Annual Zonal Action Plan
(January to December, 2023)

KRISHI VIGYAN KENDRA, IMPHAL EAST (ANDRO)

ESTD.: 2005

STAFF POSITION as on December, 2022 (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

Action Taken Report

Discipline	Suggestion	Action taken
1. OFT :		
Home Science	Addition of another treatment of blanching for 5 minutes- drenching- drying on OFT of Osmo dehydrated pineapple slices	Recommended parameter included as suggested
	More units should be increased and pineapple fibre extraction machines should be use and record the water retting rate	Incorporated as suggested
Ag. Engg.	Mention the water volume on OFT of mini sprinkler in onion through treadle pump	Incorporated
2. FLDs:		
Fisheries	Highest and lowest growth on Amur Carp should be mentioned	Recorded : Lowest – 560 gm; Highest – 920 gm
Horticulture	Bushy type of soybean variety to be selected for intercropping with ginger	Undertaken : Trial undergoing
Home Science	Locally and abundantly available raw materials should be use instead of millet	Black rice given priority along with millet as popularization for International Year of millet
Animal Science	Black Bengal goat should be replace with new breed	Replaced with other breed Beetal
	Rani pig should be replace with new breed and FLD should be for 3 years only	Replaced with new breed Duroc
	Commonly reared poultry should be given more emphasize instead of rainbow rooster	Emphasized the Poultry breed Giriraja

Sl. No.	Title of the OFT (12 nos.)
1	Organic Cultivation of King Chilli
2	Assessment of Onion variety- Arka Kirthiman and Arka Bheem
3	Performance evaluation of Growth and Survival in *Wallago attu (Sareng)*
4	Breeding and seed production of freshwater Eel (Ngaprum)
5	Performance evaluation of Pabda (*Ompok bimaculatus*) in composite culture
6	Management of Fall Armyworm
7	On-farm production technology for mass production of *Trichoderma spp.*
8	Preparation of Pomelo Jam
9	Extraction of fibre from Okra through optimum retting time
10	Nutri-Rich crop diversification in nutritional garden
11	Performance evaluation of Half moon terrace with drip irrigation in Papaya in slope hilly area
12	Assessment of Plastic mulching with drip irrigation in king Chilli

OFT-01

Organic Cultivation of King Chilli

2nd year

Crop	Prioritized Problem	Details of technology	Source	Observation
King Chilli	➢ Low yield under farmers practice ➢ Increased resistance of insect pest towards chemical measure	➢ T1: FYM @ 10 t per ha to be applied at final land preparation @ 1 kg/pit. ➢ T2: Application of enriched compost @ 10 t/ha or 5 t/ha + biofertilizer. ➢ T3: Apply *Azotobacter* @ 5 gm, PSB @ 5 gm within 7 days of transplanting. Sowing: Last week of Feb - 1st week March	Technologies for Organic management of crops in NE India 2019 ICAR- ATARI Umiam	1. Days to germination 2. Plant height 3. No. of branches 4. No. of Fruits/plant 5. Yield/plant 6. BCR

Area	**0.5 ha**
Replications	**3**
Cost/ Trial	**Rs. 15000/-**
Total Cost	**Rs. 45000/-**

OFT-02

Assessment of Onion variety- Arka Kirthiman and Arka Bheem

1st year

Crop	Prioritized Problem	Details of technology	Source	Observation
Onion	Low yield due to non-availability of suitable high yielding variety of onion,	➢ **T1: Onion var. Arka kirthiman** (Potential yield: 45 t/ha, Duration: 125 -130 days) ➢ **T2: Var. Arka bheem :** (Potential yield: 47t/ha, Duration: 130 days, Suitable for both kharif and rabi season) Seed rate: 6 –8 kg/ha; Spacing: 20X10 cm; Sowing time: October Nutrient requirement: 80:50:80 kg NPK / ha Disease management: Seed treatment with Trichoderma Pest management: Use of trap strips, Neem oil @ 5% ➢ **T3: Farmers Practice (Nasik red/prema)**	**IIHR 2010**	1. Bulb weight (gm) 2. Bulb diameter (cm) 3. Bulb yield (q/ha) 4. B C ratio

Area	**0.5 ha**
Replications	**3**
Cost per Trial	**Rs. 3000/-**
Total Cost	**Rs. 9000/-**

