

**Indian Council of Agricultural Research
Agricultural Technology Application & Research Institute
Zone-VII, Umiam, Meghalaya**

Annual Progress Report 2022 (January-December)

**Name of the KVK: MOKOKCHUNG State: NAGALAND
Host Organization: DEPARTMENT OF AGRICULTURE
Government of Nagaland**



KRISHI VIYGYAN KENDRA
(Agricultural Technology Application Research Institute)
Mokokchung: Nagaland, Pin: 798601
Post Box-23, E-mail: kvkmokokchung@gmail.com



ANNUAL REPORT OF KVKS 2022 (January- December)

1. GENERAL INFORMATION ABOUT THE KVK

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

Address	Telephone		E mail
	Office	FAX	
KVK Yisemyong Post Box No-23 Mokokchung Nagaland-798601	0369-2225121	0369-2225121	kvmokokchung@gmail.com

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

Address	Telephone		E mail
	Office	FAX	
Directorate of Agriculture Nagaland Kohima	0370-2243116	0370-2243970	agrkvk@yahoo.com

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

Name	Telephone / Contact		
	Residence	Mobile	Email
Dr. Keviletsu Khate	Yisemyong	7085879890	keviletsu@gmail.com

1.4. Year of sanction: 2003

1.5. Staff Position

Sl. No.	Sanctioned post	Name of the incumbent	Designation	Discipline	Pay Scale (Rs.)	Present basic (Rs.)	Date of joining	Category (SC/ST/OBC/Others)
1	Sr. Scientist & Head	Dr. Keviletsu Khate	Sr. Scientist & Head	Vety & A.H	162300		16.08.10	ST
2	Subject Matter Specialist	Dr.Sarendi Walling	ACTO	Animal science	85800		19.02.07	ST
3	Subject Matter Specialist	Martha Chakruno	ACTO	Entomology	85800		19.02.07	ST
4	Subject Matter Specialist	Tokiho Achumi	ACTO	Agronomy	85800		20.02.07	ST
5	Subject Matter Specialist	Imtisenla	ACTO	Agronomy	85800		31.05.07	ST
6	Subject Matter Specialist	Imtilemla	ACTO	Soil science	85800		11.11.07	ST
7	Subject Matter Specialist	Khekali Sema	ACTO	Horticulture	85800		11.07.08	ST
8	Programme Assistant	Moainla	Programme Assistant	Horticulture	60400		24.05.06	ST
9	Computer Programmer	I.Tangitla	Programme Assistant(Computer)	BLIS	60400		24.05.06	ST
10	Farm Manager	Ilika V Achumi	Programme Assistant Farm manager	Horticulture	58600		19.02.07	ST
11	Superintendent / Accountant	Kiyelu Chophy	Office Supt-cum-Accountant	Account	56900		15.02.07	ST
12	Stenographer	Imosangla	Jr. Steno-cum-Computer Operator	PU	40400		01.06.06	ST
13	Driver	Supongmeren	Driver	Matriculate	32300		01.06.06	ST
14	Driver	Jongpongyanger	Driver	Matriculate	29600		01.03.10	ST
15	Supporting staff	Imkonglemla	Peon	Matriculate	24900		01.06.06	ST
16	Supporting staff	Aotoshi	Chowkidar	Matriculate	21500		01.03.10	ST
	Total	16						

Note: No column in the table must be left blank

1.6. a. Total land with KVK (in ha) :23.27

b. Total cultivable land with KVK (in ha): 22

c. Total cultivated land (in ha):7.5

S. No.	Item	Area (ha)
1	Under Buildings	1.46
2.	Under Demonstration Units	1.5
3.	Under Crops (Cereals, pulses, oilseeds etc.) (Pl. specify separately) i.Cereal-Millet ii.Pulses –beans,soybean iii. Toria	2
4.	Under vegetables	2
5.	Orchard/Agro-forestry	1
6.	Others (specify) coffee plantation	1

1.7. Infrastructural Development:

A) Buildings

S. No.	Name of building	Source of funding	Stage					
			Complete			Incomplete		
			Completion Date	Plinth area (Sq.m)	Expenditure (Rs.)	Starting Date	Plinth area (Sq.m)	Status of construction
1.	Administrative Building	ICAR	20.06.09	400	53.5 lakhs	28.09.07	400	completed
2.	Farmers Hostel	NA	NA	NA	NA	NA	NA	NA
3.	Staff Quarters (6)	ICAR	NA	200		2011	100	Completed
4.	Demonstration Units (2)	ICAR, Host & ATMA	2008 &2010	40	24,55,500 lakh	2008 &2013	-	Completed
5	Fencing	ICAR	NA	7500mtr	3.5 lakhs	2011	-	Completed
6	Rain Water harvesting system	ICAR	30.09.11	800mtr	17.0 lakhs	2011	-	Completed
7	Threshing floor							
8	Farm godown							

B) Vehicles

Type of vehicle	Regd. No.	Year of purchase	Cost (Rs.)	Total kms. Run	Present status
Bolero	NL-10 C0679	2016	8.0 Lakhs	1300	Good

C) Equipments& AV Aids

Sl.no	Name of the equipments	Year of purchase	Cost (Rs.)	Present status
1	Computer	2004, 2016	70000	2004 unserviceable
2	Sound system	2005	60000	Good
3	Digital camera	2020	50000	Good
4	OHP	2004	5000	Good
5	Laptop Asus	2022	45000	good
6	Handycam	2008	16,000	Out of order
7	Photocopier	2010	1,20,000	Unserviceable
8	Handycam	2010	18,000	Good
9	Computer	2010	45,000	Good
10	LCD projector	2020	55,000	Good
11	Computer	2016	Provided by Host	Good
12	Computer	2016	-do-	Good
13	Cannon EOS 15000 with Extra Lens	2020	43000	good
14	Sony VPL-DX221 LCD Projector HDMI	2020	34500	Good
15	Microtek 2300 VA 24 volt	2021	10500	good
16	MI Smart TV 4K (65')	2022	68000	good
17	Weight Balance50 kg	2022	9000	good
18	Brush cutter 2 stroke	2022	8000	good
19	Garmin E-Trex 20X	2022	21500	good
20	IK -109 Oven Universal & equipments	2022	44306	good
21	Soil moisture indicator	2022	11243	good
22	Computer Lenova Idea center 2nos	2022	68000	good
23	Printer canon G2010	2022	12800	good
24	TP- Link Router	2022	4950	Good
25	Epson ECO Tank Printer	2023	14700	good
26	HP Slim SO1 Desktop	2023	51000	good
27	Zebronics UPS	2023	2200	good
28	Canon G3010 Printers	2023	15700	good

1.8. A). Details SAC meeting* conducted in 2022

Date	Name and Designation of Participants	Salient Recommendations	Action taken on last SAC recommendation
21 st Jan 2022	<ol style="list-style-type: none"> 1. Temsuinla Jamir, Jt. Director SARS 2. Dr. Sanen Jamir VS, Vety 3. Ruokuosietuo, DSCO 4. Tmtitemsu, A.O (Agri) 5. Tekasangla Ozukum HEA, 6. Yutsung Imchen, DO (AIR) 7. Meyatoshi Aier (Farmer) 8. Dr. Keviletsu Khate (Sr. Sc &Head KVK) 	<ol style="list-style-type: none"> 1. ITK may be included in management of bird problems 2. Extension of Jhum years through cultivation of legume crops in the third year 3. Promote green manuring crops in TRC/WRC in order to increase rice production 4. Studies on chemical castration may be tried to see the effectiveness 	Successfully conducted.

* *Attach a copy of SAC proceedings along with list of participants*

2. DETAILS OF DISTRICT

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

Sl.no	Farming system/enterprises
1.	Agriculture +Horticulture
2.	Agriculture + Veterinary
3.	Agriculture + Fishery

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

Sl. No	Agro-climatic Zone	Characteristics
1.	Mid Tropical hill Zone	Hot and humid in the foot hills to moderate in the mid and high with heavy rainfall during summer Moderate to extreme cold and dry in higher altitude during winter

2.3 Soil types

Sl. No	Soil type	Characteristics	Area in ha
1.	Sandy clay loam	20-35% clay 28% silt 45% more sand pH 4-5	1,20,000
2.	Clay Loam	27-40% clay 20-45% sand Medium organic matter pH 4-5	40,000
3.	Forest Soil	Broad leaves rain forest, evergreen, temperate climate, high organic matter, dark brown soil with pH 4	50

2.4. Area, Production and Productivity of major crops cultivated in the district

Sl. No	Crop	Area (ha)	Production (ton)	Productivity (Qtl /ha)
A				
1.	Jhum Paddy	8294	18247	22
2.	WTRC Paddy	2420	7744	32
3.	Maize	575	1260	22
4.	Beans	98	132	13.5

5.	Pea	78	125	16
6.	Rapeseed/ Mustard	103	98	9
7.	Potato	158	917	65
8.	Tapioca	213	4579	215
9.	Orange	1739	59126	340
10.	Banana	1155	71610	620
11.	Litchi	970	24250	250
12.	Pineapple	820	13284	162
13.	Tomato	38	9880	2600
14.	Chilli	76	5099.6	671

