Annual Progress Report 2021 (Jan – Dec)

KRISHI VIGYAN KENDRA, IMPHAL EAST (ANDRO)

ESTD.: 2005

Krishi Vigyan Kendra, Imphal East
Directorate of Extension Education
Central Agricultural University, Imphal, Manipur

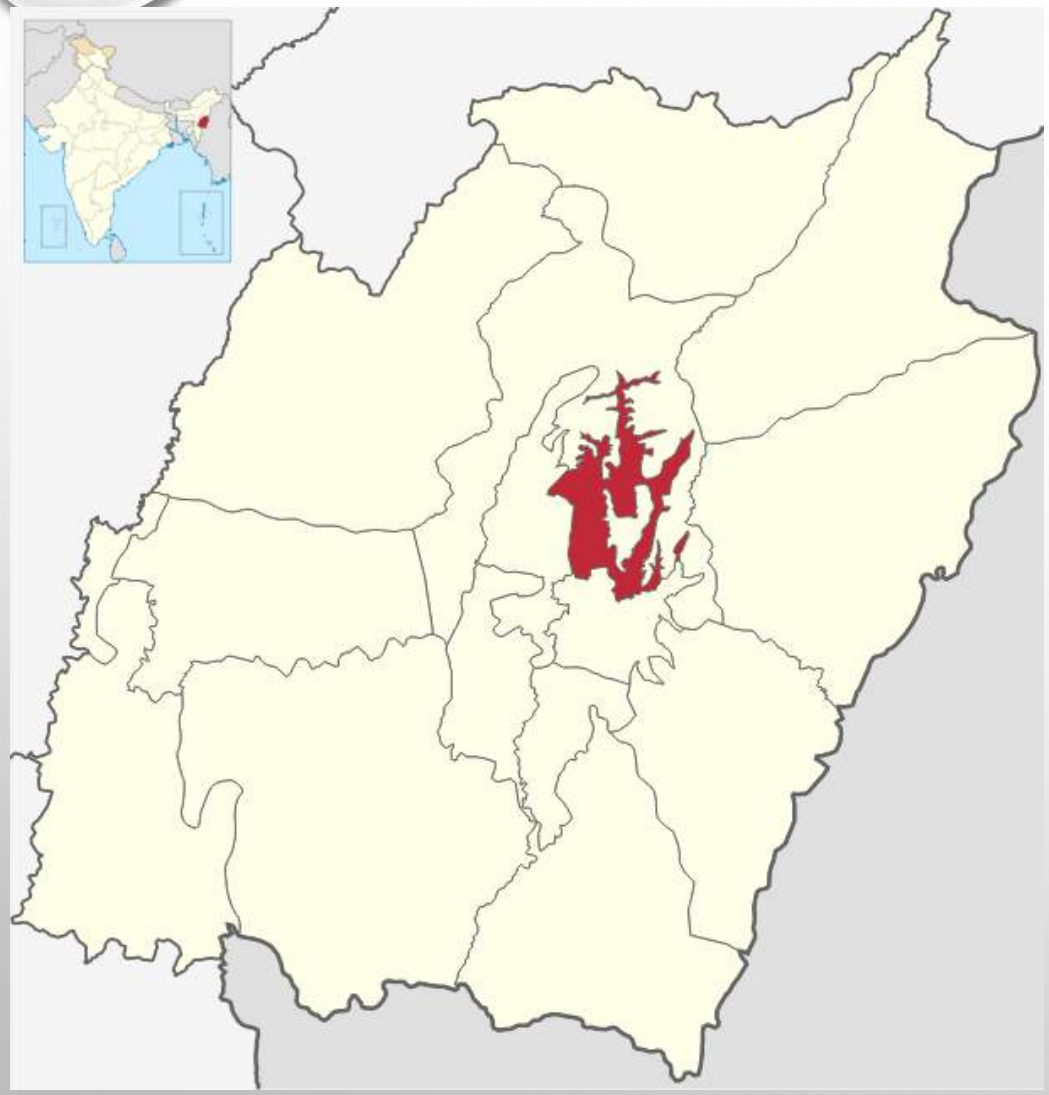
STAFF POSITION as on , 2021 (Filled post = 13 & Vacant Post = 3)

Sl. No.	Name	Designation	Date of Joining	Discipline
1.	**Vacant**	**Sr. Scientist and Head**		
2.	Smt. S. Molibala Devi	Subject Matter Specialist	20.06.2007	Home Science
3.	Mr. M. A. Salam	Subject Matter Specialist	11.06.2008	Fisheries
4.	Smt. Nandini Chongtham	Subject Matter Specialist	25.08.2008	Agronomy
5.	Er. Gunajit Oinam	Subject Matter Specialist	24.05.2012	Agril. Enggineering
6.	Dr. H. Ramananda Singh	Subject Matter Specialist	09.07.2018	Plant Protection
7.	Dr. Priyadarshini Salam	Subject Matter Specialist	09.07.2018	Horticulture
8.	Dr. Th. Sushilkumar Singh	Programme Assistant	04.10.2007	Animal Science
9.	Smt. M. Bharati Devi	Programme Assistant	03.10.2007	Computer Science
10.	**Vacant**	**Farm Manager**		
11.	**Vacant**	**Office Superintendent cum Accountant**		
12.	Mr. O. Singhajit Singh	Jr. Stenographer cum Computer Operator	22.07.2012	Education
13.	Mr. H. Budhi Singh	Driver cum Mechanic	09.10.2007	NA
14.	Mr. Sh. Jiten Singh	Driver cum Mechanic	10.10.2007	NA
15.	Mr. Ch. Bijen Singh	Multi Tasking Staff	10.10.2007	NA
16.	Smt. Ch. Tilotama Chanu	Multi Tasking Staff	03.10.2007	NA

INFRA STRUCTURE FACILITIES/VEHICLES as on December, 2021

Sl. No.	Infra-structure facility	Present Status			Remarks (including quantity and quality at present)
		Existing/ Completed	On-going	New proposal	
1.	Administrative building	Completed	-	-	-
2.	Staff Quarters	-	-	-	-
3.	Farmers' hostel	-	-	-	-
4.	Demonstration Units	Completed			Piggery unit(1), Goatery Unit(1),Poultry Unit(2), Duckery (1), Low Cost Mushroom (1), Low Cost Vermicompost (4), Water reed cum fishery (1) Cattle unit (1)
5.	Fencing/boundary wall	Completed	-	-	-
6.	Vehicle-	Pl. tick (√) on appropriate status			
	a. Four Wheeler	Running /√Condemned / Not available			Covered **1,38,123 km** till date Requires frequent servicing and repairing, needs replacement
	a. Tractor	√ Running /Condemned/ Not available			
	a. Power Tiller	√ Running/ Condemned/ Not available			
i.	Any other (Pl. specify)				Poly house (2), Shade net (1), Automatic Weather Station (1)