Scientists
SMS- Horticulture, PP

OFT-03

Performance evaluation of Growth and Survival in *Wallago attu (Sareng)*

1st year

Enterprise	Prioritized Problem	Details of technology	Source	Observations
Fisheries	Huge gap in demand and supply of fish in the state.	Stocking density – 2000-3000 fingerling/ha Feeding rate – 5-6 % body weight Culture period: 3 months **T1**= 2000 fingerling; **T2**= 2500 fingerling; **T3**= 3000 fingerling	Central Institute of Freshwater Aquaculture, Kausalyaganga, Bhubaneswar (2012)	➢ Survival rate after 90 days ➢ Growth after 90 days ➢ BCR

Tank size	**10000 lit**
Replications	**3**
Cost per Trial	**Rs.60000/-**
Total Cost	**Rs. 180000 /-**

OFT-04

Breeding and seed production of freshwater Eel (Ngaprum)

1st year

Enterprise	Prioritized Problem	Details of technology	Source	Observations
Fisheries	Dependence of eel catch from wild.	Hormone dose: 3-4ml/kg wt. Stocking density – 1000-3000 nos/tank Feeding rate – 3-5 % body weight Feeding interval – twice a day Feed :Pellet feed (30-32% Protein) Culture period: 120 days **T1**= 1000 seed/tank; **T2**= 2000 seed/tank; **T3**= 3000 seed/tank	CMFRI, 2013	➢ Hormone Dose ➢ Fertilization rate ➢ Survival rate

Tank size	**2000 lit**
Replications	**6**
Cost per Trial	**Rs. 20000**
Total Cost	**Rs. 120000/-**

Scientists
SMS- Fisheries

OFT-05

Performance evaluation of Pabda (*Ompok bimaculatus*) in composite culture

2nd year

Enterprise	Prioritized Problem	Details of technology	Source	Observations
Fisheries	➢ Non culture of Pabda in the district ➢ Huge gap in the production and fish diversity	Stocking density – 10000/ha Feeding rate – 3 % body weight Feeding interval – twice a day Feed : Floating feed (30-32 % Protein) Culture period: 6 months **T1**= 8000 fingerling/ha; **T2**= 10000 fingerling/ha; **T3**= 12000 fingerling/tank	COF, 2018	➢ Survival rate after 120 days ➢ Growth after 120 days ➢ Net return ➢ BCR

Area	**0.75**
Replications	**3**
Cost per Trial	**Rs. 40000**
Total Cost	**Rs. 120000/-**

Scientists

SMS- Fisheries

OFT-06

Management of Fall Armyworm

3rd year

Crop	Prioritized Problem	Details of technology	Source	Observation
Maize	Severe infestation of fall army worm affecting growth and yield of maize	**Crop : Maize** **Treatment 1:** ➢ Deep ploughing ➢ Application of sand or ash into plants whorl of affected plants ➢ Application of Bacillus thuringiensis @ 2g/lit **Treatment 2:** Farmer Practice	CAU (I)/DEE – Advisory, 2020	1. % damage 2. Yield of the crop 3. B:C ratio

Area	**0.75 ha**
Replications	**3**
Cost per Trial	**Rs. 4000/-**
Total Cost	**Rs.12,000/-**

Scientists

SMS- PP, Horticulture, Agronomy

OFT-07

On-farm production technology for mass production of *Trichoderma spp.*

1st year

Crop	Prioritized Problem	Details of technology	Source	Observation
	Unawareness and limited availability of the bio-control agents	1. Fill bags with grains and equal amount of tap water 2. Fix a 1.5" PVC pipe at the top of the bag with rubber band 3. Close bags with cotton plugs 4. Put bags in a pressure cooker (upright position) & cook for 40 min. 5. Inoculate grains in an inoculation chamber 6. Incubate bags at room temp. for 5-7 days 7. Transfer grains with *Trichoderma* in trays for drying 8. Dried *Trichoderma* can be used for nursery & main field application 9. *Trichoderma* powder can be used for seed treatment.	NIPHM (2014)	1. Percent contamination 2. Production per unit 3. BC ratio

Area	**3 units**
Replications	3
Cost per Trial	Rs. 15000
Total Cost	Rs. 45000

Scientists
SMS- PP, Horticulture, Agronomy

OFT-08

Preparation of Pomelo Jam

1st year

Crop	Prioritized Problem	Details of technology	Source	Observation
Pomelo	Thrown as wastage	**T_1: 100 % of pomelo pulp** **T_2: 50% pomelo pulp** **50 % papaya pulp** **T_3: 50% pomelo pulp** **50 % orange pulp** ➢ Peel & remove white residue ➢ Chop into small pieces & put in a saucepan with sugar (500g/kg) mash & let the liquid steep for 30 mins ➢ Chop up nicely with hand blender & bring to boil ➢ As soon as it starts boiling add 2 g citric acid ➢ After 10 minutes make gelling test & pour into sterilized glass jar	**University of Agricultural Science, Bangalore 2015**	1. Shelf life 2. Nutritional content 3. Acceptability (by Hedonic scale) 4. B:C ratio

