

PROFORMA FOR ANNUAL REPORT OF KVKs 2021 (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	Khekali sema	ACTO	Horticulture		85800	11.07.08	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	Martha chakruno	ACTO	Entomology		85800	19.02.07	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 AssistantFarm manager	Horticulture		58600	19.02.07	ST
11	Superintendent / Accountant	Kiyelu Chophoy	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							

Note: No column in the table must be left blank

- 1.6. a. Total land with KVK (in ha) :23.9
- b. Total cultivable land with KVK (in ha):18
- c. Total cultivated land (in ha):6.5

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

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
	Rain Water harvesting system	ICAR	30.09.11	800mtr	17.0 lakhs	2011	-	Completed
	Threshing floor							
	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	82000	Good

C) Equipments& AV Aids

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	2008	37,000	Need replacement
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. Computer	2016	- -do -	Good
14. Printer with Scanner (2 nos)	2016	- Do -	Good
15. Printer Epson L110	2016	3500	Good
16. Xerox Ricoh	2016	Provided by Host	Unserviceable
17. Xerox Cannon Image Scanner	2017	Provided by Host	Good
18. Epson Printer L3110	2018	12,300	Good
19. Generator	2018	30,000	Good

1.8. A). Details SAC meeting* conducted in 2021

Date	Name and Designation of Participants	Salient Recommendations	Action taken on last SAC recommendation
18/02/21	Dr. Nuchetla Dy, DAO, Dr. Sanen VAS, Roko DSCO, Rongsenungla Dy PD,ATMA, Moangsangla SDO. Mejong, Progressive farmer, Meyatoshi Progressive farmer and the staffs of KVK Mokokchung	<ol style="list-style-type: none"> 1. Technologies fund suitable for the dist. Should be made known to allied depts.. for better spread amongst farmers. 2. Indigenous knowledge on farming should be considered while testing new technologies to analyze if these help in reduction insect pest infestation 3. KVK should take the lead to put suitable mechanism in place in order to reduce jhum cycle 4. More emphasis should be given on cropping system module and IFS to enhance income of farmers 5. Area under HYV should be increased. 6. To re-introduce and promote cultivation of high yielding varieties of millets and coarse cereals 7. Explore the possibility of promoting duckery. 	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

Source: Soil & Water Conservation Deptt.Mokokchung

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

Category	Population	Production	Productivity
Cattle			
Crossbred	726	520 MT	3.5 lit/day lactation period of 270 days
Indigenous	265	1	120kg in 12 months
Crossbred	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, Moko kchung	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, Colocasia, 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
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3. TECHNICAL ACHIEVEMENTS

3. A. Details of target and achievements of mandatory activities by KVK during 2021-22

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	12	12	6	6	30	33
Horticulture	2	4	6	12	4	12	28	41
Soil conservation	2	2	6	11	2	2	22	33
PP	2	2	12	12	2	2	26	26
A.Sc	2	2	6	6	1	1	25	30
Total	12	14	42	53	15	23	131	163

Note: Target set during last Annual Zonal Workshop

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
Agronomy								
Farmers	12	15	283	336	66	75	564	596
Rural youth	1	-	20	-				
Extn. Functionaries	1	1	20	20				
Horticulture								
Farmers	10	11	250	270	20	22	250	258
Rural youth	03	04	60	80				
Extn. Functionaries	02	-	40	-				
Soil conservation								
Farmers	7	10	140	158	40	69	270	813
Rural youth	-	1	-	11				
Extn. Functionaries								
PP								
Farmers	5	5	150	101	45	58	225	385
Rural youth	1	1	30	26				

Extn. Functionaries	1	1	20	17				
Total	43	49	1013	1019	171	224	1309	2052
Seed Production (ton.)				Planting material (Nos. in lakh)				
Target		Achievement		Target		Achievement		
11.5 qt		12 qt		50000		56000		

Note: Target set during last Annual Zonal Workshop

3.B. Abstract of interventions undertaken during 2021

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 if any	Extension activities	Supply of seeds, planting materials etc.
1	Crop production	foxtail millet	Poor yield and long duration	Performance trial on foxtail millet (SiA 3085)	-	-	-	Training, Demonstration and Field visit	Seeds
2	Crop production	cowpea	Low income due to mono cropping system	Performance trial on Cowpea (Var. Arka Mangala)	-	Mixed and double cropping	-	Method demonstration & Field visit	Seeds
3	Tillage management	Pea/zero tillage	Intensive tillage leads to high soil erosion	Performance of pea under zero tillage.	-	-	-	Method demonstration and field visit	seeds

4	Integrated crop management	Maize and beans	No proper cropping system	Performance of maize and beans intercropping system for rainfed condition.	-	-	-	Method demonstration and field visit	seeds
5	Crop production	Paddy	Long duration and poor yield	-	Demonstration on Paddy CAU R-1	Cultivation of mid duration paddy	-	Field visit, field day	Seeds
6	Crop production	Maize	Long duration, tall varieties and low yield	-	Demonstration on Maize All rounder	Cultivation of HYV Maize	-	Field visit, field day	Seeds
7	Pulse production	Soybean	Early sowing and use of age old varieties	-	Demonstration on Soybean VL - 65	Cultivation of Soybean	-	Field visit, field day	Seeds
8	Oilseed production	Toria	Less adaption of Toria cultivation, leave field fallow during rabi	-	Demonstration on Toria TS-67	Cultivation practices of Toria	-	Field visit, field day	Seeds
9	Pulse production	Field pea	Low yield in existing varieties	-	Popularization of pea(Aman)	Cultivation practices of pulse crop.	-	Field visit, field day	Seeds
10	Integrated water management	SRI	No proper spacing, Low production in normal cultivation practices	-	Modified system of rice intensification for higher productivity	Training on SRI system	-	Field visit, field day	Seeds
11	Vegetable production	Chilli	Low yield in local cultivars	Performance evaluation on Chillivar. ArkaKhyati	-	--	-	Advisory service, Field day, awareness programme	Seed, plant protection chemicals.
12	Vegetable production	Onion	Low yield and low seed replacement	Performance evaluation on onion var. ArkaKirthiman	-	-	--	Field day, awareness programme Advisory service	Seed, plant protection chemicals.
13	Vegetable production	Cauliflower	Low yield and poor quality in local cultivars	Performance evaluation on cauliflower var. Madhuri	-	-	-	Advisory service, Field day, awareness programme	Seed, plant protection chemicals.