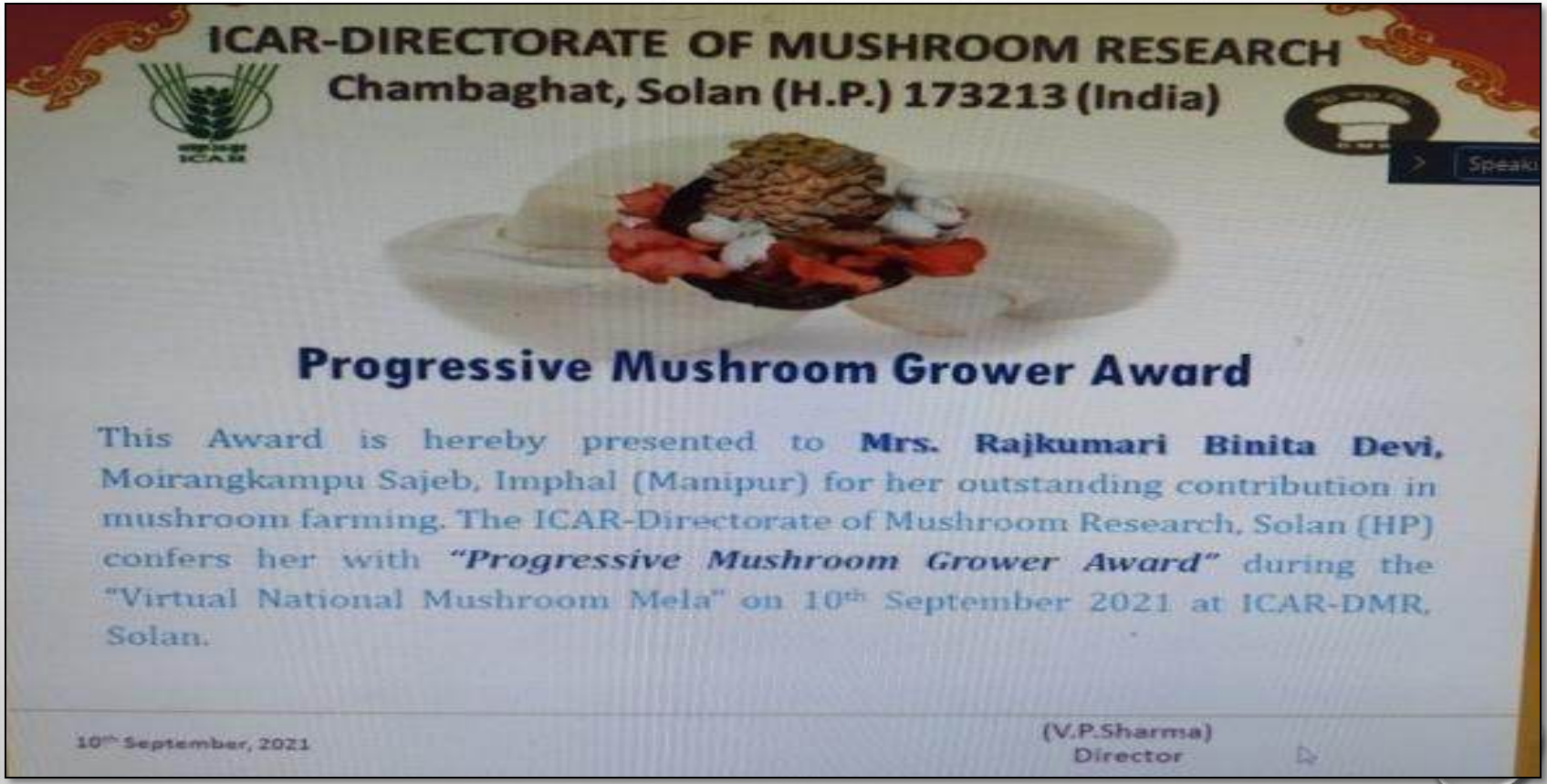
DETAILS OF VILLAGES IN THE IMPHAL EAST DISTRICT



Total No of Villages in the District	191
Total no of Villages adopted by KVK till date	09
Total No of Villages covered by KVKs interventions/ activities	187
% of Villages Covered based on Col. ii & iv	97.9

SIGNIFICANT ACHIEVEMENTS

Sl. No.	Award	Awarded to	Awarded by
01	Progressive Mushroom Grower Award	Progressive Farmer Imphal East	ICAR, Directorate of Mushroom Research, Solan
02	Best Poster presentation Award	SMS(Home Science)	NE Agri Fair,CAU,2021



List of technologies identified/recommended for large scale adoption during last 2 years

Sl. No.	Details of technologies	Source and year of release	Area coverage (ha)/ extent of adoption (%) in the district
1	Eight Row Paddy Drum Seeder	TNAU, 2010	24 ha
2.	Cultivation of Field Pea var. Aman	IIPR, Kanpur, 2012	90 ha
3.	Cultivation of Blackgram var. PU-31	Recommended by AICRP, CAU, Imphal ,2015	35 ha
4.	Cultivation of maize var. HQPM-1	Anand Agricultural University, Gujarat, 2011	22 ha
5.	Popularization of Guava Cheese	Horticulture Division ICAR Research Complex for NEH Region Umiam, 2014	3 units for commercialization
6.	Value Added products of Mushroom	Directorate of Mushroom Research Solan, HP 2016	Commercialization and expansion upto 5 units

General Recommendations & Action Taken Report

Sl. No.	Recommendation	Action taken	
1.	Mention the high cost of manual transplanting before intervention of technology on Drum seeder	Manual (Rs)	Drum seeder (Rs.)
		12000/ha	1000/ha
2.	Change of fish fingerling into fry in case of monosex tilapia	Changes has been made	

Rainfall Data 2021

Month	Rainfall Received (mm)
January, 2021	6.6
February, 2021	7.5
March, 2021	55.6
April, 2021	54.8
May, 2021	118.7
June, 2021	228.5
July, 2021	220.1
August, 2021	248.0
September, 2021	208.9
October, 2021	77.7
November, 2021	2.0
December, 2021	70.9
Total :	**1299.3**

ON FARM TRIAL (OFTs)

Target : 12 numbers

SUMMARY OF OFTs

Achievement : 10 numbers

Sl. No.	Title of OFTs
1	Performance evaluation of Anabas in Biofloc Culture System and monosex tilapia in biofloc culture system
2	Performance evaluation of anabas in farm pond
3	Performance of Osmo dehydrated Pineapple Slices
4	Nutri-Rich crop diversification in nutritional garden
5	Performance evaluation on Gravity Fed Drip Irrigation system in increasing Tomato Yield
6	Performance evaluation of Onion variety Bhima Shakti and Bhima Red
7	Performance evaluation of Tripura papita var. RCTP1
8	Management of Fall Armyworm
9	Management of Diamond Back Moth and Cabbage Butterfly in Cabbage for Higher Productivity
10	Management of Early blight and late blight of potato

OFT – 1

Discipline: Fisheries

(1st Year)

Title of OFT : Performance evaluation of Anabas and Monosex Tilapia in biofloc culture system

Prioritised Problem : Huge gap in demand and supply of fish in the state.