Units	**5**
Replications	**5**
Cost per Trial	**Rs. 3000/-**
Total Cost	**Rs. 15000/-**

Scientists
SMS- Home Science, Horticulture

OFT-09

Extraction of fibre from Okra through optimum retting time

2nd year

Crop	Prioritized Problem	Details of technology	Source	Observation
Okra	Non exploration of fibre extraction from bio-degradable Okra stalks	T_1: Optimization of water retting time at 10 days T_2: Optimization of water retting time at 15 days **Farmers practice**: Water Retting at 07 days	AAU Jorhat, 2017	1. Fibre recovery/kg of wet stalk 2. Fibre recovery/kg of dry retted fibre 3. Extent of fibre utilization for value addition

Units	**5**
Replications	**5**
Cost per Trial	**Rs. 7000/-**
Total Cost	**Rs. 35000/-**

Scientists
SMS- Home Science, Horticulture

OFT-10

Nutri-Rich crop diversification in nutritional garden

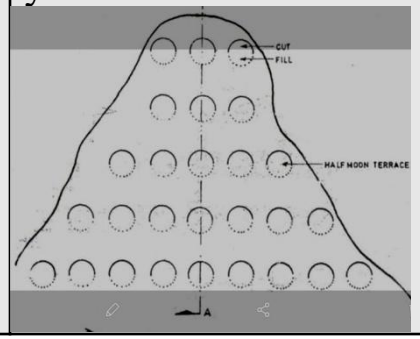
3rd year

Crop	Prioritized Problem	Details of technology	Source	Observation
Chia, Quinoa, seasonal vegetables	Limited nutri rich crops and vegetables in kitchen garden	➢ Incorporation of Chia in 80-100 sq.m area ➢ Incorporation of Quinoa in 50-80 sq.m ➢ Cultivation of nutri rich seasonal fruits and vegetables	ATARI Jabalpur 2019	1. Yield 2. Expected nutrient supplementation/100 g

Trial	**3**
Replications	**3**
Cost per Trial	**Rs. 3000/-**
Total Cost	**Rs. 9000/-**

Scientists
SMS- Home Science, Horticulture

OFT-11 Performance evaluation of Half moon terrace with drip irrigation in Papaya in slope hilly area — 1st year

Crop	Prioritized Problem	Details of technology	Source	Observations
Papaya	High Soil erosion, Soil moisture losses and low yield 	➢ Crop: Papaya ➢ Cutting half moon shape to create circular level bed having 1-1.5m diameter with cut and fill method. T1: 1m dia T2: 1.5m dia T3: Farmer's practice (traditional) 	ICAR, Umiam, 2006	Water use efficiency (WUE = Crop yield kg/water consumption m3), Soil loss, Soil infiltration rate, Labour requirement, Yield, BCR

Area	**0.75**
Replications	**3**
Cost per Trial	**Rs. 15000/-**
Total Cost	**Rs. 45000/-**

Scientists
SMS- Ag. Engg. Hort, PP

OFT-12 Assessment of Plastic mulching with drip irrigation in king Chilli — 2nd year

Crop	Prioritized Problem	Details of technology	Source	Observations
King Chilli	Soil Moisture loss, low yield and high weed infestation.	Crop: King Chilli Spacing:75cm x 75 cm Area: 0.75ha Polythylene mulch 30micron thickness with silver and black coating Drip type : Online Irrigation Scheduling : Soil Moisture Indicator **Farmer's Practice** Surface Irrigation/No Mulching/Traditional	AAU, 2015	1) Water Use Efficiency 2) Soil Moisture content 3)Avg. Fruit/ plant 4) Yield/ha 5) B:C Ratio

Area	**0.75ha**
Replications	**3**
Cost per Trial	**Rs. 20000/-**
Total Cost	**Rs. 60000/-**