14	Mulching	Chilli	Low production in normal cultivation practices	Performance of chilli under polymulching	-	-	-	Field day, awareness programme Advisory service	Seed, plant protection chemicals, mulching material
15	Vegetable production	Okra	Low yield in local cultivars	-	Popularization of okra var. ArkaAnamika	-	-	Advisory service, Field day, awareness programme	Seed, plant protection chemicals.
16	Vegetable production	Tomato	Low yield in local cultivars	-	Popularization of tomato var. ArkaSamrat	-	-	Field day, awareness programme Advisory service,	Seed, plant protection chemicals.
17	Vegetable production	Chilli	Low yield in existing varieties	-	Popularization of chilli var. ArkaMeghana	-	-	Advisory service, Field day,	Seed, plant protection chemicals.
18	Vegetable production	Okra	Low production in normal cultivation practices	-	Demonstration on okra under polymulching	-	-	Advisory service, Field day, awareness programme	Seed, plant protection chemicals, mulching material
19	Citrus rejuvenation	Orange	Citrus decline	-	FLD on rejuvenation of khasi mandarin orchard	-	-	Advisory service, Field day, awareness programme	Lime, CuSO ₄ , other necessary inputs
20	Vegetable production	Broccoli	Lack of awareness in high value crops	-	Demonstration on Broccoli var. Green Magic	-	-	Field day, awareness programme Advisory service,	Seed, plant protection chemicals.
21	Vegetable production	Cabbage	Lack of awareness in HYV	-	FLD on improved cabbage variety BC 76	-	-	Field day, awareness programme Advisory service	Seed, plant protection chemicals.
22	Resource conservation	Bio-terracing	Non use of the bio-terracing technology	Assessment of bio-terracing for slow conversion of hill slopes into terraced land	-	-	-	Monitoring, field visits	Citronella, napier slips, arhar & pea seeds

23	Soil management	Biochar	No management of acidic soil	Assessment of acid soil management through use of biochar in winter vegetables	-	-	-	Monitoring, field visits	Biochar & agri lime
24	Soil health management	Paddy	Non use of dhaincha in TRC	-	Green manuring with <i>Dhaincha</i> in Terraced Rice Cultivation	-	-	Monitoring, field visits	Dhaincha seeds
25	Soil nutrient management	Soyabean	Non use of organic inputs/ biofertilizers	-	Popularisation of use of biofertilizers in soyabean	-	-	Monitoring, field visits	Biofertilizers & seeds
26	Duckery	Duckery	Preference for duck meat but less local production and availability	Performance evaluation of White Pekin Duck	-	-	-	awareness programme Advisory service	Distribution of duckling, minerals and vitamins
27	Goatery	Goatery	Less body weight and growth of existing local goats	Performance evaluation of Beetle cross Assam Hill goat	-	-	-	awareness programme Advisory service	Distribution of kids minerals and vitamins
28	poultry	Poultry	-	-	Dual purpose backyard poultry	-	-	Monitoring, Advisory service	Distribution of chicks minerals and vitamins
29	Biological control	cucumber	Pre-mature dropping of fruits due to fruit fly	Management of Fruit fly in Cucumber	-	Management of insect pests in cucurbits	-	Method demonstration Diagnostic visit, Field visit	Supply of Pheromone trap and lure.

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	Rabbitery	Fisheries	TOTAL
Evaluation of Breeds				1				
Nutrition Management								
Disease of Management								
Value Addition								
Production and Management								
TOTAL								

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

Thematic areas	Cattle	Poultry	Sheep	Goat	Piggery	Rabbitery	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 (if applicable)
						Treatment	Farmer's practice			
1	Performance trial on Foxtail millet (var. SiA 3085)	Local cultivars were mostly long duration and low yield potential	SiA 3085	Rainfed.	3	<u>SiA 3085</u> Avg. Pt.ht-156.3 cm No of eff. tillers- 6.1 nos. Panicle length - 18.75cm Yield – 10.25qt/ha	<u>DHFT 109-3</u> Avg. Pt.ht-162 cm No of eff. tillers- 6 nos. Panicle length - 18.54cm Yield – 9.5qt/ha	Higher yield than existing varieties.	-	2.5:1
2	Performance trial on Cowpea (Var. Arka Mangala)	Poor yield, Long duration	Arka Mangala	Rainfed	3	<u>Arka Mangala</u> Ave. Pod length - 44 cm No. of picking- 6nos. Yield- 38q/ha(green pods)	-	Higher yield, long pods and short duration compared to existing varieties	-	3.16:1
3	Performance of pea under zero tillage	Intensive tillage leads to high soil erosion	Aman	Field pea	3	O.C at 0-15cm depth - 0.86% Yield/ha -15.5	Yield/ha-12.5	Higher yield and labour cost reduced .	Need further assesment	2.22:2
4	Performance of maize and beans intercropping system for	No proper cropping system	Integrated crop management	Maize and beans	3	Yield.i)-maize-20.83q/ha ii)beans-5q/ha	Yield-18q/ha	Poor or low harvest due to less	-	2.18:2