Details of technology :

- Stocking density – (T1=3000; T2=4000; T3=5000 fingerling/tank)
- Feeding rate – 3-5 % body weight
- Culture period: 120 days
- Tank size – 10000 lit

Parameters of Assessment	Results/ observation					
	Anabas			Tilapia		
	T1	T2	T3	T1	T2	T3
Survival (%)	68	61	52	81	78	73
Average Growth rate (gm)	63.82	52.23	47.54	73.10	64.85	59.37
Production (Kg)	132.82	98.47	91.35	177.63	146.74	121.67






Source: NFDB, 2018

No. of Trials – 03 each

Team members

SMS, Fisheries

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Directorate of Extension Education
Central Agricultural University, Imphal, Manipur

OFT – 2

Discipline: Fisheries

(1st Year)

Title of OFT : Performance Evaluation of Anabas in Farm Pond

Prioritised Problem: Poor growth, low productivity of local Anabas leading to low net return

Details of technology :

- Stocking density –(T_1=80000; T2=100000; T3=120000 fry/ha)
- Feeding rate – 3-5 % body weight
- Feeding interval – twice a day
- Feed : Pellet & Sinking (1:2) feed (30-32 % Protein)
- Culture period: 120 days

Parameters of Assessment	Results/ observation			
	T1	T2	T3	FP
Average Survival (%)	63	59	47	39
Average Growth rate (gm)	98.46	84.35	63.21	71.23
Production (kg/ha)	3780	2200	1790	1450

No. of Trials - 03

Team members
SMS, Fisheries

Source: CIFA, 2018

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OFT – 3

Discipline: Home Science

(1st Year)

Title of OFT : Performance of Osmo dehydrated Pineapple Slices

Prioritised Problem- Limited value added pineapple products available in the district. Need for more novel pineapple products as pineapple has been identified as priotized crop of the district

Technology details:	
T_1: Soaking pineapple in normal sugar syrup for overnight T_2: Soaking pineapple slices in sugar syrup (60 degrees brix for 20 hours) T_3: Soaking pineapple slices in sugar syrup (65 degree brix for 20 hours)	No. of trials = 05

Source: IIHR, Bangalore, 2015

Parameters on Assessment	**Results on selected Parameters**	
Technology / methodology	**Technology :**	**Farmer Practice :**
1. Shelf life	9 weeks	4 weeks
2. Acceptability (Hedonic scale)	5 (well accepted)	4 (moderately acceptable)
3. Drying time	Solar dry (1.5-2 days)	Sun dry (3-5 days)
3. B.C Ratio	2.37	

Remark

Product well accepted and attractive products were marketed

OFT – 4

Discipline: Home Science

(1st Year)

Title of OFT : Nutri-Rich crop diversification in nutritional garden

Prioritised Problem- Limited nutri rich crops and vegetables in kitchen garden

Technology details:

- Incorporation of Chia in 80-100 sq.m area
- Cultivation of nutri rich seasonal fruits and vegetables

No. of trials = 03

Parameters on Assessment	Results/ observation	
	Yield (acre)	Expected nutrient supplementation/100 g
1. Chia seeds	1.75 q	Protein 24.2 g, Fat 40.2 g, Fibre 30.2 g, Ca 456 mg, P 919 mg ,K 726 mg, Fe 9.18 mg
2. Nutri rich vegetables		
Leafy vegetable	120gm	
Other vegetables	125gm	
Roota and tubers	28gm	

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OFT – 5

Discipline: Agri. Engg.

(1st Year)

Performance evaluation on Gravity Fed Drip Irrigation system in increasing Tomato Yield

Prioritised problem-High volume requirement of water with flooding system of irrigation on Tomato, low water use efficiency, high weeding intensity.

Details of technology

Crop: Tomato
var. Arka Rakshak
Type of Drip: Inline
Spacing: 45cm x 45 cm
Area: 300Sq m
Irrigation Scheduling: Every three days
Date of Transplanting: 06/12/2021

Parameters of Assessment	Results / observation	
	Demo	Farmer Practice (Surface Irrigation)
1.Water Use Efficiency :	13.7 kg/ha-cum	5.78 kg/ha-cum
2. Average fruit/plant :	64 fruits	46 fruits
3. Yield/ha :	12.5t/ha	9.7t/ha

Farmer's practice-Surface irrigation

College of Agri. Engg. & PHT, CAU (I), Ranipool, 2012

Team members

SMS – Agri Engg
SMS-Horticulture

OFT – 6

Discipline: Horticulture

(2nd Year)

Title of OFT- Performance evaluation of Onion variety Bhima Shakti and Bhima Red

Prioritised Problem- Non availability of high yielding and disease resistant variety

Details of technology:

- **Seed rate:** 3 kg/ha
- **Spacing:** 15x10 cm
- **Period**: Rabi

Parameters of Assessment	Results/ observation on selected parameters			Remarks
Technology	**Bhima Shakti**	**Bhima Red**	**Farmers Practice(Prema)**	Prema has high bolters with more disease incidence hence less preferred by farmers whereas Bhima Red has attractive red colors with less bolters. No disease were seen in Bhima Shakti and Red
Bulb weight (g)	50.86	63.15	68.38	
Bulb Yield (t/ha)	18.43	21.37	22.68	
Days to maturity	127.12	119.36	125.68	
B:C ratio	2.31	2.62	2.67	

Directorate of Onion and Garlic Research, Pune 2011

Team members

SMS-Horticulture
SMS-Plant Protection

Bhima Shakti

Bhima Red

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Directorate of Extension Education
Central Agricultural University, Imphal, Manipur

OFT – 7

Discipline: Horticulture

(2nd Year)

Title of OFT- Performance evaluation of **Tripura papita var. RCTP1**

Prioritised Problem- Low yield, susceptible to PRSV(Papaya Ring Spot Virus), Small size fruit of local cultivars

Details of technology:

Tripura Papita
var. RCTP1
Spacing: 1.8 × 1.8 m
Planting: May-June
Seed rate: 500 g/ha

Parameters of Assessment	Results/ observation on selected parameters
Days to Maturity	140.4
No. of fruits /plant	28.2
Av. Wt. of fruit (kg)	1.54
Farmers and consumers preference.	Farmers preferred variety RCTP1 over local variety owing to high yield and more no. of fruits of RCTP1

Farmers practice

Papaya (local):
Days to maturity = 154.42 days
No. of fruits/plant = 17.21
Avg wt (kg) = 0.82

ICAR Research Complex for NEH Region, Lembucherra, Tripura Centre, 2014

Team members

SMS-Horticulture, SMS – Agronomy, SMS-Plant Protection

OFT – 8

Discipline: Plant Protection

(2nd Year)

Title of OFT : Management of Early Blight and Late Blight in Potato

Prioritised Problem- High incidence of Early Blight and Late Blight affecting growth and yield of Potato

Technology details:

1. Protective spraying of Mencozeb 75% & Zineb 75% WP @ 2gm/litre alternatively 4 times at 20 days interval from 20 DAT.
2. Trichoderma Harzianum @ 2.5kg + 100kg of FYM at 10-15 days before sowing + Foliar application of Trichoderma Harzianum and Pseudomonas Florescens @ 5ml each at 10 days interval 3 times from 20 DAT
3. Farmer Practice

Source: TNAU, August 2015 & State Biological Control Laboratory, Shillong 2008








Sl. No	Parameters	Results/Observations of parameters				Cost of cultivation per ha	Gross income per ha	Net income per ha	B:C ratio
		T1	T2	FP	% increased in yield of T1 over FP				
1	Early blight	≥ 5%	10-15%	20-25%	-	1,54,000.00	12,000 kg x Rs.30 = Rs.3,00,000/-	1,46,000/-	1.95
2	Late blight	≥ 10%	15-20%	25-30 %	-				
3	Yield of the crop (q/ha)	120	102	840	23.64				