2.5. Weather data

Month	Rainfall (mm)	Temperature °C		Relative Humidity (%)
		Maximum	Minimum	
January'21	0.12	14.9	7.4	61.74
February'21	0.21	14.86	7.61	57.57
March'21	2.15	20.825	11.096	64.29
April'21	1.78	25.52	14.23	68.1
May'21	8.1	24.75	14.53	67.58
June'21	12.76	32.64	18.50	79.466
July'21	13.19	25.258	18.887	82.838
August'21	10.16	27.04	20.406	81.516
September'21	12.126	27.99	21.126	80.1
October'21	2.06	27.009	18.819	78.74
November'21	0.006	23.21	14.04	71.9
December'21	0.43	19.13	9.6	65.96

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

Category	Population	Production	Productivity
Cattle			
<i>Crossbred</i>	726	520 MT	3.5 lit/day lactation period of 270 days

<i>Indigenous</i>	265	1	120kg in 12 months
<i>Crossbred</i>	23900	1787.2 MT	110 kg in 12 months
Goats	415	972 kg	10-14 kg per year
Pigs			
<i>Crossbred</i>	23900	1787.2 MT	110 kg in 12 months
poultry			
Hens	-	-	-
<i>Desi</i>	156750	83.8MT	1 Kg in 6months
<i>Improved</i>	18000	10MT	1.5 kg in one month
Fish			
<i>Marine</i>			
<i>Inland</i>	408.50 ha	1534 MT	2581.5 kg/ha

Note: Pl. provide the appropriate Unit against each enterprise

2.7 Details of Operational area / Villages (2021)

Sl. No.	Taluk/ Eleka	Name of the block	Name of the village	Major crops & enterprises	Major problem Identified	Identified thrust area
1		Ongpangkong (N)	Longkhum, Longsa, Mokokchung	Paddy, Maize, Tapioca Ginger, Passion fruit Tea, Piggery, Poultry, weaving	Low productivity due to non adoption of improved technology, Majority of the farmers involved in cultivation of mix crops, lack of awareness on potentialities of floriculture, lack of irrigation facilities, unavailability of HYV seeds, post harvest management problem, lack of proper infrastructure and marketing network	Create awareness on fallow management and jhum intensification, Cultivation of both kharif and rabi vegetables, production of passion fruit, ginger, tapioca, tea on commercial scale, popularization of floriculture, handloom and handicraft, promotion of infrastructures and marketing network
2		Opangkong (s)	Chungtia, Aliba, Khensa	Paddy, Maize, Tapioca Cucumber, Passion fruit, Ginger, Orange	Low productivity due to non adoption of improved technology, Indiscriminate use of inorganic products in cucumber cultivation, lack of awareness on INM, lack of upgrade dairy breeds, inadequate availability of fodder, insect pest problem, lack of extension activities	Create awareness on fallow management and jhum intensification, Organic Off season cucumber cultivation, development of dairy and fodder crops, production of orange.

3		Kobulong	Mopungchuket, Impur	Paddy, Tapioca, Maize Passion fruit, ginger, Banana, Piggery, Poultry, Dairy, Sericulture	Low productivity due to non adoption of improved technology, lack of irrigation facilities, unavailability of HYV seeds, post harvest management problem, pest /disease problem in crops and silkworm, lack of processing unit and marketing, lack of spinning & weaving centers , lack of awareness on citronella cultivation, Inbreeding, disease and nutrition in piggery	Create awareness on fallow management and jhum intensification, To increase productivity of passion fruit, ginger and vegetables, promotion on spinning and weaving centre of sericulture, popularization of citronella cultivation, awareness on breeding programme, prevention and control of disease, scientific feeding management
4		Changtongya	Chuchuyimlang, Unger, Akhoya	Paddy, Tapioca, Maize, Colocassia, banana, Orange, Pineapple Tea, piggery, Poultry, Fishery	Low productivity due to non adoption of improved technology, lack of awareness on value addition products, insect pest and disease problem, poor transportation and marketing facilities, lack of upgraded breeds and health centre	Create awareness on fallow management and jhum intensification, To increase production of banana, tapioca, orange, pineapple, development of tea, arecanut, betel vine, improvement of piggery, fishery and sericulture,
5		Mangkolemba	Longsemdang, Khar	Paddy, Maize, Tapioca, Orange, Pineapple, Arecanut, Tea, betel vine, fishery, cattle, piggery	Unavailability of HYV (lowland paddy), Lack of knowledge on improved method of cultivation , lack of processing unit, insect pest and disease problem, lack of awareness on INM, poor skill in fishery pond management, financial constraint to take up in commercial scale, inadequate availability of ploughing bullock, swine diseases	Promotion of HYV (paddy), production of oilseed and pulses, production of orange, pineapple, arecanut, tea and fish. Breeding programme for cattle and training of draught animals, prevention & control of swine diseases
6		Longchem	Japu Nokpu	Paddy, Tapioca, Maize, colocassia, Agar, Arecanut, betel vine, cattle, piggery	Unavailability of HYV (lowland paddy), Lack of knowledge and awareness on improved method of cultivation on plantation crops, lack of processing unit, lack of awareness on INM, financial constraint for commercial cultivation, inadequate availability of ploughing bullock, swine diseases	Promotion of HYV (paddy), Commercial cultivation of arecanut, tea, rubber, betel vine, colocassia, orange, production of oilseeds and pulses, Breeding programme for cattle and training of draught animals, prevention & control of swine diseases

3. TECHNICAL ACHIEVEMENTS

3. A. Details of target and achievements of mandatory activities by KVK during 2022-23

Discipline	OFT (Technology Assessment and Refinement)				FLD (Oilseeds, Pulses, Maize, Other Crops/Enterprises)			
	Number of OFTs		Number of Farmers		Number of FLDs		Number of Farmers	
	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Agronomy	4	4	7	7	2	2	7	7
Horticulture	2	2	6	6	4	4	24	24
Soil conservation	3	3	9	21	2	2	40	40
Pl. Protection	3	3	7	7	2	2	8	8
Animal Science	2	2	6	6	2	2	8	8
Total	14	14	35	47	12	12	87	87

Training (including sponsored, vocational and other trainings carried under Rainwater Harvesting Unit)					Extension Activities			
Number of Courses			Number of Participants		Number of activities		Number of participants	
Clientele	Targets	Achievement	Targets	Achievement	Targets	Achievement	Targets	Achievement
Agromony					172	288	830	2579
Farmers	20	20	400	656				
Rural youth	0	1	0	20				
Horticulture								
Farmers	10	10	200	338				
Rural youth	3	2	60	40				
Plant Protection								
Farmers	6	5	120	118				
Rural youth	2	1	60	19				
Soil conservation								
Farmers	15	21	300	675				
Rural youth								
Animal Science								
Farmers	12	21	240	644				
Rural youth	4	8	160	179				
Total	72	89	1540	2689	172	288	830	2579
Seed Production (ton.)				Planting material (Nos. in lakh)				
Target		Achievement		Target		Achievement		
0.20		0.4		0.25000		0.22500		
Total		0.4		0.250		0.225		

3. B. Abstract of interventions undertaken during 2022

Sl. No	Thrust area	Crop/ Enterprise	Identified problems	Interventions					
				Title of OFT if any	Title of FLD if any	Title of Training if any	Title of training for extension personnel	Extension activities	Supply of seeds, planting materials etc.
1	Millet production	Pearl Millet	Low cultivation of millet in Area and production	Performance of Bio-fortified pearl millet	-	Production technology and importance of bio-fortified millet	Importance of millet and its role in human health	Training, Method Demonstration, Diagnostic visit, Monitoring	Seeds

2	Crop production	Soybean	Low yield of existing variety, Poor nutrient management	Varietal evaluation of Soybean var. VL 201	-	-	-	Training, Demonstration and Field visit	seeds
3	Oilseed Production	Soyabean	Low yield of existing variety & low seed replacement	Performance evaluation of Soyabean Var: RVSM-1135	-	Improved Oilseed production Technology	-	Method Demonstration, Diagnostic visit, Monitoring	Seeds
4	Tillage management	Pea/zero tillage	Intensive tillage leads to high evaporative moisture loss	Utera cropping of pea under rice based cropping system	-	-	-	Method Demonstration and Field visit	seeds
5	Pulse production	Fieldpea	Low yield in existing varieties	-	Popularization of Pea (Var Aman).	Cultivation practices of pulse crop.	-	Field visit, field day	Seeds
6	Oilseed production	Ts67	Less adaption of Toria cultivation, leave field fallow during rabi	-	Demonstration on Toria TS-67	Cultivation practices of Toria	-	Field visit, field day	Seeds
7	Varietal evaluation	Tomato	Low yield and poor quality	Assessment of multiple disease resistant tomato var. Arka Abhed	-	Nutri -Garden	-	Method demonstration, Field visit, Diagnostic visit	Seeds
8	Varietal evaluation	Cauliflower	Poor quality and low yield	Varietal assessment of Cauliflower Candid Charm, Madhuri,	-	Nursery raising and management of winter vegetables	-	Method demonstration, Field visit, Diagnostic visit	Seeds
9	Vegetable Production	Chilli	Low yield	-	Demonstration on high yielding and disease resistant Chilli variety Arka Khyati	-	-	-	Seeds
10	Vegetable Production	Chilli	Poor quality and Low yield	-	Popularization of disease resistant Chilli variety Arka Meghana	-	-	-	Seeds
11	Vegetable Production	Tomato	Poor quality and Low yield	-	Popularization of disease resistant Tomato variety Arka Samrat	-	-	-	Seeds