	rainfed condition.							rainfall		
5	Performance evaluation on Chilli var. Arka Khyati	Use of Low yielding varieties	Arka Khyati	Chilli	3	Var.Arka Khyati Pl.Ht (cm) : 87.8 FP (no) : 79.3 FW (gm) : 4.42 FL (cm) : 12.05 Yield (Q/ha): 125.2	Local Pl.Ht (cm) : 75.05 FP (no) : 56.3 FW (gm) : 2.41 FL (cm) : 6.59 Yield (Q/ha): 111.67	Yield and shelf life of the new variety is very good	-	3.3
6	Performance evaluation onion var. Arka Kirthiman	Low yield and low seed replacement	Arka Kirthiman	Onion	3	Arka Kirthiman Plant height (cm): 58.15 BD (cm) : 5.6 BW (gm) : 71.6 Yield (qt/ha) : 272.3	Local Plant height (cm): 49.8 BD (cm) : 4.7 BW (gm) : 60.6 Yield (qt/ha) : 203.7	Yield is high as compared to local varieties	-	2.9
7	Performance evaluation on cauliflower var. Madhuri	Low yield and poor quality in local cultivars	Madhuri	Cauliflower	3	Madhuri CW (gm) : 416 CD (cm) : 14 CL (cm) : 7.0 CC (cm) : 40 Yield (qt/ha) : 133.13	Local CW (gm) : 312.4 CD (cm) : 12.3 CL (cm) : 5.7 CC (gm) : 32.8 Yield (qt/ha): 105.9	Gives high yield and Very profitable	-	3.1
8	Performance of chilli under polymulching	Low production in normal cultivation practices	Polymulching	Chilli	3	Polymulching Plant height(cm): 98.9 FP (no) : 83.4 FW (gm) : 4.85 FL (cm) : 8.33 Yield (qtha) : 128.7	Farmer's practice Plant height (cm): 96.8 FP (no) : 57.7 FW (gm) : 2.3 FL (cm) : 5.1 Yield (qt/ha): 109.2	Gives high yield and better quality	-	3.2
9	Assessment of bio-terracing for slow conversion of hill slopes into	No use of the bio-terracing technology	Planting arhar hedgerows and citronella grass across the slopes	Pea	3	<u>Spacing of staggered row</u> Treatment: 3 m	NA	The arhar variety UPAS-120 did not perform	For hedgerow crop specific variety for different	NA

	terraced land		and cultivating the spaces between the hedgerows			(initial slope- 24%) (final slope- 10%) <u>Plant to plant & Row to row distance</u> Treatment: 15cm & 15 cm	30 cm & 60 cm	well, as such identifying suitable variety will help a lot in the success of this technology.	locations needs to be identified.	
10	Assessment of acid soil management through use of biochar in winter vegetables	No management of acidic soil	application of biochar @ 5-10 t/ha	Broccoli var.green magic	3	<u>Avg. Yield</u> Biochar-150 qt/ha Lime- 100 qt/ha <u>Soil properties</u> Initial B.D : Biochar- 1.13 Lime- 1.12 Final B.D: Biochar- 1.18 Lime- 1.37 Initial Moisture content (%) Biochar- 26.92 Lime-29.18 Final Moisture content (%) Biochar- 32.05 Lime- 34.44	Control- 86.5 qt/ha Control- 0.812 Control- 1.02 Control- 24.5 Control- 98.18	Good technology which can be easily adopted by farmers, need popularization of the said technology	-	Treatment: B- 4.32:1 L- 3:1 Farmer's practice: C- 2.76:1

11	Performance evaluation of White Pekin Duck	Preference for duck meat but less local production and availability	White Pekin	Duckery	3	Body weight (Kg) Day old= 0.057 ± 0.05 4 th week= 0.35 ± 0.05 8 th week= 0.73 ± 0.56 12 th week= 1.12 ± 0.38 16 th week= $1.47\pm2.5\pm0.4$ 6 20 th week= 1.77 ± 0.12 24 th week= 2.02 ± 0.15	Diarrhea was reported in 15 ducks which was resolved after giving medication	Ducklings mortality 1 st week= 20 2 nd week = 8 Total = 28 (no morality after 2 nd week) Total ducklings = 200 Mortality (%) 14 %	Growth performance of the duck is very good, however mortality during first two weeks is high	Sudden death of the ducklings without exhibiting any signs and symptoms during the early stage is a big problem as encountered during the present study
12	Performance evaluation of Beetle cross Assam Hill goat	Less body weight and growth of existing local goats	Beetle cross Assam Hill goat	Goatery	3	Body weight 20.1 ± 1.4 kg in a year	Diarrhea was reported in 1 goat twice which was resolved after medication	16%	Growth performance is better than local breed	
13	Management of Fruit fly in Cucumber	Pre-mature dropping of fruits due to fruit fly	Pheromone traps @ 25 trap/ha + Gur based poison bait trap: (50 ml malathion + 200 g gur + 2 litre	Cucumber	3	No. of Pre-matured fruit drop/Plot : <u>Treated Plot (T₁)</u> : i.60 DAP – 5 ii.65 DAP – 6 iii.70 DAP – 9		Marketable fruit yield is enhanced.		NA

			water).			<u>Local Check (T₀) :</u> i.60 DAP – 8 ii.65 DAP – 12 iii.70 DAP – 16				
14	Organic management of Late blight in Tomato	Late blight	Spraying of Copper Oxychloride (COC) @ 0.25% (25 g /10 litres of water)	Tomato	3	Incidence Percentage : <u>Treated Plot (T₁) :</u> i.30 DAP – 2.5% ii.40 DAP – 4% iii. 50 DAP –12% <u>Arka Samrat (Disease Resistant) (T₂) :</u> i.30 DAP – 3.5% ii.40 DAP – 5% iii. 50 DAP –16% <u>Local Check (T₀) :</u> i.30 DAP – 8% ii.40 DAP – 20% iii.50 DAP – 25%		Disease incidence were significantly reduced		NA

*Field crops – ton/ha, *for horticultural crops -= kg/t/ha, * milk and meat – litres or kg/animal, *for mushroom and vermicompost kg/unit area.

