage plant/meter row and yield (q/ha.)

8. FLD: SNAP MELON

Thematic area	Crop diversification
Crop	Snap melon
Technology for demonstration	Varietal evaluation of snap melon var. AHS-10/AHS-82
Season and year	Zaid 2023
Area (ha)	1 ha.
No. of farmers/ demon.	10
Critical inputs	Seed
Parameters identified	Yield/ha, cost of cultivation, gross income, net income

9. FLD: Citrus Orchard

Thematic area	Crop diversification
Crop	Citrus orchard
Technology for demonstration	Improved variety NRC-7,8
Season and year	Zaid 2023
Area (ha)	2.5 ha.
No. of farmers/ demon.	15
Critical inputs	Sampling
Parameters identified	Survival percentage of plants, Plant height (cm), plant spread (m2), Day to flowering initiation

10. FLD: Performance evaluation of Pratapdhan/ Kadaknath breed

Thematic area	Poultry management
Crop / enterprise	Poultry
Technology for demonstration	Introduce of pratapdhan / kadaknath birds under backyard.
Season and year	Round the year 2023
No. of farmers/ demon.	10
Critical inputs	Six-week-old 20 chicks / demonstration
Parameters identified	Gain in body weight & egg production

11. FLD: Supplementation of mineral mixture for cow

Thematic area	Nutrition Management
---------------	----------------------

Crop / enterprise	Cattle
Technology for Demonstration	Supplementation of mineral mixture for cow
Season and Year	Round the year 2023
Unit Size of Demonstration	1 Lactation cow / demonstration
No. of farmers/ demon.	30
Critical Inputs	Mineral mixture @ 100 gm. / head / day
Parameters Identified	Fat % and milk yield

5. Action Plan under Conservation Agriculture 2023

Conservation Agriculture is a farming system that promotes minimum soil disturbance, maintenance of a permanent soil cover and diversification of plant species. It enhances biodiversity and natural biological processes above and below the ground surface, which contribute to increased water and nutrient use efficiency and to improved and to improved and sustained crop production.

It helps farmers to maintain and boost yields and increase profits, while reversing land degradation, protecting the environment and responding to growing challenges of climate change. Therefore KVK, Nagaur-II will be conduct following activities during the year 2023:

1. Trainings

A. On campus

S. N.	Month	Title	(Duration) Days	No of participants
1.	April	Efficient water management in Agriculture	4	25
2.	November	Protected cultivation of vegetable crops for improve the profitability	4	25

B. Off campus

S. N.	Month	Title	Duration (Days)	No of participants
1.	April	Importance of deep summer ploughing	1	25
2.	May	Water management in horticultural crops	1	25
3.	October	Integrated Nutrient Management in rabi onion	1	25
4.	November	Production of organic inputs to improve the soil health	1	25
5.	December	Importance of cultivation of off-season vegetables	1	25

2. On Farm Trial:

Evaluation of Arka Microbial Consortium and pro tray for healthy tomato seedling production

Problem diagnoses	Low yield of tomato
Causes	High seedling mortality, high weed and disease infestation
Title	Evaluation of Arka Microbial Consortium and pro tray for healthy tomato seedling production
Thematic area	Resource conservation
Farming situation	Irrigated, Sandy loam soils
Possible solutions	Use of Arka Microbial Consortium and pro tray for tomato seedling production

Treatments:	
Farmers practice	T ₁ : seed sown in direct soil (nursery bed)
Details of technologies selected for assessment	T ₂ : Seed sowing in pro tray + seed treatment with Arka Microbial Consortium @10gm/100gm seed
Source of technology	IIHR, Bengaluru (2011)
Area of trial/ treatments	Per farmer (ha) – 0.1 Total area (ha) – 1.0
Number of farmers	10
Critical inputs to be applied	Pro tray and Arka microbial consortium
Cost of Critical inputs	Rs. 15000/
Performance Indicators:	
Technical performance	Seed germination (%), weed population (per m ²), seedling growth parameters and survival percentage
Economical parameters	Cost of cultivation (Rs/ha), Gross return (Rs./ha), Net Return (Rs./ha), and B:C ratio
Farmer perception	Suitability, Easy assessable and Appropriateness