Scientists
SMS- Ag. Engg. Hort, PP

Sl. No.	Title of the FLD (18 nos.)
1	Intercropping of Ginger With Soybean
2	Popularisation of Turmeric variety Megha Turmeric-1
3	Promotion of improved crossbreed pig (Hamsphire)
4	Promotion of backyard poultry (dual purpose breed) – Giriraja
5	Popularization of Backyard Layer Poultry Breed (CARI)
6	Promotion of Backyard Goatary Breed – Beetal
7	Culture of Improved Common Carp (Variety -Amur Carp & Jayanti Rohu)
8	Monoculture of *Anabas testudineus* (Ukabi) in farm pond
9	Popularization on the use of pheromone trap for management of fruit and shoot borer in brinjal
10	Demonstration on the management of BPH&WBPH in rice
11	Popularization on management of late blight of potato
12	Popularization of mushroom cultivation and recycling of waste for additional income generation
13	Popularization of nutri rich millet products
14	Popularisation of Osmotic dehydration of Pineapple
15	Popularization of hermetic storage system (grain pro's super bags) for increasing quality of grains/seeds
16	Popularization of Tractor drawn potato Digger
17	Popularization of mini sprinkler in onion through treadle pump: A low cost irrigation option for marginal Farmers
18	Popularization of Pedal operated paddy thresher in hilly region

FLD- 01

Intercropping of Ginger with Soybean

2nd year

Prioritised Problem: Problem of soil erosion in terraced land and excessive weed growth, additional income through sustained and additional income generation through intercropping

Technology details:

T1: Ginger var. Nadia (Plantation during April/May)

- Spacing : 30cm x 15 cm
- NPK: 100:90:90
- Sowing of soybean in between the rows of ginger in the month of June/July

T2**: Soybean var. DSB 19, DSB 32**

Parameters:

i. Av. No. of tillers / hill
ii. Av. No of leaves / plant
iii. Yield of ginger
iv. Yield of Soybean
vi. B:C

Source- ICAR ATARI Barapani, 2017

Details of Demonstration		
No. of Demonstration	**Area (ha)**	**No. of farmers**
03	01	04

Cost of the demo- Rs. 30,000/-

FLD-02

Popularization of Turmeric variety Megha Turmeric-1

3rd year

Prioritised Problem: Unavailability of high yielding, high tolerance to disease (leaf spot and blotch), wider adaptability and processing variety of turmeric

Technology details:

- Variety: Megha Turmeric 1
- Spacing: 30 x 30 cm
- Planting time: April- May
- FYM: 20 t/ha
- NPK: 120:90:90 kg/ha

Parameters:

1. Days to maturity
2. Average yield of rhizome/clump (kg/plant)
3. Average yield/ha
4. Curcumin content (%)

Team members
SMS – Horticulture & Plant Protection

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

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

Cost of the demo- Rs. 40,000/-

FLD-03

Promotion of improved crossbreed pig (Hamsphire)

1st year

Prioritised Problem: Unproductivity of local breed and unacceptable size of Hampshire pig

Technology details:

Farrowing capacity (8-12 piglets)
Body weight at maturity (150-180 kg)

Source- Deptt. Of Animal Science, COA, 2018

Details of Demonstration		
No. of Demonstration	Area (ha)/Units	No. of farmers
10	2 Piglets /farmer	10
Cost of the Demo- Rs. 1,30,000/-		

Demonstration parameters

- Age of 1st farrowing
- Litter size
- Meat production
- BCR

Team members

Prog. Asstt. (Animal Science)

FLD-04

Promotion of Backyard Poultry (Dual Purpose) Breed – Giriraja

2nd year

Prioritised Problem: Low productivity of chicken meat and egg in local poultry breed

Technology Details

- Feeding:
  Starter: 0-56 days ; Grower: **57-150 days** layer mesh 151 onwards
- Feed supplement: Probiotics, Calcium, Vitamins and Mineral mixture
- Body wt: 2 kg (M), 1.8 kg (F) at maturity
- Egg laying capacity: 150 /year

Details of Demonstration		
No. of Demonstration	Area (ha)/Units	No. of farmers
40	20 chicks/ farmer	40
Cost of theDemo- Rs. 70,000/-		

Source-CPDO, Bangalore, 2016

Parameters of demonstration

- Weight of day old chick
- Growth
- Weight at maturity
- Egg production
- BCR

Team members

Programme Asst-Animal Science

FLD-05

Popularization of Backyard Layer Poultry Breed (ACARI)

1st year

Prioritised Problem: Unproductivity of local breed

Technology Details

- Feeding Pattern:
  Prostarter : 0-7 days; Starter: 8-56 days ; Grower: **57-152 days** layer mesh 153 onwards upto egg laying
- Feed supplement: Probiotics, Vitamins and Mineral mixture
- Max. body wt:1.5 – 1.8 kg (M), 1.3 kg (F)
- Egg/year: 285-300 eggs/year