** Give details of the technology assessed or refined and farmer's practice

3.2 Achievements of Frontline Demonstrations during 2021

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	CAU R1	2	12	6
2	Soybean	RVS 2001-4	2	8	4
3	Toria	TS -38	2	10	5
4	Chilli	Popularization of disease resistant chilli variety Arka Meghana	4	19	3.0
5	Tomato	Popularization of triple disease resistant tomato variety Arka Samrat	5	21	3.5

* *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, etc)	Status of soil (Kg/ha)		
					Proposed	Actual	SC/ST	Others	Total			N	P	K
1	Paddy	Increase in production and productivity	CAUR-1	Kharif, 2021	5	5	6	-	6	-	Rainfed, Silt loam, 350-850msl	-	9.7 kg/ha	124 kg/ha
2	Soyabean	Seed production	VL-65	Kharif 2021	1	1	3	-	3	-	Rainfed, silt loam, 750-1100msl	-	9.2 kg/ha	131 kg/ha
3	Maize	Seed production	All rounder	Kharif 2021	2	2	4	-	4	-	Rainfed, silt loam, 800-1200msl	-	9.5kg/ha	138 kg/ha

4	Toria	Seed production	TS-67	Rabi 2021	2	2	8	-	8	-	Rainfed , silt loam, 425-900msl		9.0kg/ha	141 kg/ha
5	Field pea	Seed production	Aman	Rabi,2021	2	2	8	-	8	-	Rainfed			
6	TRC Paddy	Integrated water management	SRI	Kharif 2021	2	2	5	-	5	-	Rainfed			
7	Okra	Vegetable production	ArkaAnamika	Kharif 2021	3	3	3		6		Rainfed			
8	Tomato	Vegetable production	ArkaSamrat	Kharif 2021	3	3	6		6	-	Rainfed			
9	Chilli	Vegetable production	ArkaMeghana	Kharif 2021	3	3	6		8	-	Rainfed			
10	Okra	Mulching	Polymulching	Kharif 2021	1.0	1.0	4		4	-	Rainfed			
11	Orange	Citrus decline	Rejuvenation	Kharif 2020	1.5	1.5	3		4	-	Rainfed			
12	Broccoli	Vegetable production	Green Magic	Rabi 2021	3	3	6		8	-	Rainfed			
13	Cabbage	Vegetable production	BC 76	Rabi 2020	2.0	2.0	4		5	-	Rainfed			

14	Paddy	Soil health management	Broadcasting of <i>Dhaincha</i> spp @50-60 kg/ha in TRC & incorporating by slashing and ploughing it into the soil before transplanting paddy	Kharif 2021	2	2	12	-	1 2	NA	Rainfed	299.3	2.86 2	97.1 6
15	Soyabean	Soil Microbes (beneficial)	Seed treatment with 200gms each of <i>Rhizobium japonicum</i> and phosphotika per 10kgs of seeds, dry in shade for half an hour before sowing	Kharif 2021	1	1	21	-	2 1	NA	Rainfed	203.2	-	-

16	Pea	Integrated Disease Management	Integrated Disease Management of powdery mildew in Pea i. Early sowing in the month of August, Field sanitation and destruction of diseased plants. ii. Spraying of wettable sulphur @ 0.2% at 14 days interval as soon as disease incidence is noticed	Rabi 2021	1.5	1.5	8	-	8	-	- Rainfed -Clay Sandy Loam	-	-	-

c. Performance of FLD on Crops during 2021

Sl · N o.	Crop	Thematic area	Area (ha.)	Avg. yield (Q/ha.)		% increase 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.	Check		H*	L*			GC**	GR**	NR**	BCR* *	GC	GR	NR	BCR
1	Paddy	Increase in producti	5	34	30	13.33	35.2	32.5	Pl. ht- 124.5cm Eff.tiller-	Pl. ht- 154cm	22000	39230	17230	1.78:1	22000	34500	12500	1.56:1

		on and producti vity							14 Panicle length- 26cm	Eff.tiller -12 Panicle length- 24cm								
2	Soyab ean	Increase in producti on and producti vity	2	8.8	7.8	12.8	9	8.2	Avg.pl.ht - 62 cm No. of bran- 8nos No. of pods 38 Yd - 8.8 q/ha	Avg.pl. ht - 90 cm No. of bran- 6nos No. of pods 42 Yd - 7.8 q/ha	18000	44000	26000	2.41	18000	39000	21000	2.16:1
3	Maize	Crop production and manageme nt	2	34	28	21.4	37	32	No. of cobs/plan t= 2.5 No. of grains /cob= 452 Yield (qt/ha)=3 4	No. of cobs/pla nt= 2.5 No. of grains /cob= 422 Yield (qt/ha)= 28	28000	65000	37000	2.3:1	28000	53750	25750	1.92:1
4	Toria	Seed production	2	7.4	6.5	13.85	7.7	6.8	Pl.height - 78cm Branches /pl-7.5	Pl.heigh t- 65cm Branche s/pl-6	12000	33300	21300	2.78:1	12000	29250	17250	2.44:1

									Silqua/pl-86	Silqua/pl-76								
5	Field pea	Seed production	2	14.75	11.12	22.92	15.5	14	-	-	25700	57700	32000	2.25	25000	50500	25500	2.02
6	TRC Paddy	Integrated water managemnt(SRI)	2	27.25	23	18.48	29	25.5	-	-	30000	66000	36000	2.2	23000	46300	23300	2.01
7	Okra	Vegetable production	2.5	156	133.7	14.3	158.6	153.4	-	-	72550	20940 0	136850	2.8	66545	11530 0	48755	1.7
8	Tomato	Vegetable production	3	386	191.3	58.8	593.4	578.6	-	-	82013	31745 0	235437	3.9	69948	16767 5	97727	2.3
9	Chilli	Vegetable production	3	203	112.4	44.6	207.3	198.7	-	-	74550	23639 0	161840	3.2	64663	15130 0	86637	2.3
10	Okra	Vegetable production	1.0	169.4	137.1	19.1	171.3	167.5	-	-	74850	22415 0	149300	3.0	68745	12187 5	53130	1.8
11	Orange	Citrus Rejuvenation	1.5	184.4	128.7	30.2	188.9	179.8	-	-	67085	18340 0	116315	2.7	53250	98980	45730	1.9
12	Broccoli	Vegetable production	3	124.97	108.8	12.9	127.4	122.54	-	-	74650	31022 1	235571	4.1	69750	15218 0	82430	2.2
13	Cabbage	Vegetable production	2.0	253	209.8	17.1	257.6	248.2	-	-	72850	20240 0	129550	2.8	72975	14420 5	71230	1.9
14	Paddy	Soil health management	2	31.5	25.5	19.05	32.0	26.5	-	-	39,500	94,500	50,500	2.39:1	35,00 0	76,50 0	41,50 0	2.18:1