12	Vegetable Production	Broccoli	Low income	-	Income generation through high value crop (Broccoli var. Green magic)	-	-	Training, Method Demonstration, Field visit.	Seeds
13	Soil nutrient management	Potato	No nutrient management practice in potato cultivation	Assessment of lime application for higher productivity in potato	-	-	-	Monitoring, field visits	Potato tubers & other required inputs
14	Soil nutrient management	Upland paddy	No nutrient management practices followed for upland paddy	Assessment of brown manuring (dhaincha) in Upland paddy	-	-	-	Monitoring, field visits	Dhaincha seeds
15	Soil nutrient management	Soyabean	No nutrient management practice in Soyabean cultivation	Integrated Nutrient Management in Soyabean	-	-	-	Monitoring, field visits	Soyabean seeds, fertilizers & bio-fertilizers
16	Soil nutrient management	Enriched compost	Non use of enriched compost	-	Popularisation of use of enriched compost for organic agriculture	Enriched composting	-	Monitoring, field visits	Rock phosphate & bio-fertilizers
17	Soil management	Bio-char	No management of acidic soil	-	Popularization of Bio-char in winter vegetables	Bio-char for acid soil management	-	Monitoring, field visits	Seeds
18	IPM	Maize	High incidence of fall armyworm (50 %)	IPM on Fall Army Worm	-	-	-	-	Bio – agents
19	Biological control	Chilli	Lower yield and quality due to insect pest infestation (upto 35%)	Management of major insect pests in chilli	-	-	-	-	Bio –agents
20	IPM	Tomato	High incidence of late blight disease (50%)	Management of late blight in Tomato	-	-	-	-	Bio – agents , seeds
21	IPM	Cucumber	Severe fruit rotting due to fruit flies (30%)	-	Popularization of pheromone trap for management of fruit fly in cucurbits	-	-	-	Cue – lure traps
22	IDM	Field pea	Severe root rotting	-	Management of <i>Rhizoctonia</i> root rot in pea using <i>Trichoderma spp</i>	-	-	-	Bio – agents

Integrated Disease Management					2					2
Resource conservation technology										
Small Scale income generating enterprises										
TOTAL	3	3	1		4				1	12

* Any new technology, which may offer solution to a location specific problem but not tested earlier in a given micro farming situation.

A.2. Abstract of the number of technologies refined* in respect of crops/enterprises

Thematic areas	Cereals	Oilseeds	Pulses	Commercial Crops	Vegetables	Fruits	Flower	Plantation crops	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										

* Technology that is refined in collaboration with ICAR/SAU Scientists for improving its effectiveness.

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

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitry	Fisheries	TOTAL
Evaluation of Breeds		1						1
Nutrition Management		1						1

Disease of Management								
Value Addition								
Production and Management								
TOTAL		2						2

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

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

A.5. Results of On Farm Testing (OFT)

Sl. No	Title of OFT	Problem Diagnosed	Name of Technology Assessed	Crop/Cropping system/ Enterprise	No. of Trials	Results of Assessment/ Refined (Data on the parameter should be provided)		Feedback from the farmer	Feedback to the Researcher	B:C Ratio
						Technology	Farmers practise			
1	Varietal evaluation of Soybean Var. VL- 201	Low yield of existing variety, Poor nutrient management	VL-201	Soybean	3	Pl. Ht. At harvest: 30.33cm. Yield: 14qt/ha	1.Av. ht-23cm 2.Yield-9qt/ha	Higher yield less 16referred due to black in colour	-	2.16
2	Performance of Bio-fortified Pearl Millet	Low cultivation of millet in Area and production	Dhanashakti	Pearlmillet	2	Av. Pl ht: 155 cm Days to maturity: 125 Seeds could not be saved from birds	Av. Pl ht: 187 cm Days to maturity: 145	It attracts more birds than local varieties	Further assessment is required with protection of crop from birds	-
2	Performance evaluation of Soyabean Var: RVSM-1135	Low yield of existing variety & low seed replacement	RVSM-1135	Soyabean	2	Av. Pl ht: 29cm Days to maturity:101 Av. Yield: 6.1 qt/ha	Av. Pl ht: 52cm Days to maturity: 129 Av. Yield:9.87 qt/ha	May perform better in early sowing	Need further assessment with early sowing	1.3
2	Double cropping of pea under rice based	Intensive tillage leads to high	Double Cropping	Field Pea	3	O.C at 0-15cm depth - 0.86%	Yield-10.5qt/ha	Higher yield and labour cost	-	2.27

	cropping system	evaporative moisture loss				Yield/ha -12.5qt		is less.		
3	Assessment of multiple disease resistant Tomato var.Arka Abhed	Low yield and poor quality	Arka Abhed	Tomato	3	Pl. ht- 80cm No. of Frt/pt-55.25 Fruit wt-95.15 Yield/pt-4.5kg Yield/ha-208q	1.Pl. ht- 67cm 2. No. of Frt/pt: 25.18 3. Fruit wt-50.85 4.Yield/pt-1.65kg 5.Yield/ha-158q	Arka Abhed gives better quality with less disease infection	Need further assessment	T1: 4 T2: 2.96
4	Varietal assessment of Cauliflower T-1 Candid Charm,T-2: Madhuri, T-3: Farmers variety	Low yield	Candid Charm, Madhuri	Cauliflower	3	T1: Duration:65days Pl. ht- 44.6cm Curd diameter- 14.27cm & Curd wt- 500g, Y/ha-120q T2: Duration of crop-115days Pl.t ht- 44.3cm Curd diameter- 12.23cm & Curd wt: 350g, Y/ha: 95q	1.Duration :120days 2.Plant ht- 39.9cm 3.Curd diameter: 9.23cm & Curd wt: 200g 4.Y/ha: 90q	Candid Charm gives higher yield than Madhuri	Need further assessment	T1: 3.7 T2: 3.3 T3: 2.85
5	Assessment of lime application for higher productivity in potato	No nutrient management practice in potato cultivation	T1- Application of Lime @ 400 kg/ha in furrows + 50% RDF (120:120:60)+ 1 t/ha vermicompost T2- 100% RDF T3- Lime only	Potato	3	<u>Avg. Yield</u> T1- 171 qt/ha T2- 208 qt/ha <u>Soil properties</u> Initial pH : T1: 4.55, T2:4.62 Final pH: T1: 4.15, T2: 4.29 Initial OC (%) T1: 1.23, T2: 1.12 Final OC (%) T1- 1.52, T2- 1.09 Initial N (kg/ha) T1: 410, T2: 370 Final N (kg/ha) T1: 442, T2: 350 Initial P (kg/ha) T1: 31.28, T2: 30.38 Final P (kg/ha) T1: 1.52, T2: 1.09 Initial K (kg/ha) T1: 1.23,T2: 1.12	Yield: 119 qt/ha pH: 4.75 Final pH: 4.88 Initial OC1.07 Final OC: 1.14 Initial N: 346.4 Final N:380 Initial P: 44.68 Final P: 33.06 Initial K: 108.3 Final K: 240.5	Better yield than normal cultivation		T1: 2.20 T2: 3.35 T3: 1.93

						Final K(kg/ha) T1: 1.52, T2: 1.09				
6	Assessment of brown manuring (Dhaincha) in upland paddy	No nutrient management practices followed for upland paddy	T1-Broadcasting & growing Dhaincha @ 20 kg/ha along with upland jhum paddy & knocking down using 100 kg salt/ha (10% NaCl), 25-30 DAS T2- Stale bed technique T3- Check	Paddy	3	<u>Avg. Yield</u> T1-12.2 qt/ha T2- 9.6 qt/ha <u>Soil properties</u> Initial pH : T1: 4.62, T2: 4.29 Final pH: T1: 4.88, T2: 4.33 Initial OC (%) T1: 1.32, T2: 1.03 Final O C (%) T1- 1.23, T2- 1.12	T3 or C- 9 qt/ha Initial pH: 4.75 Final pH: 4.79 Initial OC: 1.23 Final OC: 1.25	Good technology	-	T1: 1.3 T2: 1.1 T3: 1
7	Integrated Nutrient Management in Soyabean	No nutrient management practices followed for soyabean	T-1 Application of rhizobium 200g/kg of seed + 20:60: 40 NPK Kg/ha + FYM 10t/ha+ furrow liming @ 500 kg/ha T-2 100% RDF T-3 Check	Soyabean	3	<u>Avg. Yield</u> T1- 13.5 qt/ha T2- 12 qt/ha	T3 or C-9.8 qt/ha	Good technology	-	T1: 1.2 T2: 1.1 T3: 1.1
8	IPM on fall army worm	High incidence of fall army worm (upto 50 %)	T1- <i>Metarrhizium anisopliae</i> talc formulation @ 5 gm / litre whorl application at 15- 25 days after sowing + spraying <i>Beauveria bassiana</i> & <i>Bacillus thuringiensis</i> var <i>Kurstaki</i> 2g/ltr of water T2- Spraying of	Maize	3	T1 Yield- 20.8/ha Infestation: 30% T2 Yield: 22kg/ha Infestation: 25%	T3 1)Yield: 12.5kg/ha 2)infestation:58%	Acceptable	Treatment T1 is better for the farmers as it is organic and easily available in the district	T1: 1.6 T2: 1.8 T3: 1.1