Details of Demonstration

No. of Demonstration	Area (ha)/Units	No. of farmers
20	20 poultry birds /farmer	20

Cost of the Demo- Rs. 60000/-

Source-CDPO, Bangalore

Demonstration parameters

- Body weight at 6 weeks
- Body weight at maturity
- Egg Production (28-72 week)
- Egg production in nos. (160-180)
- BCR

Team members

Prog. Asstt. (Animal Science)

FLD- 06

Promotion of Backyard Goatary – Beetal

5th year

Prioritised Problem: Unavailability of economically viable suitable breed

Technology Details

- Live body wt. : 17-20 kg (M) 13-15 kg(F)
- Kidding performance : Duplicate/triplicate (2-3 kids per kidding)
- Kidding/year : 4-6 nos. annually
- Highly acclimatized in Manipur
- Highly disease resistant

Details of Demonstration

No. of Demonstration	Area (ha)/Units	No. of farmers
10	2 goats/ farmer	10

Cost of theDemo- Rs. ,1,72,000/-

Source-Goat Research Centre, AAU

Parameters of demonstration

- Weight at maturity
- Kidding/year
- Meat production
- BCR

Team members

Programme Asst-Animal Science

FLD-07

Culture of Improved Common Carp (Variety -Amur Carp & Jayanti Rohu)

2nd year

Problem: Poor growth and low productivity of common carps

Technology details:
Stocking density-8000/ha
Stocking time- April-May.
Feeding method – Broadcasting
Feed – Pellet feed
Feeding rate : 3-5 % BW

Source: CIFA, Bhubaneswar, 2015

Details of demonstration	
No. of demonstration	Area (ha)
3	0.75
Cost of the demo= Rs. 180000/-	

FLD-08

Monoculture of *Anabas testudineus* (Ukabi) in farm pond

2nd year

Problem: Poor growth low productivity of mixed tilapia and carp culture leading to low net return

Technology details:
Stocking density – 100000/ha
Stocking time- May-June
Feeding method - Broadcasting
Feeding rate – 3-5% BW
Feed- Pellet feed

Source: CIFA, Bhubaneswar, 2013

Details of demonstration	
No. of demonstration	Area (ha)
3	0.36
Cost of the demo= Rs. 120000/-	

Team members
SMS – Fisheries

FLD-09

Popularization on the use of pheromone trap for management of fruit and shoot borer in brinjal

1st year

Prioritised Problem: High infestation of fruit and shoot borer in brinjal

Technology details:

1. For monitoring: Installation of pheromone traps (Lucin lure) @ 4-5 traps/acre and application of Emamactin Benzoate 5% SC @ 80gm/200 litre per acre at the appearance of the pest.
2. For mass trapping: 10 traps/acre at 10m distance from 20 Days after Sowing (DAS) slightly above the canopy for effective attraction

Parameters:

1. Percent infestation
2. Yield
3. BC ratio

Source: Dept. of Agriculture & Cooperation, Ministry if Agriculture, Govt. of India (2014)

Details of demonstration	
No. of demonstration	Area (ha)
05	0.5
Cost of the demo = 12,500/-	

FLD-10

Demonstration on the Management of BPH&WBPH in Rice

1st year

Problem: Outbreak of WBPH demaging the paddy fields extensively in most part of the district and Manipur as a whole

Technology details:

1. Balance use of nitrogeneous fertilizer
2. Need based application of Buprofezin 25% SC @ 800ml/ha or Imidacloprid 30.5SC @ 60-75ml/ha

Team members
SMS-Plant protection, SMS-Horticulture

Parameters:

1. Percent infestation
2. Yield
3. BC ratio

Source: Dept. of Agriculture & Cooperation, Ministry if Agriculture, Govt. of India (2014)

Details of demonstration	
No. of demonstration	Area (ha)
10	05
Cost of the demo = Rs. 30,000/-	

FLD- 11

Popularization on management of late blight of potato var. Kufri jyoti

1st year

Problem : Main disease in potato production, causing major losses in yield

Technology details:

1. Spray Mancozeb 75% (Indofil M-45) @ 2.5gm/litre at canopy closure (35-45 Days after planting)
2. Spray Cymoxyl 8% + Mancozeb 64% @ 2.5gm/litre at first appearance of disease if the disease appears
3. Spray Mancozeb 75% (Indofil M-45) @ 2.5gm/litre at 10 Days after the second spray