15	Soyabean	Soil microbes (beneficial)	1	9.69	8.0	17.44	12.0	7.0	-	-	71,800	1,16,280	44,480	1.6:1	69,800	96,000	27,000	1.3:1
16	Pea	IDM	1.5.	10.1	8.8	14.77%	11.5	9.7	%tage. of affected Plants: 30 DAS - 2 -3% 45 DAT -5% 60 DAT -15%	%tage. of affected Plants 30 DAS - 5% 45 DAT - 20% 60 DAS - 35%	19,290	33,980	14,690	1.76:1	18,080	31,480	13,400	1.74:1

*H-Highest recorded yield, L- Lowest recorded yield** GC- Gross Cost, GR- Gross Return, NR- Net Return, BCR- Benefit-Cost RatioProduce Sale Price must be as per MSP or Registered Marketing SocietyPl. apply the formula: Net Return= Gross Return-Gross Cost, BCR= GR/GCNote: 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	1	10/12/21		14	14	
2	Farmers Training	10	23/2/21, 26/3/21, 11/5/21, 26/6/21, 15/7/21, 24/8/21, 8/9/21, 15/9/21, 25/10/21, 13/12/21		284	284	
3	Media coverage						
4	Training for extension functionaries						
5	Any other (Pl. specify)						
	Total						

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. No.	Enterprise/Category (e.g., Dairy, Poultry etc.)	Thematic area	Name of Technology	No. of farmers	No. of units	No. of animals, poultry birds etc.	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	
1	Poultry	Dual purpose backyard poultry	Rainbow Rooster	30	30	600	1.5±0.11 kg in 12 weeks	0.68±0.75 Kg in 12 weeks	45.33 % increased in demo as compared with check			9500	13500	4000	1.42	5300	6300	1000	1.19	The demo was found to be more profitable

(iii) Fisheries

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	N R	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	
1	Apiculture	Beneficial Insects	Scientific Beekeeping	18	4	<u>Honey Production (Kg./Box/Year) :</u> Average Yield/Harvest : 2.5 L /harvest No. of harvest / year : 5 Total harvest/Box/Year : 2.5 X 5 = 12.5 L	<u>Honey Production (Kg./Box/Year) :</u> Average Yield/Harvest : 3 -4 L /harvest No. of harvest / year : 1 Total harvest/Box/Year : 3.5 X 1 = 3.5 L	157 %	-	-	22,000	87,500	65,500	3.97:1	9,000	24,500	15,500	2.72:1	

** 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.

(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 2021

**** (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 (From – to)	Duration in days	Venue	Please specify Beneficiary group (Farmer & Farm women/ RY/ EP and NGO Personnel)	General participants			SC/ST			Grand Total		
							M	F	T	M	F	T	M	F	T
Agronomy	Integrated farming	IFS - Agri + Horti + Vety	23/2/21	1	KVK	Farmers	-	-	-	9	11	20	9	11	20
Animal Science	Pig Nutrition	Feeding and nutrition for pigs	3 rd -to 4 th Aug. 2021	2	KVK Mokokchung	Farmer & Farm women				10	10	20	10	10	20
Animal Science	Poultry	Poultry Management	12 th to 19 th May 2021	7	KVK Mokokchung	Rural Youth					15	15		15	15
Animal Science	Animal Health care	Advances in Livestock Diseases	8 th Dec. 2021	1	KVK Mokokchung	EP				10	10	20	10	10	20

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 (From – to)	Duration in days	Venue	Please specify Beneficiary group (Farmer & Farm women/ RY/ EP and NGO Personnel)	General participants			SC/ST			Grand Total		
							M	F	T	M	F	T	M	F	T
Agronomy	Cropping system	Improved maize cultivation	26/3/21	1	Yimchalu	Farmer & Farm women	-	-	-	5	9	14	5	9	14
Agronomy	Weed management	Soybean intercropping	11/5/21	1	Longsa	Farmer & Farm women	-	-	-	7	9	16	7	9	16
Agronomy	Cropping system	Cropping system	26/6/21	1	Mopungchuket	Farmer & Farm women	-	-	-	7	8	15	7	8	15
Agronomy	Cropping system	Improved paddy cultivation	5/7/21	1	Longkhum	Farmer & Farm women	-	-	-	6	9	15	6	9	15
Agronomy	Resource conservation	Composting	24/8/21	1	Asangma	Farmer & Farm women	-	-	-	12	14	26	12	14	24
Agronomy	Crop diversification	Winter field crops cultivation	8/9/21	1	Chuchuyimlang	Farmer & Farm women	-	-	-	7	9	16	7	9	16
Agronomy	Crop diversification	Winter field crops cultivation	15/9/21	1	Merangkong	Farmer & Farm women	-	-	-	7	9	16	7	9	16
Agronomy	Cropping system	Oilseed production	25/10/21	1	Longkhum	Farmer & Farm women	-	-	-	9	13	22	9	13	22
Agronomy	Resource conservation	Post harvest management	13/12/21	1	Longmisa	Farmer & Farm women	-	-	-	9	12	21	9	12	21
Agronomy	Integrated water	SRI for higher	3/5/21	1	Luyong	Farmer & Farm women	-	-	-	10	15	25	10	15	25

	management	productivity													
Agronomy	Integrated water management	SRI for higher productivit	19/7/21	1	Longjang	Farmer & Farm women	-	-	-	9	11	20	9	11	20
Agronomy	Soil health management	Soil fertility management	10/8/21	1	Changtongya	Farmer & Farm women	-	-	-	10	5	15	10	5	15
Agronomy	Seed production	Pulse production	14/10/21	1	Changtongya	Farmer & Farm women	-	-	-	6	10	16	6	10	16
Agronomy	Seed production	Oilseed production	25/10/21	1	Longjang	Farmer & Farm women	-	-	-	5	10	15	5	10	15
Agronomy	Integrated farming system	Advances of integrated farming system	8/12/21	1	Mokokchung town	E P				10	10	20	10	10	20
Horticulture	Vegetable production	Improved cultivation practices of tomato	03.02.21	1	Longkhum	Farmer & Farm women				10	17	27	10	17	27
Horticulture	Orchard layout and planting	Layout and planting of citrus	08.03.21	1	Molungkong	Farmer & Farm women				13	08	21	13	08	21
Horticulture	Vegetable production	Improved cultivation practices of chilli	15.03.21	1	Mangmetong	Farmer & Farm women				10	16	26	10	16	26
Horticulture	Post harvest management	Value addition of fruits and vegetables	04-10 .05.21	7	Alempang	Rural Youth				8	7	15	8	7	15