			Emamectin benzoate 5% SG @ 0.4g/lit of water, T3- Check							
9	Management of major insect pests in chilli	Insect pest infestation leading to lower yield production and quality (upto 35%)	T1- Alternate spraying of <i>Lecanicillium licanii</i> @ 5 ml/lit of water and Azadirachtin 0.03 EC @5ml/lit at 15 days interval at pre flowering stage, T2- yellow sticky trap, T3- Check	Chilli	2	T1 Yield: 202 kg/ha Infestation: 30% T2 Yield : 198 kg/ha Infestation: 25 %	T3 1) yield: 112 kg/ha 2) infestation- 50%	Good technology	Integration of both the treatments would result in higher yield	T1: 3.2 T2: 3 T3: 1.8
10	Management of late blight in Tomato	High incidence of late blight disease (50%)	T1- Arka Samrat (Resistant variety) T2- Arka Abed T3- Check			T1 Yield : 380/kg Infestation: 10.5% T2 Yield : 365kg/ha Infestation: 15%	T3 1) yield: 194 kg/ha 2) infestation: 30%	Good technology		T1: 2.17 T2: 2.1 T3: 1.3
11	Assessment of azolla (A. caroliniana) feeding as dietary supplement in backyard poultry production.	High cost of concentrate feeds	azolla (A. caroliniana) feeding as dietary supplement	poultry	3	<u>1. Egg production</u> a. Age (days) at first egg lay = 182 b. av. wt of the eggs = 52 gm (35 weeks) c. At 40 weeks of age = 90 per bird <u>2. Meat production</u> a. wt of males at 6 months = 2700 gm b. wt of the female at 6 months = 2300 gm		Better growth with easily available resources	Similar technology should be tested under field conditions	1.97
12	Introduction of Kamrupa chicken in backyards	Low production of local breed	Kamrupa chicken	poultry	3	1. body wt at first egg lay = 1.8 kg 2. Age at first egg lay = 144 days 3. Av wt. of egg at first lay=32gm at 35 weeks=52gm		Performs well their meat is similar in taste to local chicken.		1.56

3.2 Achievements of Frontline Demonstrations during 2022

a. Follow-up for results of FLDs implemented during previous years

List of technologies demonstrated during previous years and popularized during 2017-18 and recommended for large scale adoption in the district

Sl. No	Crop and Variety/ Enterprise	Technology demonstrated	Horizontal spread of technology		
			No. of villages	No. of farmers	Area in ha
1	Paddy	Green manuring in paddy	2	10	4

* Thematic areas as given in Table 3.1 (A1 and A2)

b. Details of FLDs conducted during reporting period (Information is to be furnished in the following three tables for each category i.e. cereals, horticultural crops, oilseeds, pulses, cotton and commercial crops.)

Sl. No.	Crop	Thematic area	Technology Demonstrated	Season and year	Area (ha)		No. of farmers/ demonstration			Reasons for shortfall in achievement	Farming situation (Rainfed/ Irrigated, Soil type, altitude)	Status of soil (Kg/ha)		
					Proposed	Actual	SC/ST	Other s	T			N	P	K
1	Field pea	Seed production	Aman	Rabi,2022	1	1	3	-	3	-	Rainfed			
2	Toria	Seed production	TS-67	Rabi 2022	1	1	4	-	4	-	Rainfed			
3	Chilli	Vegetable production	Arka Khyati	Kharif2022	3	3	6	-	6	-	Rain fed			
4	Chilli	Vegetable production	Arka Meghana	Kharif2022	3	3	6	-	6	-	Rain fed			
5	Tomato	Vegetable production	Arka Samrat	Kharif 2022	3	3	6	-	6	-	Rain fed			
6	Broccoli	Vegetable production	Green magic	Rabi 2022	3	3	6	-	6	-	Rain fed			

7	Enriched compost	Soil health management	Amending normal compost with 1% P as Rock Phosphate together with inoculating Azospirillum/ Azotobacter and Phosphate Solubilizing Bacteria (PSB)	Rabi 2022	10 units	20 units	20	-	20	NA	Rainfed	-	-	-
8	Biochar in brocolli	Soil health management	Biochar from locally available weed biomass and application @ 5-10 t/ha	Rabi 2022	2	2	10	-	10	NA	Rainfed	-	-	-
9	Cucumber	Integrated pest management	Installation of Cue Lure for monitoring and mass trapping of fruit fly to reduce male population @ 25 traps/ ha	Kharif 2022	1	1	4	-	4	-	Rainfed	-	-	-
10	Field Pea	Integrated disease management	- Seed treatment with <i>Trichoderma viride</i> @ 5-10 gms/kg of seed -Soil treatment @6-8kg/ha of land - Foliar spray @ 5-10 gms/litre of water	Rabi 2022	2	2	4	-	4	-	Rainfed -	-	-	-

c. Performance of FLD on Crops during 2022

Sl. N o.	Crop	Thematic area	Area (ha.)	Avg. yield (Q/ha.)		% increas e in Avg. yield	Additional data on demo. Yield (Q/ha.)		Data on parameters other than yield, e.g., disease incidence, pest incidence etc.		Econ. of demo. (Rs./ha.)				Econ. of check (Rs./Ha.)			
				Demo.	Chec k		H*	L*			GC	GR	NR	BCR	GC	GR	NR	BCR
				Demo	Local													
1	Field pea	Seed production	1	14	11	27.27	15	13	-	-	20000	46500	26500	2.33	19050	39350	20300	2.06
2	Toria	Seed production	1	5.65	4.4	28.41	6.50	4.8	-	-	10500	23300	12800	2.21	10100	20600	10300	2.01
3	Chilli	Vegetable production	3	125	112	11.6	140	110	-	-	45000	125000	80000	2.7	46000	89600	43600	1.94
4	Chilli	Vegetable production	3	130.5	112	16.51	146	115	-	-	47500	130000	82000	2.73	40000	89000	49000	2.24
5	Tomato	Vegetable production	3	200	158	26.5	237	163	-	-	52000	180000	128000	3.46	45000	133200	88200	2.96
6	Broccoli	Vegetable production	3	110	90	22.2	140	80	-	-	45000	130000	85000	2.8	40000	90000	50000	2.25
7	Winter vegetables	Enriched compost	3	-	-	-	-	-	-	-	4080	10000	5920	2.45	1500	5000	3500	1.43
8	Broccoli	Biochar in Broccoli	2	98	80	18.36	-	-	-	-	208000	588000	380000	2.9	188000	480000	292000	2.5
9	Cucumber	Integrate pest management	1	110	75	46.66	115	70	No. of prematu re fruit drop: 6.66	No. of prematu re fruit drop: 12	57200	121000	63800	2.1	50,100	82500	32400	1.6
10	Field pea	Integrated disease management	2	14	11	27.27	15	13	Disease incidenc e- 21.30%	Disease incidenc e-54.64%	20000	46500	26500	2.33	19050	39350	20300	2.06

*H-Highest recorded yield, L- Lowest recorded yield** GC- Gross Cost, GR- Gross Return, NR- Net Return, BCR- Benefit-Cost Ratio Produce Sale Price must be as per MSP or Registered Marketing Society Pl. apply the formula: Net Return= Gross Return-Gross Cost, BCR= GR/GC Note: Economics to be worked out based on total cost of production per unit area and not on critical inputs alone.

d. Extension and Training activities under FLD on Crops

Sl.No.	Activity	No. of activities organised	Date	Number of participants			Remarks
				Gen	SC/ST	Total	
1	Field days	2	19/1/22		7	7	FLD on Vegetables (Tomato)
2	Farmers Training	1	20 th April'22		11	11	FLD training on making farm compost
3	Media coverage	1	27 th April'22				Press release for media coverage
4	Training for extension functionaries						
	Total	6			18	18	

e. Details of FLD on Enterprises

(i) Farm Implements

Name of the implement	Crop	No. of farmers	Area (ha)	Performance parameters / Indicators	* Data on parameter in relation to technology demonstrated		% change in the parameter	Remarks
					Demon.	Local check		

* Field efficiency, labour saving etc.