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
03	03	03

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OFT – 9

Discipline: Plant Protection

(2nd Year)

Title of OFT : Management of Diamond Backmoth and Cabbage Butterfly in Cabbage for Higher Productivity

Prioritised Problem- Severe Infestation with Diamomd Back Moth and Cabbage Butterfl affecting Cabbage Yield

Technology details:
Crop : Cabbage
Variety: Rareball
Treatment 1: Spray of Neem Seed Kernal Extract 0.03% @ 5ml/ha at 10 days interval starting from 20 DAT for 4 times
Farmer Practice:

Source: University of Horticulture and Forestry, Solan 2015








Sl. No	Parameters	Results/Observations of parameters			Cost of cultivation per ha	Gross income per ha	Net income per ha	B:C ratio
		Treated	FP	% increased in yield over FP per ha				
1	% Damage	≥ 3.5%	15-20%	36.84	80000	26000 x Rs.10 =2,60,000	180000	3.25
2	Yield of the crop	260q/ha	190q/ha					

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
03	0.6	03

OFT – 10

Discipline: Plant Protection

(1st Year)

Title of OFT : Management of Fall Armyworm

Prioritised Problem-Severe infestation due to Fall Armyworm

Technology details:

Crop : Maize (var. HQPM - 5)

Treatment 1:

i) Deep ploughing

ii) Application of sand or ash into plants whorl of affected plants

iii) Application of BT @ 2gm/litre

Source : University of Horticulture and Forestry, Solan 2015






Sl. No	Parameters	Results/Observations of parameters			Cost of cultivation per ha	Gross income per ha	Net income per ha	B:C ratio
		Treated	FP	% increased in yield over FP per ha				
1	% Damage	10%	35-50%	29.27	60000	159000	99000	2.65
2	Yield of the crop	53q/ha	41q/ha					

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
03	0.75	03

FRONT LINE DEMONSTRATION (FLDs)

Target : 13 numbers

SUMMARY OF FLD

Achievement : 13 numbers

Sl. No.	Title of FLDs
1	Popularization of Quality protein maize cultivation
2	Popularisation of Vermiculture and Vermicomposting for sustainable income generation
3	Culture of improved common carp (var. Amur carp)
4	Monoculture of monosex tilapia
5	Popularization of self propelled eight row rice transplanter
6	Popularization of Manually operated Treadle pump: A low cost irrigation option for marginal Farmers
7	Popularization of Turmeric var. *Megha Turmeric 1*
8	Popularization of tomato var. *Arka rakshak and Arka Samrat*
9	Popularization of Cabinet Solar Dryer for drying of perishable, semi perishable and wet food materials
10	Popularization of Integrated Pest Management Practice in rice
11	Popularizing year round Oyster Mushroom production
12	Popularization on use of pheromone trap for management of fruit fly in cucurbits
13	Popularization of improved breed Rani pig

FLD – 1

Discipline: Agronomy

(2nd Year)

Popularisation of Quality protein maize cultivation

Source – Anand Agricultural University, Gujarat, 2011

Technology details:

Variety: HQPM-5

Salient Features: Orange flint grain single cross hybrid with high lysine and tryptophan than normal maize

Resistant to Maydis Leaf Blight, Tolerant to Stalk borer and Responsive to high fertility

Potential yield- 60-65 qt / ha/ha

Seed rate:20 kg/ha;Duration:88-90 days (medium maturing)

Spacing: 60cm x 20 cm (70,000-80,000 plants/ha)

Fertilizer:120: 80:60 kg NPK/ha

Details of Demonstration		
No. of Demonstration	**Area (ha)**	**No. of farmers**
05	**03**	**13**

Demonstration Yield(Qt/Ha)			Yield of Local check(qt/ha)	% increase/ change in avg. yield over local
H	**L**	**A**	**(Qt/ha)**	**%**
61.0	**35.0**	**50.16**	**36.8**	**36.3**

Gross Cost (Rs/ha)/	Gross Return (Rs/ha)	Net Return (Rs/ha)	B:C Ratio (GR/GC)
81,500	1,95,624	1,14,124	2.40

FLD – 2

Discipline: Agronomy

(1st Year)

Popularisation of Vermiculture and Vermicomposting for sustainable income generation

Source – Technology Inventory for NE India,2017

Technology details:

- ✓ Earthworm species: Red worm *(Eisenia foetida)*
- ✓ Rate of application : 1 kg Earthworm in 100 kg Organic matter (1000 worm/sq m area)
- ✓ Method: Use of HDPE Vermibed of GSM 350
- ✓ Size of Vermibed: 7ft x 3ft x 1.5 ft
- ✓ Raw materials: Decomposed mushroom substrate ,FYM, Kitchenwaste, Farm waste etc

Demonstration Yield(Qt/Unit/Year))			Yield of Local check(qt/ha)	% increase/ change in avg. yield over local
H	L	A	(Qt/ha)	%
12.50	8.80	10.52	-	-

Gross Cost (Rs/unit/year)	Gross Return (Rs/ Unit/year)	Net Return ((Rs/unit/year)	B:C Ratio (GR/GC)
8,750	22,000	13,250	2.51

Details of Demonstration		
No. of Demonstration	Unit size	No. of farmers
05	7ft x 3ft x 1.5ft	05









FLD – 3

Discipline: Fisheries

(2st Year)

Culture of improved common carp (var. Amur carp)

Source – FRC, Bangalore, 2015

Technology details:

Fish species – Amur carp

Stocking density: 5000 fingerling/ha

Feeding – Pallet (3% BW)

Culture duration – 6months

Parameters on Assessment	Results/ observation
Average Survival (%)	86
Average Growth (gm)	480.73
Production (kg/ha)	2082.11

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
03	0.75	3

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FLD – 4

Discipline: Fisheries

(1st Year)

Monoculture of Monosex Tilapia

Source – CIFA, 2010

Technology details:

Fish species – Monosex Tilapia

Stocking density: 100000 fry/ha

Feeding – Pallet (3-5% BW)

Culture duration – 3 months

Details of Demonstration		
No. of Demonstration	**Area (ha)**	**No. of farmers**
03	**0.30**	**3**

Parameters on Assessment	Results/ observation
Average Survival (%)	76
Average Growth (gm)	89.23
Production (Kg/ha)	5978

FLD – 5

Discipline: Agri. Engg.

(1st Year)

Popularisation of self propelled eight row rice transplanter

Source: CIAE 2012

Technology details:

Self propelled eight row rice transplanter
Crop: Paddy
Var. CAU-R1
No. of Row: 8
Spacing: R-R 20 cm
Hill to Hill Distance: 10 cm

Performance parameters/ indicators	Data on parameters in relation to technology demonstrated		% Change
	Demo	Local	
1. Field capacity 2. Cost of transplanting 3. Labour requirement 4.Yield 5.BCR	0.18ha/hr Rs.1500/ha 2 Mandays/ha 5.2t/ha 1.8	1ha / 30hr Rs.12000/ha 30Mandays/ha 5t/ha 1.5	700% (Transplanting cost)

Details of Demonstration		
No. of Demonstration	**Area (ha)**	**No. of farmers**
03	03	03





FLD – 6

Discipline: Agri. Engg.