Horticulture	Mulching	Mulching in chilli and tomato	12.05.21	1	Longkhum	Farmer & Farm women				10	13	23	10	13	23
Horticulture	Orchard management	Management of orange orchard	14.06.21	1	Kupza	Farmer & Farm women				09	14	23	09	14	23
Horticulture	Biofertilizer and green manure	Use of biofertilizers and green manuring in vegetable crop production	11.08.21	1	Changtongya	Farmer & Farm women				13	10	23	13	10	23
Horticulture	Nursery management	Nursery raising, management and cultivation of winter vegetable crops	24.08.21	1	Asangma	Farmer & Farm women				10	14	24	10	14	24
Horticulture	Vegetable production	Scientific cultivation of cauliflower	24.08.21	1	Kinunger	Farmer & Farm women				10	13	23	10	13	23
Horticulture	Nursery management	Nursery raising, management and cultivation of winter vegetable crops	08.09.21	1	Chuchuyimlang	Rural Youth				09	13	22	09	13	22
Horticulture	Nursery management	Nursery raising, management and cultivation of winter vegetable crops	13.09.21	1	Longsa	Farmer & Farm women				11	15	26	11	15	26

Horticulture	Nursery management	Nursery raising, management and cultivation of winter vegetable crops	15.09.21	1	Longsa	Rural Youth				10	13	23	10	13	23
Horticulture	Biofertilizer and green manure	Use of biofertilizers and green manuring in vegetable crop production	21.09.21	1	Mokokchung	Farmer & Farm women				12	15	27	12	15	27
Horticulture	Vegetable production	Improved production technology of potato	05.10.21	1	Longjang	Farmer & Farm women				11	16	27	11	16	27
Horticulture	Post harvest management	Processing of tomato and chilli	12.11.21	1	Changtongya	Rural Youth				09	11	20	09	11	20
Soil conservation	Resource Conservation	Awareness on soil conservation	20 th april	1	Mulongkong	Farmer & Farm women				8	-	8	8	-	8
Soil conservation	Soil fertility management	Soil fertility management in terraced rice cultivation	27 th april	1	Satsu	Farmer & Farm women				10	3	13	10	3	13
Soil conservation	Resource conservation	Awareness cum training on rain water harvesting and management	7 th May	1	Mokokchung	Rural youth				8	3	11	8	3	11

Soil conservation	Soil microbes	Use of biofertilizers, importance of crop rotations and soil conservation practices	19 th July	1	Chuchuyimpang	Farmer & Farm women				-	7	7	-	7	7
Soil conservation	Resource conservation	Construction of low cost rain water harvesting structure (Jalkhund) for supplemental irrigation	29 th July	1	Mokokchung	Farmer & Farm women				9	4	13	9	4	13
Soil conservation	Resource conservation	Importance of water management	21 st Sept	1	Longmisa	Farmer & Farm women				-	41	41	-	41	41
Soil conservation	Resource conservation	Importance of water conservation and management	7 th Oct	1	Chuchuyimpang	Farmer & Farm women				-	31	31	-	31	31
Soil conservation	Production & use of organic inputs	Use and importance of organic inputs for improved productivity of winter crops	13 th Oct	1	Chuchuyimpang	Farmer & Farm women					10	10	-	10	10

Soil conservation	Resource conservation	Awareness on soil and water conservation	10 th Dec	1	Mangkolong	Farmer & Farm women				6	4	10	6	4	10
Soil conservation	Soil fertility management	Soil health and fertility management	11 th Dec	1	Mulongkong	Farmer & Farm women				6	4	10	6	4	10
Soil conservation	Soil fertility management	Soil health and fertility management	17 th Dec	1	Kupza	Farmer & Farm women				4	11	15	4	11	15
Animal Science	Health care	Biosecurity measures for livestock health	3 rd -4 th June 2021	2	Ungma	Farmer & Farm women				10	10	20	10	10	20
Animal Science	Cold stress management for livestock	Cold stress management for livestock	24 th Nov. 2021	1	Longkum	Farmer & Farm women				10	10	20	10	10	20
Animal Science	Poultry	Technology options for improvement of backyard poultry	9 th Jan. 2021	1	Longmisa	Farmer & Farm women				5	15	20	5	15	20
Animal Science	Livestock enterprises – Options for livelihood sustenance	Livestock enterprises – Options for livelihood sustenance	22 nd to 23 rd Sep. 2021	2	Longkong	RY				10	10	20	10	10	20
Animal Science	Precision Livestock farming	Precision Livestock farming	2 nd July 2021	1	CVO office Mokokchung	EP				8	7	15	8	7	15

Plant Protection	Integrated Disease Management	Integrated Disease Management in Tomato	26.04.21	1	Longkhum	Farmer & Farm women/	-	-	-	19	8	27	19	8	27
Plant Protection	Integrated Pest Management	Management of Insect Pest in Cucurbits with Special references to off season Cucumber	27.04.21	1	Aliba	Farmer & Farm women/	-	-	-	17	12	29	17	12	29
Plant Protection	Integrated Pest Management	Integrated Pest Management of FAW in Maize	26.06.21	1	Yisemyong	Farmer & Farm women/	-	-	-	6	8	14	6	8	14
Plant Protection	Integrated Pest Management	Integrated Pest Management in Rice	19.07.21	1	Longkong	Extension Personnel	-	-	-	9	8	17	9	8	17
Plant Protection	Beekeeping	Seasonal Management of Honey Bee	15.09.21	1	Aliba	Rural Youth	-	-	-	9	5	14	9	5	14
Plant Protection	Integrated Disease Management	IDM in Pulses with special references to Pea	23.10.21	1	Yimchalu	Farmer & Farm women	-	-	-	19	7	26	19	7	26