Parameters:

1. Percent infestation
2. Yield
3. BC ratio

Team members
SMS-Plant protection, SMS-Horticulture

Source: Assam Agriculture University (2015)

Details of demonstration	
No. of demonstration	Area (ha)
05	0.5

Cost of the demo = Rs. 70,000/-

FLD -12

Popularization of mushroom cultivation and recycling of waste for additional income generation

1st year

Problem: Burning and wastage of paddy straws after the harvest of paddy

Technology details:

1. Cultivation of oyster mushroom
2. Utilization of mushroom waste for production of vermicompost

Team members
SMS-Plant protection, SMS-Horticulture

Parameters:

1. Yield of Mushroom
2. Yield of Vermicompost
3. BC ratio

Source: CAU, 2022

Details of demonstration	
No. of demonstration	Area (ha)
03	3 units

Cost of the demo = Rs. 18,000/-

FLD-13

Popularization of nutri rich millet products

2nd year

Prioritised Problem: Non usage and limited use of millet as value added products

Technology to be demonstrated

- ✓ Millet based cake, cookies and bakery products
- ✓ Millet based namkeen snacks : spirals, bhujia, cullets

Parameters:

- ➢ Acceptability test by hedonic scale
- ➢ Nutrient supplementation/ 100 g of the product
- ➢ B:C ratio

Team members

SMS – Home Science, Horticulture

Source : Indian Institute of Millet Research, Hyderabad, 2020

Details of Demonstration		
No. of Demonstration	Units	No. of farmers
10	10	5 SHG groups

Cost of the demo- Rs.7000/unit

FLD-14

Performance of Osmo dehydrated Pineapple Slices

1st year

Prioritised Problem: Limited value added pineapple products, more novel pineapple products needed as pineapple has been identified as prioritized 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: Pre treatment of KMS @ 1.5 g/kg of pineapple for 8 hrs before osmosis followed by Blanching for 5 minutes-drenching-drying

Parameters :

1. Shelf life
2. Drying time
3. Acceptability (by Hedonic scale)
4. B:C ratio

Navsari Agriculture University, 2017

Details of Demonstration		
No. of Demonstration	Area (ha)/Units	No. of farmers
05	05	05

Cost of the demo- Rs.10000/-

FLD-15

Popularization of hermetic storage system (grain pro's super bags) for increasing quality of grains/seeds

5th year

Prioritised Problem: High infestation rate of storage grain/seeds pest under uncontrolled storage condition

Technology details

✓EVOH (ethylene-venyl alcohol) incorporated as a barrier structure with a 7 to 9 layers structures packing and storing material

✓Reusable plastic sealing tapes at 2 (two) levels for each bag making it airtight

Parameters:

- Relative humidity (before andafter storage)
- Pest infestation (before and after storage)incidence
- Germination percentage

Team members

SMS – Home Science, Horticulture, Plant protection, Agronomy

Source-Pest Control of India, 2015

Details of Demonstration

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

Cost of the demo- Rs. 7000/-

FLD-16

Popularization of Tractor drawn potato Digger

2nd year

Prioritised Problem: High Cost of harvesting and more time consumption

Technology Details

- Crop: Potato
- Tractor Power:35HP
- Number of row : 2,
- Row spacing 24-26 inch,
- Weight : 550Kg,
- Separation of potato: vibrating rod chain (Conveyor)

Parameters:

- Field Capacity
- Cost of Harvesting
- Labour Requirement

Farmers' Practice (Manual)

Team members

SMS – Agril. Engg, Hort.

Source- CIAE, 2013

Details of Demonstration

No. of Demonstration	Area (ha)/Units	No. of farmers
03	1.5	03

Cost of the demo- Rs. 25000/-

FLD-17

Popularization of mini sprinkler in onion through treadle pump: A low cost irrigation option for marginal Farmers

1st year

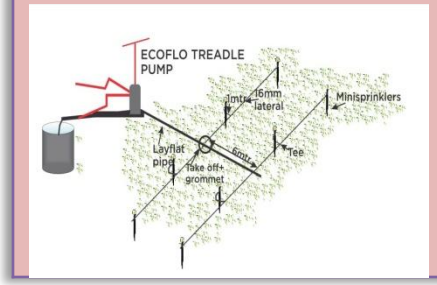
Prioritised Problem: High volume requirement of water with flooding system of irrigation on Onion and high cost of irrigation