(1st Year)

Popularization of Manually operated Treadle pump: A low cost irrigation option for marginal Farmers

Source: Kerala Agricultural University, 2015

Technology details:

- ✓Crop- Tomato
- ✓Var. Arka Rakshak
- ✓Spacing: 60cm x 45 cm
- ✓Working style- Paddle operated
- ✓Weight-15 kg

Performance parameters / indicators	Data on parameters in relation to technology demonstrated
1. Field Capacity (Volume of water pumped/min)	90lts/min
2.Labour requirement	2 (two)
3.Cost of operation	Rs.736 (2 mandays)

Details of Demonstration		
No. of Demo.	**Area (ha)**	**No. of farmers**
03	0.75	03

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FLD – 7

Discipline: Horticulture

(1st Year)

Popularization of Turmeric var. Megha Turmeric 1

Source: ICAR (RC) for NEH Region, Umiam, Meghalaya,2013

Technology details:

Spacing: 30 x 30 cm

Planting time: April- May

FYM: 20 t/ha

NPK: 120:90:90 kg/ha

Performance parameters/ indicators	Data on parameters in relation to technology demonstrated		% increased in yield over local	Remarks
	Demo	Local		
Days to maturity	310.56	352.25	17.14	The local cultivar took more days for germination and were prone to diseases as compared to Megha 1
Yield/clump (g)	480.64	458.92		
Yield (q/ha)	232.5	198.35		
B.C ratio	2.23	1.65		

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
03	0.5	04

FLD – 8

Discipline: Horticulture

(2nd Year)

TITLE OF FLD : Popularisation of Tomato variety Arka Rakshak and Arka Samrat

Source: IIHR, Bengaluru, 2010

Technology details:

Seed rate: 300-400g/ha
Spacing: 60 x 45 cm
FYM: 500 kg/ha
NPK:120:60:60 kg/ha
Period: Aug- Dec

Details of Demonstration		
No. of Demonstration	**Area (ha)**	**No. of farmers**
03	0.75	03

Performance parameters/ indicators	Data on parameters in relation to technology demonstrated			Remarks
	Arka Rakshak	**Arka Samrat**	**Local**	
1. Days to germination	4.65	4.71	5.02	Both Arka Rakshak and Arka Samrat had firm fruits with thicker skin which prolongs the shelf life easing transportation and marketing of farmers/sellers
2. Days to maturity	140.23	137.62	145.62	
3. Fruits no/plant	95.45	110.24	69.71	
4. Avg Yield/plant (Kg)	6.42	7.98	5.25	
5. B:C ratio	2.51	2.75	2.25	

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FLD – 9

Discipline: Home Science

(3rd Year)

Popularization of Cabinet Solar Dryer for drying of perishable, semi perishable and wet food materials

Source : College of Agriculture, CAU, 2014

Technology details:
the dryer with four main component that is flat plate collector, drying trays, exhaust fan and solar PV module
Specification: Dimension: 1500mm x 1000mm x 800 mm, 2 trays of 1400mm x 900mm at bottom and 900mm x 400mm at the centre, double wall black painted GI sheet filled with thermocol in between the wall attached with force convection with a capacity of 10-15 kg/batch with a drying time of 1-2 days

Data on parameters in relation to technology demonstrated		% Change	Remarks
Demo	Local		
Chilli (2 days)	4 days in open condition	200	The technology is being well accepted because of the reduce drying time with safe and hygienic characteristic properties
Amla, wood apple (2 days)	4 days	200	
Mushroom (1 day)	3 days	300	
Fermented soybean (2 days)	3 days	150	
Processed fruits – uniform and well dehydrated and refined product obtained	Non uniform products	-	
Fermented soybean – good and well dehydrated and hygienic product free from flies, infestation and contamination obtained	Unhygienic and uncertain products	-	

Details of Demonstration		
No. of Demonstration	Units	No. of farmers
05	05	05

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FLD – 10

Discipline: Plant Protection

(3rd Year)

Popularization of Integrated Pest Management Practice in rice

Source : IARI 2013

Technology details:

1. Remove seedling tips before transplanting to destroy the egg masses of yellow stem borer
2. Avoid excessive use of nitrogenous fertilizers
3. Use of pheromone trap (Scripo Lure @ 10/ha) for monitoring yellow stem borer
4. Need based spray of imidacloprid @ 1ml/3lit of water against plant hoppers

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
6	2.5	6

Sl. No.	Parameters	Results/Observations of parameters			Cost of cultivation per ha	Gross income per ha	Net income per ha	B:C ratio
		Treated	FP	% increased in yield over FP per ha				
1	% DH	10%	15-20%	22.22	63000	132000	69000	2.10
2	% WEH	2%	5-10%					
3	Yield	6.6 tons	5.4 tons					

FLD – 11

Discipline: Plant Protection

(3rd Year)

Popularizing year round Oyster Mushroom production

Source : CAU, Pasighat, Arunachal Pradesh, 2010-11

Technology details:

- Chopped the paddy straw (2-3 inch length)
- Soak the chopped straw for 4-5 hrs
- Allow it to drain excess water till it reach 60% moisture level.
- Spawning with layer method (3-4 layers each 10-15cm straw) in polybags with 1cm diameter holes 10cm apart between each holes.
- Allow the spawn to run in dark for 7-10 days.
- After mycelium have fully impregnated, spray water 2-3 times during day time.
- Pin head developed will fully matured in 2-3 days.

Summer Variety : *Pleurotus flabellatus*, *P. eous*, *P. Sajor Caju*, *P. Sapidus*
Winter variety : *Pleurotus ostreatus/elm*










Seasons	Parameters	Results/Observations of parameters			Cost of cultivation for 100 bags (Rs.)	Gross income (Rs.)	Net Income (Rs.)	B:C ratio
		Treated Per 100 bags (Kg)	FP Per 100 bags (Kg)	% increased in yield over FP/ha				
Summer	Yield	180	150	16.67	8500	32400	23900	3.81
Winter	Yield	205	190	7.32	8500	36900	29400	4.34

Details of Demonstration		
No. of Demonstration	Units	No. of farmers
10	10	10

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FLD – 12

Discipline: Plant Protection

(3rd Year)

Popularization on use of pheromone trap for management of fruit fly in cucurbits

Source: IARI, 2013

Technology details:
Installation of Cue lure for monitoring and mass trapping of fruit fly to reduce male population

Details of Demonstration		
No. of Demonstration	Area (ha)	No. of farmers
10	01	10






Sl. No	Parameters	Results/Observations of parameters			Cost of cultivation per ha	Gross income per ha	Net income per ha	B:C ratio
		Treated	FP	% increased in yield over FP per ha				
1	**No. of flies per trap**	**30-40**	**-**	**18.06**	**84000**	**255000**	**171000**	**3.04**
2	**%Infested fruits**	**5-7%**	**20-30%**					
3	**Unaffected fruit Yield per hectare**	**8.5 tons**	**7.2 tons**					

FLD –13

Discipline: Animal Husbandry

(4th Year)

Popularization of improved breed Rani pig

Source: NRC Pig, Guwahati, 2016

Technology details:

Backyard Piggery
Rani crossbreed

Data on parameters in relation to technology demonstrated		
Demo	**Local**	**% Change**
1. Litter size: 10-12 piglets/ farrowing	1. 6-7 piglets/farrowing	1. 71%
2. Body weight : 80-100kg/pig	2. 56-70 kg/pig	2. 42.5%

Details of Demonstration

No. of Demonstration	No. of animal	No. of farmers
04	**8 weaning piglets** 2 piglets/farmer (1M & 1 F)	04

NATURAL FARMING IN KVK FARM

- TOTAL FARM AREA (ACRE): 0.158
- AREA OF KVK FARM EARMARKED/ COVERED UNDER NATURAL FARMING (ACRE):0.158
- CROPS DEMONSTRATED : A) GINGER VAR. (*Improved Local)*

  B)TURMERIC VAR. (*Megha 1*)

  C)CHIA SEED
- CROP-WISE YIELD (Q/HA): ON GOING (Not yet harvested)

ACTIVITIES UNDER NATURAL FARMING

No. of demonstrations conducted	SC/ST			Others			No. Trainings	SC/ST			Others			No. of Awareness Programs	SC/ST			Others		
	M	F	T	M	F	T		M	F	T	M	F	T		M	F	T	M	F	T
3					3	3	3	16	9	25	17	10	27	2	5	20	25	20	20	40
(1.Cultivation of Ginger var.Improved local																				
2. Cultivation of Turmeric var. Megha 1																				
3. Chia Seeds)																				

TRAINING PROGRAMME

Training Programmes - January to December, 2021

Total no of Training programme – 52 nos

Total Beneficiary– 1480 nos

Category	No. of Training	Farmers benefitted (Nos.)						Grand Total
		SC/ST		Others		Total		
		M	F	M	F	M	F	
1/2 days Farmers and Farm Women	30	95	71	223	526	318	597	905
3-4 days Farmers and Farm Women	5	46	44	14	39	60	83	143
1/2 days Rural youth	9	24	21	67	39	91	60	151
3 days Rural youth	1	-	12	6	5	6	17	23
Extension Personnel	5	-	-	-	188	-	188	188
Skill Development Trg. Programme	2	29	41	-	-	29	41	70
Total	**52**	**194**	**189**	**310**	**797**	**504**	**986**	**1480**





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EXTENSION ACTIVITIES

Extension Activities (KVK)

Extension Activity	Activity			Beneficiaries		
	Target (No.)	Achievement (Nos.)	% achievement	Target (Nos.)	Achievement (Nos.)	% achievement
Kishan Gosthi	5	3	60	200	232	116
Scientist visit to farmer's field	500	32	65.6	600	819	136.5
Farmer visit to KVK farm	200	125	62.5	300	425	141.6
Method demonstration	30	54	180	600	478	79.6
Exhibition	5	3	60	250	197	78.8
Group Discussion	20	22	110	400	515	128.7
Advisory/helpline	2000	1620	81	2000	1940	97
Lecture delivered	25	14	56	500	745	149
Mass awareness	5	2	40	1000	459	45.9
Farmer Scientist Interaction	30	28	93.3	600	490	81.6
Newspaper coverage	20	16	80			
Film Show	5	2	20	200	56	28
Swachthta Pakwada (16th to 31st Dec 21)	1	9	100	200	310	155

Extension Activities (KVK)

Extension Activity	No of Activity	No of Beneficiaries
World Bee Day	1	18
World Milk Day and Webinar on Clean Milk Production	1	26
World Environment Day	1	20
Input Distribution for Community Empowerment through Technology Products	1	125
Farmer's Awareness Campaign on Balance Use of Fertilizers	1	39
Distribution of Inputs as a Prelude for the National Wrokshop on Potential Crops of NE India : Prospects and Challenges	1	23
International Yoga Day	1	10
National Fish Farmer's Day	1	20
Special Swachhta Campaign at Pangei	1	69
Mahila Kishan Diwas cun World Food day	1	45
Special Swachhta Campaign	2	33
Vigilance awareness week	1	15
World Soil Day	1	70
Launching of FPO of Imphal East District	1	95
Launching of Roselle Cheese Burfi and Chakhao Burfi	1	27

Extension Activities (KVK)

Extension Activity	No of Activity	No of Beneficiaries
ICAR Foundation Day as a part of Azadika Amrut Mahotsav	1	83
Programme on One District One Produce Focus Crop - Pineapple	1	10
Training cum Input distribution programme for CFLD (Pulse) - blackgram under NFSM	1	17
Parthenium Awareness Campaign during 16th to 22nd August, 2021	5	41
National Campaign on Food and Nutrition for Farmers	1	40
Pooshan Maah 2021	2	79
National Campaign on Nutri Garden and Mass Tree Plantation 2021	1	110
Mobilization for formation of farmer produce organization (honey bee)	1	15
Launching of Seed Multiplication Center for Anabus testudineus and Tilapia	1	40
Participatory Rural Appraisal (PRA) for Resource Mapping	1	35





DIAGNOSTIC/FIELD VISITS





Publications of KVK (2021)

Items	Title	Journal Name
Short Communication	-	
Abstract	*Intervention of HDPE Geomembrane Low cost Perennial water harvesting structure, Jalkund at different agro- Ecological situation of Imphal East district, Manipur, India* *Gunajit Oinam, Nandini Chongtham and M.A. Salam*	*2nd Asian Web Conference " Managing Hill Resources and diversities for Zero hunger and Climate resilience; 12-13th Feb 2021 (Abstract Book)*
	Jalkund: A Low Cost Water harvesting structure for climate change adaptation and sustainable livelihood of the Nungbrang village in Imphal East district *Gunajit Oinam*	*National Level Seminar on " Application of Sciences in this Modern Era" held on 18th Dec 2021 organised by Department of Physics, Moirang College, Moirang* (Abstract Book)
Research Paper	*Study on growth performance, production and return of Vietnamese koi (Anabas testudineus) for socio economic upliftment of rural youth in Manipur, India.* ***M. A. Salam****, Y. Bedajit, Surajkumar Irungbam, H. Ramananda & Gunajit Oinam*	*Journal of Experimental Biology and Agricultural Sciences*
	Potentiality of Periphyton based Aquaculture Technology in Water reed (Schoenoplectus lactustris Linn) - fish Environment in Manipur, India ***M. A. Salam****, Gunajit Oinam, H. Ramananda Singh, Y. Bedajit Singh Surajkumar Irungbam*	*International Journal of Current Microbiology and Applied Sciences*
	A Study on Aquatic Macrophyte Diversity of Lake Kharungpat, Manipur, India ***M.A. Salam,*** *Sarada Kanta Bhagabati1, Rajdeep Datta1, H. Ramananda Singh and Gunajit Oinam.*	*Ecology, Environment and Conservation*
	A Study on Ichthyofaunal Diversity of Lake Kharungpat, Manipur, India ***M.A. Salam,*** *Sarada Kanta Bhagabati1, Rajdeep Datta1, H. Ramananda Singh and Gunajit Oinam.*	*Pakistan J. Zool.*

Publications of KVK (2021)