(ii) Livestock Enterprises

Sl	Enterprise / Category	Thematic area	Name of Technology	No. of farmers	No. of unit	No. of animals, poultry birds etc.	Major Performance parameters / indicators		% change in the parameter	Econ. of demo. (Rs./Ha.)				Econ. of check (Rs./Ha.)				Remarks
							Demo	Check		GC**	GR*	NR	BCR	GC	GR	NR	BCR	
1	Piggery	Production and management	Iron injection & supplementation of vitamin-mineral for production of quality piglets	3	3	Piglets produced from farmers sow	Wt of piglet at weaning 9.4 kg	Wt of piglet at weaning 7.8 kg	17%	600/piglet	2820/piglet	2220/piglet	4.7	550/piglet	2340/piglet	1790/piglet	4.24	Iron injection @ 1ml per piglet at 2- 5 days old. Vitamin-minerals were given when they start eating.
2	Duckery	Evaluation of breed	White Pekin duck performance under integrated farming	5	5 units	40 birds per unit	Average weight gained at maturity = 2.65 kg/bird	Average weight gained at maturity = 1.5 kg/bird	24.5%	820/bird	1200/bird	380/bird	1.5:1					40 numbers of day old duckling were distributed per beneficiary. Ducks were reared on the pond dykes where house was made of locally available source.

(iii) Fisheries

Sl. No.	Category, e.g. Common carp, ornamental fish etc.	Thematic area	Name of Technology	No. of farmers	No. of units	No. of fish/fingerlings	Major Performance parameters / indicators		% change in the parameter	Other parameters (if any)		Econ. of demo. (Rs./Ha.)				Econ. of check (Rs./Ha.)				Remarks
												G C*	G R*	N R*	B C R*	GC	GR	NR	BC R	
							Demo	Check												
1																				

** GC- Gross Cost, GR- Gross Return, NR- Net Return, BCR- Benefit-Cost Ratio

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

(iv) Other enterprises

Sl. No.	Category / Enterprise, e.g., mushroom, vermicompost, apiculture etc.	Thematic area	Name of Technology	No. of farmers	No. of units	Major Performance parameters / indicators		% change in the parameter	Other parameters (if any)		Econ. of demo. (Rs./Ha.)				Econ. of check (Rs./Ha.)				Remarks
						Demo	Check		Demo	Check	GC*	GR*	NR*	BCR*	GC	GR	NR	BCR	

** GC- Gross Cost, GR- Gross Return, NR- Net Return, BCR- Benefit-Cost Ratio

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

(v) Farm Implements and Machinery

Sl. No.	Name of implement	Crop	Name of Technology demonstrated	No. of farmers	Area (In ha.)	Field observation (Output/ man-hours)		% change in the parameter	Labour reduction (Man days)	Cost reduction (Rs. per ha. or Rs. per unit etc.)	Remarks
						Demo	Check				

f. Performance of FLD on Crop Hybrids

Sl. No.	Crop	Name of hybrids	Area (ha.)	No. of farmers	Avg. yield (Q/ha.)		% increase in Avg. yield	Additional data on demo. yield (Q/ha.)		Econ. of demo. (Rs./Ha.)				Econ. of check (Rs./Ha.)			
					Demo.	Check		H*	L*	GC*	GR**	NR**	BCR**	GC	GR	NR	BCR

*H-Highest recorded yield, L- Lowest recorded yield

** GC- Gross Cost, GR- Gross Return, NR- Net Return, BCR- Benefit-Cost Ratio

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

3.3. Achievements on Training during 2022

**(Attached separate in Excel format)

Annexure 1: Details of Training Programme (On Campus including Sponsored On Campus) for Farmers, Farm Women, Rural Youth and Extension Personnel

Discipline	Area of training	Title of the training programme	Date	Duration in days	Venue	Please specify Beneficiary group	General participants			SC/ST			Grand Total		
							M	F	T	M	F	T	M	F	T
Agronomy	Cereal production	Importance of Millet & its role in human health	16/6/22	1	KVK	Farmer & farm women				2	48	50	2	48	50
	Integrated crop management	Soyabean Production and its role as mix cropping	20/8/22	1	KVK	Farmer & farm women				7	8	15	7	8	15
	Cropping system	Training on bio-fortified crops with special reference to Millets	26/4/22	1	KVK	Farmer, Farm women &RY				13	60	73	13	60	73
	others	Innovative agriculture through natural Farming	25/4/22	1	KVK	Farm women &RY				0	29	29	0	29	29
	Agro forestry	Training on awareness on region specific agroforestry	21/6/22	1	KVK	Farmer and Farm women				3	33	36	3	33	36
Horticulture	Olericulture	Training on Technologies for organic management of vegetable crops	12/12/22	1	KVK	Farmer and Farm women				2	13	15	2	13	15
Soil conservation	Soil & Water Management	Importance of natural farming in the present scenario	25/4/22	1	KVK	Farmer & Farm women				6	33	39	6	33	39
		Awareness on Swachhta	17/10/22	1	KVK	Farmer & Farm women				13	59	72	13	59	72
		Solid waste management	17/10/22	1	KVK	Farmer & Farm women				6	49	55	6	49	55
Animal Sc.	piggery	Piggery production and management cum health camp	15.03.22	1	KVK	Farmer & Farm women				1	25	26	1	25	26
	poultry	Poultry production and management	21.06.22	1	KVK	Farmer & Farm women				3	33	36	3	33	36

Annexure 2: Details of Training Programme (Off Campus including Sponsored Off Campus) for Farmers, Farm Women, Rural Youth and Extension Personnel

Discipline	Area of training	Title of the training programme	Date	Duration in days	Venue	Please specify Beneficiary group	General participants			SC/ST			Grand Total		
							M	F	T	M	F	T	M	F	T
Agronomy	Cereal Production	Improved Maize production	13/8/22	1	Longjang	Farmer & Farm women				9	4	13	9	4	13
	Crop Diversification	Nutri-cereals and its role as climate resilient crop	17/9/22	1	Salulamang	Farmer & Farm women				9	53	62	9	53	62
	Seed	Oilseed production technology	14/10/22	1	Chuchuyimlang	Farmer & Farm				11	9	20	11	9	20

	production					women									
	Seed production	Potato seed Production technology	2/11/22	1	Longjang	Farmer & Farm women				17	7	24	17	7	24
	Resource Conservation	Introduction to Natural Farming	3-4/11/22	2	Chuchuyimlang	Farmer & Farm women				9	32	41	9	32	41
	Cropping system	Training on millet production	1/2/22	1	Kupza	Farm women				0	9	9	0	9	9
	Cropping system	Training on pulse production	10/2/22	1	Kubolong	Farmer & Farm women				13	27	40	13	27	40
	others	Training on women in agriculture	8/3/22	1	Kubolong	Farm women				0	39	39	0	39	39
	others	Training on Natural farming	13/4/22	1	Kupza	Farm women				0	23	23	0	23	23
	Crop diversification	Training on prospects of different types of farming.	29/5/22	1	Chuchuyimlang.	Farmer & Farm women				15	30	45	15	30	45
	Cropping system	Training on importance of cultivating pulse crop	28/7/22	1	Mongsenyimti	Farmer & Farm women				8	22	30	8	22	30
	Cropping system	Training on scientific production of rabi crops	24/8/22	1	Salulemang	Farmer & Farm women				15	11	26	15	11	26
	Weed management	Training on integrated weed management in vegetable crops	23/8/22	1	chuchuyimpang	Rural youth				4	16	20	4	16	20
Agronomy	Cropping system	Training on rabi season crop production	16/9/22	1	Longkhum	Farmer & Farm women				2	7	9	2	7	9
	Cropping system	Training on scientific production of pulses and oilseed crops	26/9/22	1	Kinunger	Farmer & Farm women				2	18	20	2	18	20
	Cropping system	Training on cultivation practices of winter vegetable	1/11/22	1	Merangkong	Farmer & Farm women				4	20	24	4	20	24
Horticulture	Value addition	Training on Value addition of Horticulture crops for rural income	19/8/22	1	Yimyu	Rural Youth				8	11	19	8	11	19
	Olericulture	Training on Winter vegetables crop production	16/9/22	1	Longkhum	Farmer & farm women				1	6	7	1	6	7
	Olericulture	Training on Nutri-Garden	17/9/22	1	Salulamang	Farm women				-	60	60	-	60	60
	Olericulture	Training on Winter vegetable crops.	26/9/22	1	Kinunger	Farmer & Farm women				2	18	20	2	18	20