3. Front Line Demonstrations:

Effect of plastic mulching on chilli production

Thematic area	Resources conservation
Crop	Chilli
Technology for demonstration	Use of Mulching in Chilli
Season and year	Zaid-2023
Area (ha)	1.0
No. of farmers/ demon.	10
Critical inputs	Plastic mulch
Parameters identified	Weeds/m ² , Yield/plant, yield/ha, Economics etc.

6. Swachhhta Pakhwada:

With the aim to promote sanitation and cleanliness KVK Maulasar organizes swachhhta pakhwada twice a year in October and in December as directed by ATARI, Jodhpur. So far around 20 awareness and sanitation programmes at KVK Campus and in different villages under the jurisdiction of the KVK will be covered under this drive in the 2023 year.

Under Swachhata Pakhwada program different activities will be organized in KVK jurisdiction area by KVK Nagaur-II including cleaning of public places, vermicomposting from degradable wastes, campaign on cleaning of sewerage & water lines, awareness on recycling of waste water, water harvesting for agriculture, application/kitchen gardens in residential colonies, press conference for highlighting the activities of Swachh Bharat Pakhwada, sanitation drive within campuses and surroundings including residential colonies, common market places. Stock taking of biodegradable and non-biodegradable waste disposal status and providing on the spot solutions.

7. Parthenium awareness week:

With the objective to create awareness among the farmers about disadvantages of Parthenium weed and its management, the Parthenium awareness week is celebrated from 16 to 22 August every year.

8. Fertilizer awareness campaign:

With the objective to aware the farmers for balanced & judicious use of fertilizers after soil testing 'Fertilizer awareness campaign' will be organized in the year 2023.

9. World soil health day:

World soil health day on every year dated 05 December is celebrated with farmers & farm women. The farmers are benefited by participating in this event by getting knowledge about soil testing, integrated nutrient management and organic manure preparation methods etc.

10. Jal Shakti Abhiyan:

Under the aegis of Ministry of Jal shakti, GOI, awareness programmes, trainings, kisan gosthies etc. will be organized at KVK premises and different villages of the area with farmers and other stakeholders for generating awareness on water conservation and rain water harvesting and their efficient utilization for improve the productivity.

Exhibition on water conservation models & water slogans will also be carried out and publication on water conservation will be distributed among the farmers, dealers & students for large scale publicity about water saving, conservation and efficient utilization.

11. Establishment of Custom Hiring Centre:

In the today's era, farmers are facing labour problem in agriculture to perform day to day work of agriculture. To overcome this problem, optimum use of farm mechanization is necessary. But due to financial burden, small and marginal farmers cannot afford to purchase farm machinery individually. In that case, it is desirable to establish a Custom Hiring Centre (CHC) so that small and marginal farmers can take farm machinery of their need on hiring basis and increase yield by ensuring timely farming operations and reduced cost of cultivation. Looking into this, KVK Nagaur-II will try to establish the custom hiring Centre either at KVK Campus or in village Nimod, located near to KVK.

12. Integrated Farming System Model development:

Present context of changing climate, crop production is the most vulnerable enterprise in agriculture to natural disasters. Integration of various agricultural enterprises viz. crop production, horticultural crops, animal husbandry, Fishery, forestry etc. have great potentials in the agricultural economy. These enterprises not only supplement the income of the farmers but also help in increasing the family labour employment. A major section of farming community in the area is in the category of small and marginal farmers with limited

resources. These resource poor farmers are most affected by the changing climatic conditions like delayed, low and erratic rainfall.