Items	Title	Journal Name
Research Paper	*Status of Zooplankton Diversity in Lake Kharungpat, Manipur, India* ***M A Salam**, Abdul Malik, H Pokhrel, L P Mudoi, S K Bhagabati and Rajdeep Datta*	Journal of Krishi Vigyan
Booklet	*Crop Calendar (Vegetable and Fruit crops)* *Priyadarshini Salam and S. Molibala Devi*	
	Nutri rich foods and thalis of North East *S.Molibala, R.K. Sahoo and Y Ranjana Devi*	

Production of Seed Materials

Item	Crop	Variety	Quantity produced (Qt)
Cereals	Rice	CAU-R1	11
		CAU-R1 (farmers field)	150
Pulses	Black gram	PU-31	15

Bio Products Produced

Item	Product Name	Species	Target (kg)	Quantity produced (kg)	Value (Rs.)	Qty supplied and No. of farmers
Vermicompost	Vermicompost	*Eisenia foetida*	-	1000	20000	**Utilised at KVK Farm**
Vermiworm	Vermiworm	*Eisenia foetida*		2000	2200	**Distributed to farmers**
Total				1000	20000	

Production of Planting Materials

Item	Crop	Variety	Quantity produced (No)
Spices	Onion	Bhima Shakti	150000
		Bhima Kiran	150000
Vegetables	Cabbage	Rare Ball	30000
		Green Hero	16000
	Tomato	Arka Rakshak	25000
		Arka Samrat	22000
		Amitabh-005	15000
	Broccoli	Green Magic	20000
	Cauliflower	White Excel	15000
	Coriander		5 Kg seeds distributed
	Garden Pea	Arkel	100 kg seeds distributed
	King Chilli	Local	10000
Fruits	Papaya	Tripura Papita	250

Soil & Water Testing/SHCs during 2021-22

Sl. No.	Samples tested/ Analysed	Sample (No.)	Farmer beneficiaries	Village covered	Amount realised (Rs.)	SHCs issued to farmers (Nos.)
1.	Soil Sample	128	128	03	-	128
2.	Water Sample	50	50	09		

Status of Mobile Advisory 2021

Message type sent	Crop		Livestock		Weather		Marketing		Awareness		Other Enterprise		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
Voice only	1108	1500	168	565	142	1512	57	1512	503	350	1158	1350	3136	2588
Total	**1108**	**1500**	**168**	**565**	**142**	**1512**	**57**	**1512**	**503**	**350**	**1158**	**1350**	**3136**	**2588**

Revenue(R) generation by KVK from different sources April, 21 to Jan 2022

Sl. No.	Activity/ Enterprise	Revenue (Rs.)
1	Integrated Farming Components	48000/-
2	Crop Components	22710/-
3	Custom Hiring	10000/-
4	Institutional charges	304000/-
5	Interest	4483/-
	TOTAL :	**389193/-**

Functional Linkages 2021

Sl. No.	Name of the Organization	Nature of Linkages
1	Dept of Vety and Animal Husbandry, Govt. of Manipur	Awareness programme and vaccination programme
2	Dept of Fishery, Govt of Manipur	Training, fish seed production
3	Dept of Agriculture, Govt of Manipur	Distribution of seeds
4	Dept of Forestry, Govt of Manipur	Distribution of seedling and planting materials
5	ATMA, Imphal East	Training, demonstration, field visit, interaction
6.	NFDB, Hyderabad	Providing financial assistance for organizing fisheries training programme for the fish farmers
7.	NABARD, Manipur Centre	Sponsorship, credit linkage of farmer's club and subsidy schemes, training programmes, Cluster based programmes on low cost feed management of livestocks
8.	College of Agriculture, Iroisemba, Imphal	Technology support and other logistics
9.	National Rural Livelihood Mission	Collaborative training programme, fund, SHG linkage

Special Programmes 2021

Sl. No.	Name of the program	Duration and date	No. of Participants	Chief Guest/Special Dinitaries
1.	Jal Shakti Abhiyan (JSA)	4th 6th 22nd and 23rd Sept; 6th 7th 12th & 28th Oct; 12th Nov and 6th Dec., 21	197	
2.	Mera Gaon Mera Gaurav		136	
3.	Rabi Campaign	2	228	
4.	Kharif Campaign			
5.	Micro-Irrigation System	0ne day	23	
6.	Technology Week			
7.	Swachh Bharat Abhiyan	02.10.21 and 29.10.21		
8.	Celebration of Important Day			
	• World Soil Health Day	05.12.2021	70	
	• World Environment Day	05.06.2021	20	
	• World Bee Day	20.05.2021	18	
	• World Food Day	16.10.2021	45	
	• World Women Day			
	• World Milk Day	01.06.2021	26	
	• World Water Day	22.03.2021	70	Shri Hijam Shyamchandra, Luplakpa, Andro
	National Fish Farmers' Day		20	

Special Programmes 2021

Sl. No.	Name of the program	Duration and date	No. of Participants	Chief Guest/Special Dinitaries
10.	Any other (pl. specify) International Yoga Day	21st June, 2021	10	-
11.	ICAR Foundation Day as a part of Azadika Amrut Mahotsav	16th July, 2021	83	-
12.	Parthenium Awareness Week	16th to 22nd August, 21	50	-
13.	National Campaign on Food and Nutrition for Farmers	26th August, 2021	40	-
14.	Pooshan Maah 2021	4th & 6th Sept., 2021	70	-
15.	National Campaign on Nutri Garden and Mass Tree Plantation 2021	17th Sept., 2021	110	Ms. Khumanthem Daina, DC, Imphal East, Miranda Zimik, District Project Officer, ICDS, CDPO, Keirao Bitra and Smt. Puthem Tombi Devi, Councillor, Andro
16.	Vigilance Awareness Week	30th Oct., 21	15	-
17.	Special Swachhta Campaign	2nd to 30th October, 2021	75	-
18.	Swachhta Pakhwada	16th to 31st Dec., 21	310	-
19.	Kishan Ghosti cum cleaniness drive	6th Oct and 26th Nov.,2021	68	-

ON-GOING PROJECTS & ACHIEVEMENTS

ACTIVITIES UNDER NARI

NUTRI SENSITIVE AGRICULTURE RESOURCE AND INNOVATION (NARI)

Sl no	Activities	No of Programme (nos)	No of Participants (nos)
1.	Training Programme on establishment of nutritional garden for national security	3	84 (52 FW & 32 Extension Functionaries)
2.	Exhibition on Nutri Rich foods	3	375
3.	Demonstration on Nutritional Garden (200 sq. m)	25	25 households
4.	Production of mushroom for enhanced nutrients intake	2 units	160 kg

ACTIVITIES UNDER KSHAMTA

Implementing Village: Nungkot Village

Sl No.	Activities	Beneficiaries (No.)
1	**Establishment of fruit village:** 400 nos. of Kachai Lemon saplings distributed and planted Establishment of orchard (200 nos. of lemon saplings distributed)	
2	**Training Programmes:**	
	4 days training programme on " Integrated Farming System and its value chain management for upliftment of rural economy" during 21st – 23rd January 2021	**25**
	3 days training programme on "Introduction of Rainbow Rooster for sustain farm income" during 23rd -25th January 2021.	**25**
3	**Demonstrations**	
	Cultivation of HQPM maize at 3.25 ha.	**13**
	Backyard poultry of Rainbow Rooster (600 birds were distributed)	**40**
	Low cost Vermicomposting techniques (3 nos. of vermicomposting beds distributed)	**3**
	Manually operated vegetable transplanter for reducing drudgery	**40**
	Scientific cultivation of garden pea (40 kg seeds distributed)	**40**