	Olericulture	Training and Demonstration on Nursery raising and management of winter vegetables.	7/11/22	1	RK School Tuli	Students/Rural youth				45	55	100	45	55	100
	Cropping Pattern	Training on Mixed crop farming	13/12/22	1	Mokokchung	Farmer & Farm women				10	13	23	10	13	23
	Value addition	Training on Harnessing favourable weather events for value addition in Horticulture	30/1/22	1	Old Anaki	Farmer & Farm Women				13	25	38	13	25	38
	Olericulture	Training on Horticultural crop management with special reference to Nutritional gardening	13/3/22	1	CTC Aolichen	Students/Rural youth				15	21	36	15	21	36
Soil conservation		Soil health and fertility management	13/1/22	1	Longmisa	Farmer & Farm women				-	37	37	-	37	37
		Awareness on soil and water conservation	13/01/22	1	Longmisa	Farmer & Farm women				-	37	37	-	37	37
		Safe and judicious use of fertilizers	10/2/22	1	Kubza	Farmer & Farm women				4	5	9	4	5	9
		Soil health and fertility management	5/2/22 & 8/2/22	2	Mopungchuket	Farmer & Farm women				29	46	75	29	46	75
		Awareness on soil and water conservation	5/2/22 & 8/2/22	2	Kubolong	Farmer & Farm women				29	46	75	29	46	75
		Use of organics in vegetable production in homestead garden	24/3/22	1	Longmisa	Farmer & Farm women				-	14	14	-	14	14
		FLD training on how to make compost	20/4/22	1	Mulongkong	Farmer & Farm women				10	1	11	10	1	11
		Importance on rain water harvesting and management	4/5/22	1	Mulongkong	Farmer & Farm women				19	37	56	19	37	56
		Importance of awareness on balanced use of fertilizers & INM	21/6/22	1	Yisemyong	Farmer & Farm women				36	3	39	36	3	39
		Awareness on importance of water conservation for rabi crops	16/7/22	1	Yisemyong	Farmer & Farm women				-	36	36	-	36	36
Soil		Awareness training on	20/7/22	1	Mongsenyimti	Farmer & Farm				6	24	30	6	24	30

conservation		Water conservation for under Jal Shakti Abhiyan				women									
		Awareness on importance of rain water harvesting & management	24/8/22	1	Chuchuyimlang	Farmer & Farm women				4	16	20	4	16	20
		Vermicomposting for agricultural waste mangement	29/8/22	1	Mongsenyimti	Farmer & Farm women				5	9	14	5	9	14
		FLD training on importance of management of acid soil	16/9/22	1	Longkhum	Farmer & Farm women				5	5	10	5	5	10
		Vermicomposting for agricultural waste mangement	8/9/22	1	Mongsenyimti	Farmer & Farm women				-	10	10	-	10	10
Plant protection	Other	Mushroom production for Livelihood improvement	8/9/22	1	Chuchuyimlang	Farmers & farm women	-	-	-	6	16	22	6	16	22
	IPM	Integrated pest management on winter crops	1/11/22	1	Merangkong	Farmers & farm women									
	IDM	Method demonstration on Bordeaux mixture spray	30/1/22	1	Old Anaki	Farmers & farm women	-	-	-	4	20	24	4	20	24
	Other	Promoting awareness on safe food handling behaviour for farm women	11/2/22	1	Chuchuyimpang	Farmers & farm women	-	-	-	-	17	17	-	17	17
	IPM	Integrated pest management on Khasi mandarin	27/3/22	1	Salulamang	Farmers & farm women	-	-	-	14	3	17	14	3	17
	Other	Oyster mushroom production for livelihood improvement	29/3/22	1	Asangma	Rural Youth	-	-	-	-	19	19	-	19	19
Animal Sc.	piggery	Piggery production and management	27-29/1/22	3	Longjang	Farmer & Farm women				9	36	45	9	36	45
	piggery	Scientific approach towards piggery farming for better productivity	3-5/2/22	3	Mopungchuket	Farmer & Farm women				15	18	33	15	18	33
	piggery	Training on scientific pig production	10-12/2/22	3	Kubolong	Farmer & Farm women				15	27	42	15	27	42
	piggery	Piggery production and management	17-19/2/22	3	Sungratsu	Farmer & Farm women				18	19	37	18	19	37
	piggery	Training on scientific pig production	24-26/2/22	3	Changtongya	Farmer & Farm women				11	23	34	11	23	34
	piggery	Piggery production and management cum health camp	21/3/22	1	Kubolong	Farmer & Farm women				12	8	20	12	8	20

	poultry	Poultry management	21/3/22	1	Kubolong	Farmer & Farm women				12	8	20	12	8	20
	piggery	Piggery production and management	27/4/22	1	Yimchalu	Farmer & Farm women				7	14	21	7	14	21
	piggery	Piggery production and management under integrated approach	7/5/22	1	Longmisa	Farmer & Farm women				8	16	24	8	16	24
	piggery	Sustainable approach towards piggery production and management	22/6/22	1	Chuchuyimpang	Farmer & Farm women				2	16	18	2	16	18
	poultry	Poultry production in scientific system	23/6/22	1	Chuchuyimpang	Farmer & Farm women				2	16	18	2	16	18
	piggery	Scientific approaches towards piggery farming	22/7/22	1	Sungkomen	RY				12	9	21	12	9	21
	piggery	Sustainable piggery farming	28/7/22	1	Mongsenyimti	Farmer & Farm women				7	11	18	7	11	18
	piggery	Piggery production and management	31/8/22	1	Changtongya	RY				11	16	27	11	16	27
	piggery	Scientific approaches towards piggery farming	16/11/22	1	Waromong	Farmer & Farm women				24	14	38	24	14	38
	piggery	Sustainable piggery farming	17/11/22	1	Nokpu	Farmer & Farm women				11	12	23	11	12	23

(D) Vocational training programmes for Rural Youth

(D) Vocational training programmes for Rural Youth																		
Crop / Enterprise	Date	Duration	Area of training	Training title*	No. of Participants									Impact of training in terms of Self employment after training				Whether Sponsored by external funding agencies
					General			SC/ST			Total			Type of enterprise ventured	No. of units	No. of persons employed	Avg. Annual income generated through enterprise	
					M	F	T	M	F	T	M	F	T					
Organic Farming	9-15/12/22	7	Organic Farming	Organic Farming				5	10	15	5	10	15					SAMETI Nagaland Rs. 42000
Horticulture crops	20-25/8/22	6	Fruits & Vegetables	Organic production of Fruits and Vegetables				3	17	20	3	17	20					SAMETI Nagaland Rs. 42000

*training title should specify the major technology /skill transferred

Annexure 3: Only Sponsored Training Programmes (On, Off and Vocational)

On/ Off/ Vocational	Beneficiary group (F/ FW/ RY/ EP)	Date (From- To)	Duration (days)	Discipline	Area of training	Title	No. of Participants									Sponsoring Agency	Amount of fund received
							General			SC/ST			Total				
							M	F	T	M	F	T	M	F	T		
On	RY	9 th to 15 Dec 2022	7	Agronomy	Organic Farming	Training on Organic farming				5	10	15	5	10	15	SAMETI Nagaland	42000
Off	RY	20 th to 25 th Aug 2022	6	Horticulture	Organic production	Organic production of Fruits and Vegetables				3	17	20	3	17	20	SAMETI Nagaland	42000
Off	F	27 th to 29 th Jan.2022	3	Animal Sc.	piggery	Piggery production and mangement				9	36	45	9	36	45	MFAH&D, Govt. of India	40000
Off	F	3th to 5 th Feb. 2022	3	Animal Sc.	piggery	Scientific approach towards piggery farming for better productivity				15	18	33	15	18	33	MFAH&D, Govt. of India	40000
Off	F	10 th to 12 th Feb. 2022	3	Animal Sc.	piggery	Training on Scientific pig production				15	27	42	15	27	42	MFAH&D, Govt. of India	40000
Off	F	17 th to 19 th Feb. 2022	3	Animal Sc.	piggery	Piggery production and management				18	19	37	18	19	37	MFAH&D, Govt. of India	40000
Off	F	24 th to 26 th Feb. 2022	3	Animal Sc.	piggery	Training on Scientific pig production				11	23	34	11	23	34	MFAH&D, Govt. of India	40000

		-Farming system and mixed farming system in relation to livestock farming -Feed conversion ratio of different livestock	13.03.22													
9	Advisory services (mobile talk/ text messages)	-Mobile talk/Text messages on Crop, Livestock, Awareness, Weather etc	Jan-Dec	129												14880
10	Animal Health Camp	-Health camp for piggery and poultry	15.03.22, 21.03.22, 16.11.22, 17.11.22	4				48	59	107				48	59	107
11	Publication of extension folders	-Azolla as feed for livestock and poultry -Feed conversion ratio of different livestock	05.07.22, 06.07.22	2				100	100	200				100	100	200
12	Film show	-Homestead azolla cultivation -Soil fertility management- manures, fertilizers and INM -Resource conservation- an awareness of the global water	5 th Feb, 21 st Jun and 16 th Jul'22	3				51	57	108				51	57	108
13	Farmers Scientist Interaction	-Soil Nutrient management- different types of fertilizers and INM	13 th Jan	1				-	37	37				-	37	37
14	Awareness campaign	-Jal Shakti Abhiyan Swachhta Special campaign 2.0	28 th July 2 nd - 31 st Oct	2				120	211	331				120	211	331
15	Farmers visit/ students visit to KVK	-PM Kisan Samman Sanmelen	17 th Oct	2				26	50	58				26	50	76
16	Celebration of important days	-International womens day World Soil Day 1 day National workshop on Innovative Agriculture -Kisan Bhadidari Prathnikta Hamari Campaign cum Kisan mela -ICAR foundation day & 86 th Interaction of Hon'Agri Minister with DFI -Azadi ka Amrit Mahotsav on Awareness on balanced use of fertilizers & region specific agroforestry	8 th Mar 5 th Dec 25 th Apr 26 th Apr 21 st Jun 21 st Jun	6				78	275	353				78	275	353