(D) Vocational training programmes for Rural Youth

Crop / Enterprise	Date (From – To)	Durati on (days	Area of training	Training title*	No. of Participants									Impact of training in terms of Self employment after training				Whether Sponsored by external funding agencies (Please Specify with amount of fund in Rs.)
					General			SC/ST			Total							
					M	F	T	M	F	T	M	F	T	Type of enterp rise ventur ed into	Numb er of units	Number of persons employe d	Avg. Annual income in Rs. generated through the enterprise	

*training title should specify the major technology /skill transferred

3.4.Extension Activities (including activities of FLD programmes) (Please mention specific Extension Activity conducted by the KVK such as Field Day, Kisan Mela, Exhibition, Diagnostic Visit, etc) during 2021

Sl. No.	Extension Activity	Topic	Date and duration	No. of activities	Participants											
					General (1)			SC/ST (2)			Extension Officials (3)			Grand Total (1+2)		
					M	F	T	M	F	T	M	F	T	M	F	T
1.	Advisory services		Jan-Dec '21	37	-	-	-	110	118	228	3	6	9	110	118	228
2.	Diagnostic visit		Jan-Dec '21	45	-	-	-	151	143	294	-	-	-	151	143	294
3.	Field day		Jan-Dec '21	4	-	-	-	25	28	53	-	-	-	25	28	53
4.	Group Discussion		Jan-Dec '21	3	-	-	-	28	23	51	-	-	-	28	23	51
5.	Method demonstration		Jan-Dec '21	25	-	-	-	107	117	224	-	-	-	107	117	224
6.	Film show	1.Thematic video on Health Soil Salinization, Boost Soil Productivity 2.Importance of soil pH	5 th Dec	2	-	-	-	64	10	74	-	-	-	64	10	74
7.	Scientists visit to farmers fields		23 rd Oct & 2 nd Nov	34	-	-	-	78	88	166	-	-	-	78	88	166
8.	Field visits	Coverage under mandated activities		51	-	-	-	100	133	233	-	-	-	100	133	233
9.	Awareness campaign	1.Jal Shakti Abhiyan	7 th & 22 nd May, 11 th , 18 th & 26 th	12	-	-	-			382	-	-	-			382

3.5 Production and supply of Technological products during 2021

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	
CEREALS	Paddy	CAU R-1	5	5770	-	8		8	8
	Maize	All rounder	2	3850		4		4	4
OILSEEDS	Toria	TS 67	2	9000	25		25		25
	Soybean	VL -65	1	6000	4		4		4

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
1	CEREALS	7	2	9620			12		12
2	OILSEEDS	2	0.1	9000			4		4
3	PULSES	2	0.35	6000			4		4
4	VEGETABLES	0.56		121000			610		610
TOTAL									

B. Production and supply of Planting Materials(Nos. in No.) during 2021

D. Production of livestock during 2021

Sl. No.	Type/ category of livestock	Breed	Quantity		Value (Rs.)	Number of Recipient beneficiaries				
			(Nos)	Kgs		General		SC/ST		Total
						M	F	M	F	

3.6. Literature Developed/Published (with full title, author & reference) during 2021

(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	Ali tendangba yimya (soil testing programme)	Imtilemla		100
TOTAL				

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.			

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

Triple disease resistant tomato F1 hybrid ArkaSamrat brings back smile on farmers face

Mr. Imtitoba is a farmer from Longkhum village under Mokokchung district, Nagaland. He cultivates mostly horticultural crops like tomato, chilli, cole crops, carrot, radish etc. He never used to miss tomato crop in his crop plan in entire farming experience. However, due to incidences of several diseases he incurred heavy losses in tomato crop for several years due to non-availability of diseases resistant varieties. Therefore, KVK Mokokchung initiated on farm testing on ArkaSamrat, which is a triple disease resistant variety (BW, ToLCV, EB), developed by IIHR, Bangalore. It was found that the variety was very adaptable in that village and hence he was encouraged to grow the variety.



Mr. Imtitoba initially took up the cultivation of ArkaSamrat cautiously by planting only 1500 plants along with normally cultivated variety during the summer of 2020. He was impressed with the performance of the new variety ArkaSamrat in terms of growth, yield and very less disease incidence especially blight disease as compared to his normally cultivated variety. On an average he harvested about 5-6 kg per plant of tomato fruits. The tomato fruits fetched higher price over other variety because the fruits of ArkaSamrat had attractive deep red colour and the fruits were very firm with very good keeping quality which is suitable for distant market. He harvested around 4000 kgs of marketable fruits earning a net income of Rs. 350000/-. Impressed and convinced, Mr. Imtitoba again raised about 2000 seedlings during August 2020 as second crop. The yield of second crop was little less due to shortage of irrigation as it was

grown during dry season. He however harvested about 2800 kgs and earned a net profit of about Rs 250000. A field day was organized inviting farmers from the village to give awareness about the new variety.

With the success of the variety ArkaSamrat he further increased his area under ArkaSamrat during the summer of 2021 and planted about 4000 seedlings and harvested 5500 kgs and earned a net profit of Rs. 487000/-. Seeing the performance of ArkaSamrat in terms of yield and disease resistance other fellow farmers have also started taking up the variety. Mr. Imtitoa is now cultivating the tomato hybrid ArkaSamrat continuously and in this way he has become a model tomato farmer in adopting and popularizing the triple disease resistant tomato F₁ hybrid ArkaSamrat.