Technology details

Crop: Onion
Var.Bhima Super
Spacing:15cm x 10 cm
Area: 0.25 ha
Mini-sprinkler: 110 lts /hr
Pump: Treadle
Recommended overlaping:30%
Irrigation Scheduling: Alternate day

Parameters:

Water use efficiency (WUE = Crop yield kg/water consumption m3), Field Capacity, Labour requirement, Yield, BCR



Source: Kerala Agricultural University, 2015

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

Cost of the demo-Rs. 30000/-

Team members
SMS – Agril. Engg, Horti,PP

FLD-18

Popularization of Pedal operated paddy thresher in hilly region

1st year

Prioritised Problem: Post harvest losses and labor scarcity

Technology Details

- Crop: Paddy
- Number of manpower: One (Pedal operated)
- Weight : 35Kg,
- Length :1030mm, Wide: 630mm, Height:975mm

Parameters:

- Output Capacity
- Cost of Harvesting
- Labour Requirement

Team members
SMS – Agril. Engg.

Source- VPKAS, Almora, 2008

Details of Demonstration		
No. of Demonstration	Area (ha)/Units	No. of farmers
03	1.5	03

Cost of the demo- Rs. 10000/-

Planned Activities for International Year of Millets

Sl. No.	Activities	Nos.	Month
1.	Development of crop cafeteria/ Millet Vatika	1	July- Aug
2.	a. Organisation of Field Day	1	Sep- Oct
	b. Awareness programme for FarmWomen/ Rural youth	2	May- June
	c. Training programme on Preparation of Value Added Millet Products for extension personnels	2	Oct - Nov
3.	Serving of millet meals/snacks in meetings and other programmes	-	Year round
4.	Display of posters/stands at entries of all buildings		Year round
5.	Farmers field demonstration on Different types and varieties of Millets	2	July- Nov
6.	Publication of extension leaflet on VAPs of millets	1000	Oct Nov

Other Demonstration

1. NARI:

- Demonstration on Nutritional Garden
- Production of mushroom for enhanced nutrients intake
- Exhibition on Nutri Rich foods
- Training Programme on establishment of nutritional garden

2. One Crop One district :

- Hands on practice on plant protection measures and intercultural operations of pineapple
- Training programme on value added pineapple products

No. of Prog : 63
No. of Farmer : 1309

Training Programmes

Discipline	No. of trainings to be proposed											
	Farmer/FW		Rural Youth		Ex. Personnel		Sponsored		Vocational		Total	
	C	P	C	P	C	P	C	P	C	P	C	P
Agril. Engg.	02	50	05	125	-	-	-	-	-	-	07	175
Fisheries	04	100	06	150	-	-	03	60	01	20	14	330
Home Science	02	50	04	100	2	50	-	-	-	-	18	200
Horticulture	04	109	02	45	-	-	-	-	-	-	06	154
Plant Protection	02	50	04	100	-	-	-	-	-	-	06	150
Animal Science	08	200	04	100	-	-					12	300
									Total		**63**	**1309**

Details of Training Programmes

1. Agril. Engineering

Topic	NO. of days	Location	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Importance and scope of water harvesting and micro irrigation	03	OFF	PF	May. 2023	-	-	-	-	-	-	20	5	25	25
Increased production and productivity through Farm mechanization (seed drill, paddy reaper, drum seeder etc.)	04	ON	RY	Jun 2023	20	5	25	-	-	-	-	-	-	25
Construction of Low cost Vermicomposting and Mushroom House	04	OFF	RY	Jul 2023	-	-	-	-	-	-	20	5	25	25
Use of small tools and implements for rabi crop for drudgery reduction with demonstration	04	OFF	RY	Aug 2023	-	-	-	-	-	-	20	5	25	25

1. Agril. Engineering

Topic	NO. of days	Location	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Increased productivity and production through Farm mechanization (seed drill, reaper, drum seeder etc.)	3	ON	PF	Nov.2023	-	-	-	-	-	-	20	5	25	25
Construction of vermicomposting structure with demonstration (pucca and pit method)	3	OFF	RY	Dec,2023	-	-	-	-	-	-	20	5	25	25
Importance and scope of water harvesting and micro irrigation	3	ON	RY	Jan,2024	20	5	25	-	-	-	-	-	-	25