17	Kisan mela	-Kisan Bhadidari Prathmikta Hamari Campaign cum Kisan Mela -Jal Shakti Abhiyan Kisan Mela	26 th Apr & 23 rd Sept	2				118	134	252				118	134	252
18	Swachhta Action Plan	-Agri waste management using vermicomposting	8 th Sept & 3 rd Oct	3				18	26	44				18	26	44
19	Newspaper coverage	-Celebration of important days and press release of activities conducted	8 th mar, 27 th Apr, 21 st Jun, 28 th Aug, 30 th Aug, 23 rd Sept, 20 th Oct, 28 th Oct & 6 th Dec	9												
Total				429										1056	1500	17456

3.5 Production and supply of Technological products during 2022

A. SEED MATERIALS

Major group/class	Crop wise	Variety	Quantity (qt)	Value (Rs.)	Number of recipient/ beneficiaries				
					General		SC/ST		Grand Total
					M	F	M	F	
PULSES	Field Pea	Aman	4	12000			10	30	40
Total			4	12000			10	30	40

A1. SUMMARY of Production and supply of Seed Materials during 2021

Sl. No.	Major group/class	Quantity (q) produced	Quantity (q) supplied	Value (Rs.) of quantity produced	Number of recipient/ beneficiaries				
					General		SC/ST		Grand Total
					M	F	M	F	
2	Pulses	4	4	12000			10	30	40
TOTAL		4	4	12000			10	30	40

3.6. Literature Developed/Published (with full title, author & reference) during 2022

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

(B) Articles/ Literature developed/published

Item	Title /and Name of Journal	Authors name	Number of copies	
			Produced/ published	Supplied/ distributed
Leaflets/folders	1. Azolla as feed for livestock and poultry 2. Feed conversion ratio of different livestock	Dr. Sarendi Walling	200	200
TOTAL			200	200

N.B. Please enclose a copy of each. In case of literature prepared in local language, please indicate the title in English

(C) Details of Electronic Media Produced

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

3.7 Success stories/Case studies, if any (two or three pages write-up on each case with suitable action photographs)

I. Title of the Success story: Seed Potato Production

Potato is one among the important potential food crops of Longjang village under Mokokchung district. Climatic condition favours both spring and autumn cropping. Despite its demands farmers who are mostly marginal grow only in small areas with degenerated seeds from grocery stores which harbours many diseases due to non-availability of seeds and high cost of quality seed tubers coupled with lack of knowledge on scientific production leading to poor yield. These constraints have become the base for the farmers to opt for degenerated seeds and low yielding small tuber size local cultivars for cultivation.

Beneficiary details

Farmers Name: Meyatoshi Aier
Address : Longjang village
Contact details: 7005630034
Aadhaar No : 616117583147



Locations

Longitude : 94.582783⁰
Latitude : 26.504872⁰

Baseline survey brief:

Basing on the climatic suitability, PRA was carried out. Preliminary survey suggested that 80% of the farmers were marginal farmers who practice agriculture for sustenance. Survey also showed that different types of vegetables were cultivated including other sub-tropical fruit crops. However farmers were not into commercial agriculture except for few farmers who sell their surplus in Mokochung daily market occasionally. Most farmers were willing to venture into profit earning agriculture but technical knowledge, economy, quality seed inputs and market were the main limitations. Based on the outcome seed potato production was streamlined as one important option for sustainable income for the marginal farmers.

Inputs distribution:

There were many farmers who were willing to adopt and undertake in seed potato production, but because of the limited seed inputs only few farmers were selected among whom Meyatoshi Aier, a young progressive farmers was also a beneficiary. He was supplied with 500 kg of seed potato to undertake its production program in the year 2021. Apart from seeds implements like Knapsack sprayer, organic inputs were also provided to him.

Scientific interventions made:

- * Scientific Seed Potato production program
- * Development of potato seed village

Trainings and demonstrations attended by the beneficiary:

Mr. Meyatoshi Aier attended both 1st phase and 2nd phase training program organized by the Kendra on quality seed potato production technology and Post harvest management of seed potato in the year 2021 and 2022 respectively. At present he is the main farmer coordinating at village level for all seed village programs and activities.

Change in income and economics with cost benefit ratio**Year 2021:**

Cost of production (Rs)	: 28000 (inclusive of seed cost)
Total Gross income (Rs)	: 80750
Net Income (Rs)	: 52750
C:B Ratio	: 2.88

Year 2022

Cost of production (Rs)	: 48000
Total Gross income (Rs)	: 165200
Net Income (Rs)	: 117200
C: B Ratio	: 3.44

Impact (Yield enhancement, income, etc.)

In the first year of the programme (2021), from 800 kg of seed potato supplied for production Mr. Meyatoshi Aier harvested a total of 3950 kg of potato. Out of which 1470kgs were seed grade and the rest table purpose. All the seed grade produced in the first year was kept as own seeds for the next season. In the 2022, all the seed kept for seed purpose were sown which produced a total of 8260 kg earning a total gross income of Rs.165200. In a span of two years Mr. Meyatoshi Aier has increased twofold his income under KVK interventions. He has not only earn better income from potato seed production

but has produced and made available 2500kgs of quality seed for his villages who will also be partnering him in producing better quality seeds for other farmers. Krishi Vigyan in collaboration with NABARD has adopted the whole Longjang village as potato Seed village in the year 2022. Mr. Meyatoshi Aier has become a model farmer for those farmers who are willing to adopt new technologies for better livelihood but are restrained by lack of knowledge and poor economy.



L-Seed potato production (2021)



R-Farmers from other villages visiting Meyatoshi' field



Healthy potato crops



Meyatoshi with KVK Officials



Treatment of graded/sorted seed and storage

After intervention						
Field crops	Maize (RCM-76)	1	32q	62000	48500	4.59
Honeybee	Honey	50boxes	2.55q	114750	95250	5.88
Poultry	Rainbow Roaster	25	0.7q	15625	6775	1.76

At present Mr T. Chuba is proudly earning more than Rs. 250000/- annually with more to support his family comfortably.

Horizontal spread of technology:

Integrated farming module consisting of Agri + Poultry + Honeybee adopted by Mr. T. Chuba, which is replicated by other farmers in the village may not consist of the same component with respect to Agriculture however, improved production technology with improved variety, improved poultry rearing with improved strain and honey bee rearing in scientific bee boxes has been well adopted by 80% of the villages as of 2022 bringing better income to the farmers of the village.



Maize field RCM-76



Harvested RCM-76



Rainbow Rooster reared by farmer



Scientific bee boxes provided by KVK

3.8 Give details of innovative methodology/technology developed and used for Transfer of Technology during the year

3.9 Give details of indigenous technology practiced by the farmers in the KVK operational area which can be considered for technology development (in detail with suitable photographs)

S. No.	Crop / Enterprise	ITK Practiced	Purpose of ITK

3.10 Indicate the specific training need analysis tools/methodology followed for

- | | |
|--|--|
| - Identification of courses for farmers/farm women | : PRA, Training Need Analysis, Group discussion, Interaction |
| - Rural Youth | : PRA, Training Need Analysis, Group discussion, Interaction |
| - Extension personnel | : Needed Technologies based on their role as extension functionaries |

3.11 Field activities

- i. Number of villages adopted : 12
- ii. No. of farm families selected : 4500
- iii. No. of survey/PRA conducted : 13

3.12. Activities of Soil and Water Testing

Status of establishment of Lab : Completed

- 1. Year of establishment :
- 2. List of equipments purchased with amount :

Sl. No	Name of the Equipment			Qty.	Cost
	S&WT lab	Mini lab/ Mridaparikshak	Manufacturer		
1		Mridaparikshak	Nagarjuna	2	
Total				2	

3. Details of samples analyzed (2022) :

Details	No. of Samples analysed	No. of Farmers	No. of Villages	Amount(In Rupees) realized
Soil Samples	100	100	6	Nil
Water Samples				
Plant Samples				
Petiole Samples				
Total	100	100	6	Nil

1. Details of Soil Health Cards (SHCs) 2022

- a. No. of SHCs prepared : 100
- b. No. of farmers to whom SHCs were distributed : 100
- c. Name of the Major and Minor nutrients analysed : **pH, OC, NPK, S, Fe, Zn, B**
- d. No. of villages covered : 6

3.13. Details of SMS/ Voice Calls sent on various priority areas

Message type	Crop		Livestock		Weather		Marketing		Awareness		Other Ent.		Total	
	M	B	M	B	M	B	M	B	M	B	M	B	M	B
Text only	57	1271	6	462	54	10800			12	2047			129	14880
Voice only														
Voice and Text both														
Total	57	1271	6	462	54	10800			12	2047			129	14880