One Crop One district

SCSP

ACTIVITIES ON THE PROJECT UNDER ICAR-NBAIM MAU, UP

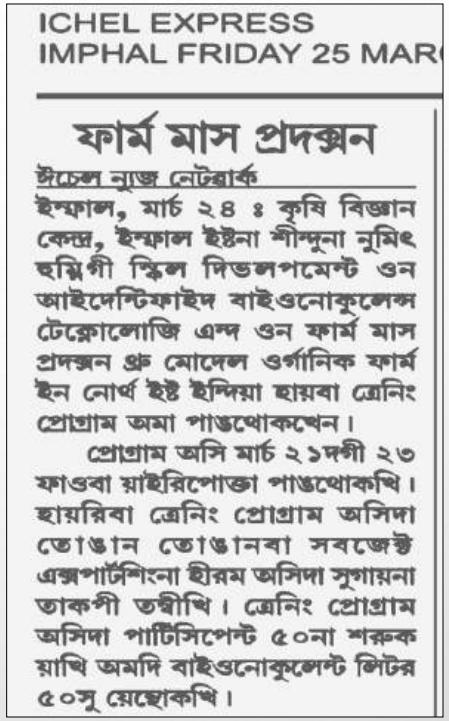
Title of the project

"Skill Development on Identified Bioinoculants Technologies and On-Farm Mass Production through Model Organic Farm in North East India"

1. Achievements under Capacity Building programme

A. Training Programmes

Date	Venue	Participant from	Male	Female	Total
14th -16th March 2022	Chanam Sandrok	Chanam Sandrok Awang Leikai	1	24	25
		Chanam Sandrok Mayai Leikai	4	21	25
21st – 23rd March 2022	Yairipok	Yairipok Singa Makha	16	9	25
		Yairipok Singa	19	6	25
Grand Total			40	60	100



ICHEL EXPRESS
IMPHAL FRIDAY 25 MAR

ফার্ম মাস প্রদক্সন

ইচেল ন্যুজ নেটব্যার্ক

ইম্ফাল, মার্চ ২৪ ঃ কৃষি বিজ্ঞান কেন্দ্র, ইম্ফাল ইষ্টনা শীন্দুনা নুমিৎ হন্মিগী স্কিল দিভলপমেন্ট ওন আইদেন্টিফাইদ বাইওনোকুলেন্স টেক্নোলোজি এন্দ ওন ফার্ম মাস প্রদক্সন প্রু মোদেল ওর্গানিক ফার্ম ইন নোর্থ ইষ্ট ইন্দিয়া হায়বা ত্রেনিং প্রোগ্রাম অমা পাঙথোকখেন।

প্রোগ্রাম অসি মার্চ ২১দগী ২৩ ফাওবা য়াইরিপোক্তা পাঙথোকখি। হায়রিবা ত্রেনিং প্রোগ্রাম অসিদা তোঙান তোঙানবা সবজেক্ট এক্সপার্টসিংনা হীরম অসিদা সুগায়না তাকপী তম্বীখি। ত্রেনিং প্রোগ্রাম অসিদা পার্টিসিপেন্ট ৫০না শরুক য়াখি অমদি বাইওনোকুলেন্ট লিটর ৫০সু য়েম্বোকখি।

A total of 100 farmers, 25 each from four villages attended the programmes organised at Yairipok and Chanam Sandrok. During the programme, inputs viz. UmTricho (Liquid Biopesticides) and CAU Jhum Bioenhancer developed by CPGS, Umiam, Meghalaya were distributed

ACTIVITIES ON THE PROJECT UNDER ICAR-NBAIM MAU, UP

Title of the project

"Skill Development on Identified Bioinoculants Technologies and On-Farm Mass Production through Model Organic Farm in North East India"

1. Achievements under Capacity Building programme

B. Exposure Visit

Date	Venue	Male	Female	Total
28th March 2022	Green Biotect Ecosolution Pvt. Ltd., Manipur	10	16	26

All together 25 farmers from Chanam Sandrok and Yairipok participated the programme consisting of 10 male and 16 female.

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ACTIVITIES ON THE PROJECT UNDER ICAR-NBAIM MAU, UP

Title of the project

"Skill Development on Identified Bioinoculants Technologies and On-Farm Mass Production through Model Organic Farm in North East India"

2. Physical Achievements

Two model organic farm has been established under the Project at Yairipok (Unit-I) and Chanam Sandrok (Unit - II).

Model Organic Farm (Unit I) at Yairipok

Model Organic Farm (Unit II) at Chanam Sandrok

DFI

IMPACT

DFI villages	No. of farmers	Success story
Nungbrung	320	110 nos. submitted
Huikap	860	

Sl. No.	Successful Interventions
1.	IFS (vermicomposting, livestock & Fishery, mushroom)
2.	Cultivation of seasonal vegetables
3.	Vegetable cum Fish Based IFS by Using Polythene Lined Water Harvesting Tank
4.	Jalkund
5.	Low cost mushroom unit
6.	Low cost vermicomposting unit
7.	Improved pig sty with wallowing tank
8.	Seed production
9.	Seed storage
10.	Nursery raising techniques

Impact of Various interventions		% increase in income
1.	Double cropping and seed production programmes	85.85- 267 %
2.	Fisheries component	126.8- 503 %
3.	Animal Component (poultry, piggery etc)	132- 357 %
4.	IFS Interventions (Fishery, piggery, mushroom, vermicompost, crops etc)	213.16- 464.2 %

Some Glimpses of DFI Interventions

Seed storage using Hermetic bags

Seed production

Polylined tank

Mixed cropping practices supported By Jalkund

Vermiculture

Pig Sty

Vermicompost production

Mushroom cultivation

Fish production

Digging of pond

FEEDBACK OF FARMERS

PL. PROVIDE FARMERS' PERCEPTION ON NEW VARIETIES AND TECHNOLOGIES (POINT-WISE).

I. **CHIA**: Nutri rich crop like chia gaining popularity amongst the farm women. more area and packets for cultivation are being shown interest

III. **MILLET**: farmers have shown interest in millets cultivation for participatory seed production programme may create more opportunities

IV. **ARKA RAKSHAK**: Advantages on its hardy skin, low disease incidence, good shelf life of produce and less damage % in transportation

V. **TURMERIC MEGA 1**: Easy availability of planting materials, less incidence for disease, intercropping can be done earning additional income

VI. **PADDLE OPERATED TREADLE PUMP**: Suitable for area without electricity, suitable way of irrigation, more farmers ready of adoption of the technology

IMPORTANT PROBLEMS

Sl. No.	Important Problems
1.	Late release of fund under CFLD programme
2.	Timely unavailability of fertilizer (especially urea during kharif season)
3.	Unassured irrigation facility
4.	Price fixation and marketing problem of the farmer's produce
5.	Limited facility (only paddy and cabbage covered under crop insurance) and lack of knowledge of crop insurance

Pumnamakpu Khurumjari

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