India is a hot spot of variability in farming situation and system. While, the traditional farming systems in the country integrate various components of animal husbandry, horticulture, forestry and fishery to a varied degree in addition to crop production, scientific validation of component enterprises for compatibility is necessary before integrating them in existing farming system. Integrated Farming Systems deal with following changes in farming situation.

1. The integrated farming system approach introduces a change in the farming techniques for maximum production in the cropping pattern and takes care of optimal utilization of resources.
2. Farm wastes are better recycled for productive purposes in the integrated system.
3. A judicious mix of agricultural enterprises like dairy, goatry, poultry, piggery etc. suited to the given agro climatic conditions and socioeconomic status of the farmers would bring prosperity in the farming sector.

Advantages of integrated farming system (IFS)

1. Increased farm income through proper residue recycling and allied components.
2. Sustainable soil fertility and productivity through organic Waste recycling.
3. Integration of allied activities will result in the availability of nutritious food enriched with protein, carbohydrate, fat, minerals and Vitamins.
4. Integrated farming will help in environmental protection through effective recycling of waste from animal activities like piggery, poultry, duck and pigeon rearing.
5. Reduced production cost of components through input recycling from the by-products of allied enterprises.
6. Regular stable income through the products like egg, milk, mushroom, vegetables, honey and silkworm cocoons from the linked activities in integrated farming.
7. Inclusion of biogas & agro-forestry in integrated farming system will solve the prognosticated energy crisis.
8. Cultivation of fodder crops as intercropping and as border cropping will result in the availability of adequate nutritious fodder for animal components like milch cattle goat/ sheep, pig and rabbit.
9. Firewood and construction wood requirements could be met from the agro-forestry system without affecting the natural forest.
10. Avoidance of soil loss through erosion by agro-forestry and proper cultivation of each part of land by integrated farming.
11. Generation of regular employment for the family members of small and marginal farmers.
12. Higher food production to equate the demand of the exploding population of our nation.

Components of IFS

Crops, livestock, birds and trees are the major components of any Integrated Farming System (IFS). Crops may have subsystem like mono crop, mixed/intercrop, multi-tier crops of cereals, legumes (pulses), oilseeds, forage etc. livestock components may be milch cow, goat, sheep, poultry and bees. These components may include timber, fuel, fodder and fruit trees.

IFS in rainfed areas:

The following factors have to be considered while selecting Integrated Farming System in Rain fed Areas. Soil type's, rainfall and its distribution and length of growing season are the major factors that decide the selection of suitable annual crops, trees and livestock components. The needs and resource base of the farmers like holding size, availability of natural forest and irrigation facilities also decides the selection of IFS components in any farm.

Important enterprises of Integrated Farming System including crops, pulses, oilseeds, forage crops, fibre crops, vegetables, fruit crops, spices, flower crops, medicinal crops, livestock, birds and fishes suitable for geographical region of KVK jurisdiction are given in Table.

S. No.	Particulars	Components
1	Geographical region	North west arid region
2	Type of soil	Sandy to sandy loam
3	Types of farming	Dryland to irrigated farming
4	Enterprises:	
	Cereals	Pearl millet, sorghum, wheat, barley
	Pulses	Green gram, moth bean, cowpea, chickpea
	Oilseeds	Ground nut, Sesamum
	Commercial crop	Cotton, cluster bean, isabgol
	Vegetable crop	Cluster bean, tomato, cucurbits, radish, chillies, spinach, cole crops etc.
	Fruit crop	Ber, Aonla, Pomegranate, citrus species, khejari etc.
	Spices	Cumin, fenugreek
	Fodder crops	Napier, fodder bajra, fodder cowpea, fodder sorghum
	Medicinal and aromatic crops	Aloe vera, aspergus
5	Animal component	Goat, Sheep, dairy cattle
6	Poultry	Kadaknath, Pratapdhan
7	Mushroom production	Button, oestrus mushroom
8	Vermicompost production	<i>Eisenia foetida</i>
9	Azolla production	<i>Azolla pinnata</i>

10	Nursery establishment	Vegetable seedlings and fruit saplings
11	Rainwater harvesting	Farm pond (484 sq.m.)

Agronomic approaches for increasing overall productivity using IFS

The various agronomic approaches for increasing the overall productivity and sustainability of IFS are as follows: -

1. Adoption of improved cropping system according to the rainfall and soil moisture availability.
2. Selection of suitable grain crop species, tree species that supply pods/leaves for a longer period or throughout the year.
3. The surplus fodder leaves, crop residues etc. during the rainy season should be preserved as silage/hay for lean season (summer).