It is worth mentioning that seed replacement of old varieties which are low yielding and susceptible to disease by improved varieties which are disease resistant and high yielding is possible if more awareness and encouragement on these varieties is made.



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 : Group discussion and PRA analysis
- Rural Youth : Interaction, skill oriented need based training methodology and demonstration.

- Extension personnel

: Lectures, Demonstration and brain storming sessions.

3.11 Field activities

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

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					

3. Details of samples analyzed (2021) :

Details	No. of Samples analysed	No. of Farmers	No. of Villages	Amount(In Rupees) realized
Soil Samples	60	170	5	
Water Samples				
Plant Samples				
Petiole Samples				
Total				

1. Details of Soil Health Cards (SHCs) (2021)

- No. of SHCs prepared:170
- No. of farmers to whom SHCs were distributed: 170
- Name of the Major and Minor nutrients analysed: **pH, OC, Avl.N, Pand K, S, Fe, Zn, B**
- No. of villages covered:5

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

Message type	Crop		Livestock		Weather		Marketing		Awareness		Other Ent.		Total	
	No. of Message	No. of Beneficiary	No. of Message	No. of Beneficiary	No. of Message	No. of Beneficiary	No. of Message	No. of Beneficiary	No. of Message	No. of Beneficiary	No. of Message	No. of Beneficiary	No. of Message	No. of Beneficiary
Text only	72	1452	5	375	45	120560			8	1560	5	225	135	124172
Voice only														
Voice and Text both														
Total	72	1452	5	375	45	120560			8	1560	5	225	135	124172

3.14 Contingency planning for 2021

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	30		50	50

	crop-1)maize-HQPM-1,All rounder,RCM-76 2)Upland rice-Bhalum-3 and SARS-1,TRC Paddy-shahsasang-1,and SRI System				
	Introduction of Resource Conservation Technologies	2		25	25
	Distribution of seeds and planting materials	0.5		5	5
	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		30	30

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
drought	poultry	7	2	3000		300	300
Cold wave	poultry	2	1	1000		50	50

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 2021

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	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 2021

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	17/9/21	ATARI	
Special swachhta campaign	Cleanliness drive, training, awareness	2/10/21 To 31/10/21	ATARI	-
World Soil Health Day	Training, Soil card distribution	5/12/21		

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

6. PERFORMANCE OF INFRASTRUCTURE IN KVK DURING 2021

6.1 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									
2									

6.2 Performance of instructional farm (Crops) including seed production during 2021

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	16/9/20	6/1/21	.0005	Doctorgreen	flower	50kg	1000	2500	
Mustard	2/11/20	5/1/21	.0003	Local	Leaf		600	1000	
Tree bean	11/1/21	9/12/21	-	-	beanpods	-	-	7250	
Tomato	3/5/21	23/7/21	.0005	Arka samrat	fruit	30kg	250	1500	
okra	17/4/21	12/7/21	.0135	Arka anamika	pods	10kg	350	400	
cowpea	19/4/21	7/7/21	.008	Longyard	pod	15kg	250	450	

chilli	17/5/21	23/7/21	.004	Meghana	fruit	10kg	280	500	
beans	22/9/21	11/11/21	.0002	Selection -9	pod	25kg	500	625	
Bittergourd	19/4/21	11/8/21	.0002	palee	fruit	10kg	250	500	

6.3 Performance of production Units (bio-agents / bio pesticides/ bio fertilizers etc.) during 2021

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

6.4 Performance of instructional farm (livestock and fisheries production) during 2021

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	

6.5 Rainwater Harvesting

Training programmes conducted by using Rainwater Harvesting Unit/ structureduring 2021

Date	Title of the training course	Client (PF/RY/EF)	No. of Courses	No. of Participants including SC/ST		
				Male	Female	Total
7 th May 2021	Awareness cum training on rain water harvesting and management	RY	1	8	3	11

29 th July	Construction of low cost rain water harvesting structure for supplemental irrigation	PF	1	9	4	13

6.6. Utilization of hostel facilities (Month-Wise) during 2021

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					

Note: (Duration of the training course X No. of trainees)=Trainee days

7. FINANCIAL PERFORMANCE

7.1 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

7.2 Utilization of funds under CFLD on Oilseeds and Pulses (Rs. In Lakhs) if applicable during 2021

Item	Released by ICAR/ATARI (in lakh)		Expenditure (in lakh)		Unspent balance as on 31 st March, 2018
	Amount	Amount	Amount	Amount	
TOTAL					

7.3 Utilization of KVK funds during the year 2021

S. No.	Particulars	Sanctioned (in Lakh)	Released (in Lakh)	Expenditure (in Lakh)
A. Recurring Contingencies				
1	Pay & Allowances	251.29456	251.29456	251.29456
2	Traveling allowances	2.25000	2.25000	2.25000
3	Contingencies	17.75000	17.75000	17.75000
A	Stationery, telephone, postage and other expenditure on office running, publication of Newsletter and library maintenance (Purchase of News Paper & Magazines)	6.21250	6.21250	6.21250
B	POL, repair of vehicles, tractor and equipments			
	Working Capital			
C	Meals/refreshment for trainees	11.53750	11.53750	11.53750
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	.25	.25	.25

<i>L</i>	NARI	.25	.25	.25
<i>M</i>	HRD	.50	.50	.50
TOTAL (A)		272.29456	272.29456	272.29456
B. Non-Recurring Contingencies				
1	Works	3.00000	3.00000	3.00000
2	Equipments including SWTL & Furniture	5.50000	5.50000	5.50000
3	Vehicle (Four wheeler, please specify)			
4	Library (Purchase of assets like books & journals)			
TOTAL (B)		280.79456	280.79456	280.79456
C. REVOLVING FUND				
GRAND TOTAL (A+B+C)		280.79456	280.79456	280.79456

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

Year	Opening balance as on 1 st April	Income during the year	Expenditure during the year	Net balance with KVK (in lakh)
2021(seed money)	81140	13200	8500	85840

Note: No KVK must leave this table blank

8.0 Please include information which has not been reflected above.

(Write in detail)

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

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

(Signature)
Sr. Scientist cum Head.