*M : No. of messages

**B : No. Of beneficiaries

3.14 Contingency planning for 2022

a. Crop based Contingency planning

Contingency (Drought/ Flood/ Cyclone/ Any other please specify)	Proposed Measure	Proposed Area (In ha.) to be covered	Number of beneficiaries proposed to be covered		
			General	SC/ST	Total
	Introduction of new variety or crop	5		10	10
	Introduction of Resource Conservation Technologies	5		20	20
	Distribution of seeds and planting materials	10		40	40
	Any other (Please specify)				
Long dry spell	Already sown crops i. In-situ moisture conservation to safeguard the standing crop from moisture stress. ii. Mulching with crop residue or thin plastic sheets if the water stress continues. iii. Raising nursery of crops in which transplanting is easily possible for filling the gaps	5		20	20

a. Livestock based Contingency planning

Contingency (Drought/ Flood/ Cyclone/ Any other please specify)	Number of birds/ animals to be distributed	No. of programmes to be undertaken	No. of camps to be organized	Proposed number of animals/ birds to be covered through camps	Number of beneficiaries proposed to be covered		
					General	SC/ST	Total
Subsidiary income generation in case of crop failures	1000 birds	5	2	1000 birds		100	100

4.0. IMPACT

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

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

NB: Should be based on actual study, questionnaire/group discussion etc. with ex-participants.

4.2. Cases of large scale adoption

(Please furnish detailed information for each case)

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

5.0. LINKAGES ESTABLISHED

5.1 Functional linkage with different organizations established during 2022

Name of organization	Nature of linkage
State Agricultural Research Station (SARS) Yisemyong	Joint implementation in conducting training, demonstration, meeting, trials etc.
DAO, DHO, DVO, DSCO, DFO,LRD in the district, ATMA Mokokchung	Conducting training, demonstration programmes
ICAR, Jharnapani, Nagaland University	Consultation, meeting and exchange of technologies

NB The nature of linkage should be indicated in terms of joint diagnostic survey, joint implementation, participation in meeting, contribution received for infrastructural development, conducting training programmes and demonstration or any other

5.2 List special programmes undertaken by the KVK, which have been financed by State Govt./Other Agencies during 2022

Name of the scheme/ special programme	Activity	Date/ Month of initiation	Funding agency	Amount (Rs.)
Campaign on Nutri-Garden and tree plantation.	Seeds distribution, Training, Interaction	17/9/22	ATARI	
Swachhta Action Plan	Cleanliness drive, training, awareness	2/10/22 To 31/10/22	ATARI	-
World Soil Health Day	Training, Soil card distribution	5/12/22		
Potato Seed Village Program	Training Demonstration , Seed Production	Jan'22 to Dec '22	NABARD	500000

5.3 Details of linkage with ATMA

a) Is ATMA implemented in your district : Yes

Sl. No.	Programme	Nature of linkage	Remarks
1.	Training, trial & Demonstration, Exhibition, Joint field visit	Resource person and programme Planning, implementation and monitoring	Actively participating in programme implementation

5.4 Give details of programmes implemented under National Horticultural Mission

S. No.	Programme	Nature of linkage	Constraints if any

5.5 Nature of linkage with National Fisheries Development Board

S. No.	Programme	Nature of linkage	Remarks
1			

6. Status of NARI during 2022

Name of Nutri-SMART Village	T1	T2	T3	Area (ha)	No of Beneficiaries	Name of crop	T1			T2			T3		
							Name of variety	Yield (q/ha)	Consumption (kg)	Name of variety	Yield (q/ha)	Consumption (kg)	Name of variety	Yield (q/ha)	Consumption (kg)
Kupza	1.Bendangrenla 2.Tekachila	1.Temjenjungla 2.Moasenla	1.Medemsangla 2.Temjennaro	0.155	6	Broccoli	Green Magic	102	10.5	Green Magic	104	12.5	Green Magic	95.2	10

7. PERFORMANCE OF INFRASTRUCTURE IN KVK DURING 2022

7.1 Performance of demonstration units (other than instructional farm)

Sl. No.	Demo Unit (Name and No.)	Year of estd.	Area	Details of production			Amount (Rs.)		Remarks
				Variety/ species/ breed	Type of Produce	Qty.	Cost of inputs	Gross income	
1									

7.2 Performance of instructional farm (Crops) including seed production during 2022

Name of the crop	Date of sowing	Date of harvest	Area (ha)	Details of production			Amount (Rs.)		Remarks
				Variety	Type of Produce	Qty.	Cost of inputs	Gross income	
Broccoli	1/9/22	5/12/22	0.5	Green Magic	Vegetable	50kg	500	3000	
Tomato	15/5/22	4/7/22		Arka Samrat	Vegetable	50kg	250	2000	
Cowpea	14/4/22	16/7/22		F1 Hybrid	Vegetable	20kg	250	1000	
King chilli	15/5/22	17/8/22		Local	Vegetable	20kg	600	6000	

7.3 Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.) during 2022

Sl. No.	Name of the Product	Qty	Amount (Rs.)		Remarks
			Cost of inputs	Gross income	

7.4 Performance of instructional farm (livestock and fisheries production) during 2022

Sl. No	Name of the animal / bird / aquatics	Details of production			Amount (Rs.)		Remarks
		Breed/ species	Type of Produce	Qty.	Cost of inputs	Gross income	

7.5 Rainwater Harvesting

Training programmes conducted by using Rainwater Harvesting Unit/ structure during 2022

Date	Title of the training course	Client (PF/RV/EF)	No. of Courses	No. of Participants including SC/ST		
				Male	Female	Total
4 th May 2022	Awareness cum training on rain water harvesting and management under Jal Shakti Abhiyan	PF	1	19	37	56
28 th July 2022	Awareness training on water conservation for under Jal Shakti Abhiyan	PF	1	6	24	30

7.6. Utilization of hostel facilities (Month-Wise) during 2022

Accommodation available (No. of beds):

Months	Title of the training course/Purpose of stay	Duration of Training	No. of trainees stayed	Trainee days (days stayed)	Reason for short fall (if any)
Total					

8. FINANCIAL PERFORMANCE

8.1 Details of KVK Bank accounts

Bank account	Name of the bank	Location/ Branch	Account Number
With Host Institute	State Bank of India	Lerie, Kohima	01000050059
With KVK	State Bank of India	Mokokchung, Main Branch	11361013166
Revolving Fund	Nagaland State Cooperative Bank	Mokokchung	20003392

8.2 Utilization of funds under CFLD on Oilseeds and Pulses (Rs. In Lakhs) if applicable during 2022

Item	Released by ICAR/ATARI (in lakh)		Expenditure (in lakh)		Unspent balance as on 31 st March, 2021
	Amount	Amount	Amount	Amount	
TOTAL					

8.3 Utilization of KVK funds during the year 2022

S. No.	Particulars	Sanctioned (in Lakh)	Released (in Lakh)	Expenditure (in Lakh)
A. Recurring Contingencies				

1	Pay & Allowances	249.52784	249.52784	249.52784
2	Traveling allowances	3.00000	3.00000	3.00000
3	Contingencies	19.00000	19.00000	19.00000
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	6.65000	6.65000	6.65000
B	POL, repair of vehicles, tractor and equipments			
	Working Capital			
C	Meals/refreshment for trainees	12.35000	12.35000	12.35000
D	Training material (posters, charts, demonstration material including chemicals etc. required for conducting the training)			
E	Frontline demonstration except oilseeds and pulses			
F	On farm testing (on need based, location specific and newly generated information in the major production systems of the area)			
G	Training of extension functionaries			
H	Maintenance of buildings			
I	Establishment of Soil, Plant & Water Testing Laboratory			
J	Library			
K	KSHAMTA			
L	NARI			
M	HRD	0.80000	0.80000	0.80000
TOTAL (A)		272.32784	272.32784	272.32784
B. Non-Recurring Contingencies				
1	Works	1.00000	1.00000	1.00000
2	Equipments including SWTL & Furniture	6.30000	6.30000	6.30000
3	Farm Equipment	1.92000	1.92000	1.92000
4	Furniture	4.25000	4.25000	4.25000
5	Library (Purchase of assets like books & journals)	0.15000	0.15000	0.15000
TOTAL (B)		13.62000	13.62000	13.62000
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		28594784	28594784	28594784

8.4 Status of Revolving Fund (Rs. in lakhs) for last three years

Year	Opening balance as on 1st April	Income during the year	Expenditure during the year	Net balance with KVK (in lakh) As on 31st Dec 2022
2022 (seed money)	0.85840	0.68000	0.52000	1.01840

Note: No KVK must leave this table blank

8.5 Please include information which has not been reflected above.

8.6 Constraints and Suggestion (Provide point-wise if any, for recommendation)

- (a) Administrative
- (b) Financial
- (c) Technical



(Signature)
Sr. Scientist cum Head