Major IFS models developed in RAJASTHAN

A major section of Farm families of Rajasthan falls in the category of small and marginal farmers. Farmers of this category are most affected people by natural calamity like drought.

Rain fed agriculture is common practice in this region, predominantly pearl millet - fallow mono culture system. Only around 35 percent area is irrigated and is under double more crops in a year.

Dependency mainly on crop production might have led to a high degree of uncertainty in income and employment to the farmers. In this context, it is imperative to evolve suitable strategy for augmenting the income of a farm with integration of various agricultural enterprises viz., Crop production, animal husbandry, fishery, forestry etc. have great potential in the agricultural economy with minimum risk to farming community.

These enterprises not only supplement the income of the farmers but also help in increasing the family labor employment. The integrated farming system approach introduces a change in the farming techniques for maximum production in the cropping pattern and takes care of optimal utilization of resources.

There are four categories of farmers noticed in Rajasthan state viz., marginal farmers (less than 1.0 ha holding size), small (1.0-2.0 ha holding size), medium farmers (2.0—4.0 ha holding size) and big farmers (4.0-10.0 ha holding size).

Important Integrated Farming Systems defined for Rajasthan in relation to holding size, land situation and irrigation facilities are described as under.

MARGINAL & SMALL FARMERS, MEDIUM LAND SITUATION AND PARTIALLY IRRIGATED CONDITIONS

Crops +Vegetable +Poultry + Piggery.

MARGINAL & SMALL FARMERS, LOW LAND SITUATION AND IRRIGATED CONDITIONS

Crops + Fishery + Poultry/Duck keeping + Piggery

Paddy +Fishery + Duck keeping

MEDIUM FARMERS AND BIG FARMERS, MEDIUM LAND SITUATION

Crops +Dairy Cattle +Fodder crops/Vegetables

Crops +Dairy Cattle + Fruit crops +Fodder crops/Vegetables

MEDIUM FARMERS AND BIG FARMERS, LOW LAND SITUATION

Crops +Poultry + Fishery +Piggery

UPLAND, RAIN FED AND FOREST COVER AREAS

Crops + Goat keeping + Apiary + Lac cultivation / Sericulture

Crops + dry land fruit crops + Rainy season vegetables + Fodder trees

Residue recycling concept in integrated farming system

Availability of farm residue determines overall productivity of Integrated Farming System. Feed management in animal component of IFS. Like Poultry, Piggery, Goat keeping and Dairy Cattle is crucial for total expenditure likely to occur in Farming system. crop residues may use for making compost vermin compost also animal waste used for making FYM, compost and Vermi compost etc.

Socio-economic aspects of IFS in RAJASTHAN

Many times, selection of enterprises in IFS is regulated by social boundaries. For example, piggery is practiced by particular caste of society with marginal land holding including Schedule Caste and Schedule Tribe

Strong campaign is need to motivate other section of society with same land holding and economic status. goat keeping is evenly practiced by Backward and scheduled caste. Farmers of general category show reluctance to these enterprises. Farmers of higher land holding and economic status can easily be motivated to adopt Poultry and dairy fanning.

Conclusion

Convergence of compatible farm enterprises which constitutes Integrated Farming System is Demand of the time for increasing and sustaining the productivity and generating employment in agriculture Furthermore, integrated Farming System provides safety to farmers from total loss due to failure of crops in changing climate.