2. Fisheries

Topic	NO. of days	OFF/ON	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Pond preparation and management of fish culture	03	OFF	RY	Apr. ,2023	-	-	-	-	-	-	20	5	25	25
Composite fish culture	03	OFF	PF	May, 2023	-	-	-	-	-	-	20	5	25	25
Bio floc culture system	03	ON	RY	June, 2023	20	5	25	-	-	-	-	-	-	25
Nursery and rearing pond management	03	OFF	RY	Jul y,2023	-	-	-	-	-	-	20	5	25	25
Paddy cum fish culture	03	OFF	RY	Aug., 2023	-	-	-	-	-	-	20	5	25	25
Pre and post stocking of intensive fish farming	03	ON	PF	Sept, 2023	20	5	25	-	-	-	-	-	-	25
Common fish disease management	03	OFF	RY	Oct, 2023	-	-	-	-	-	-	20	5	25	25
Common fish disease management	03	ON	PF	Nov, 2023	20	5	25	-	-	-	-	-	-	25
Integrated fish farming	03	ON	RY	Jan, 2024	-	-	-	20	5	25	-	-	-	25
Integrated fish farming	03	OFF	PF	Feb, 2024										

3. Home Science

Topic	NO. of days	OFF/ON	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Post harvest management and value addition of fruits and vegetables	4	OFF	RY	May, 2123	-	-	-	-	-	-	10	15	25	25
Mushroom cultivation and its value chain management for enhance income generation	3	ON	PF/FW	June, 23	5	20	25	-	-	-	-	-	-	25
Preparation of value added jackfruit products for income generation	3	OFF	RY	July, 23	-	-	-	-	-	-	10	15	25	25
Utilization and value addition of soybean for nutritional and income generation purpose	4	ON	PF/FW	Aug, 23	5	20	25	-	-	-	-	-	-	25
Preparation of value added products of aromatic black rice	3	ON	RY	Sept., 23	-	-	-	-	-	-	-	25	25	25
Extraction of banana fibre and its utilization into value added products	4	ON	RY	Dec., 23	-	10	10	-	-	-	-	15	15	25

4. Horticulture

Topic	NO. of days	OFF/ON	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Nursery management & techniques of Horticultural crops	3	ON	PF/FW	July, 23	11	6	17	-	-	-	5	3	8	25
Off season production technology of vegetable crops	3	OFF	PF/FW	Aug, 23	12	4	16	-	-	-	5	4	9	25
Scientific cultivation of high value low volume crops	4	OFF	RY	Aug., 23	8	2	10	-	-	-	6	4	10	20
Cultivation of important horticultural crops under protected condition	4	ON	RY	Sept., 23	16	3	19	-	-	-	6	-	6	25
Income generation through flower cultivation	3	OFF	PF/FW	Oct., 23	3	11	14	-	-	-	2	9	11	25
Production technology of bulbous vegetable crops (onion, garlic, chives)	4	OFF	PF/FW	Nov., 23	15	5	20	-	-	-	5	-	5	25

5. Plant Protection

Topic	NO. of days	OFF/ON	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Insect pest and disease management of French Bean	3	OFF	RY	May, 23	17	5	22	-	-	-	-	3	3	25
Scientific mushroom cultivation and its value chain management	4	OFF	RY	Aug, 23	15	3	18	-	-	-	5	2	7	25
Insect pest management in garlic and onion	3	ON	RY	Sept., 23	12	11	23	-	-	-	3	4	7	25
Insect pests and diseases of Potato and their management	3	ON	PF/FW	Oct., 23	14	5	19	-	-	-	6	-	6	25
Insect pest management of tomato and its management	3	ON	RY	Oct., 23	12	3	15	-	-	-	8	2	10	25
Integrated pest management ok King Chilli cultivation and its value chain management	3	ON	PF/FW	Nov., 23	15	3	18	-	-	-	5	2	7	25

6. Animal Science

Topic	NO. of days	OFF/ON	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Scientific rearing of dairy - cow		ON	PF	Jan., 23	20	5	25	-	-	-	-	-	-	25
Duck Farming as a resource of Income		ON	FW	Feb., 23	5	20	25	-	-	-	-	-	-	25
Schemes of National Livestock Mission, NABARD		OFF	RY	March., 23	-	-	-	-	-	-	20	5	25	25
Scientific Rearing of Goat		OFF	FW	April, 23	-	-	-	-	-	-	5	20	25	25
Disease Management of Poultry		ON	RY	May, 23	25	-	25	-	-	-	-	-	-	25
Feeding Management of Dairy Cow		OFF	PF	June, 23	--	-	-	-	-	-	25	-	25	25
Choice of Breed for Backyard poultry and its economics		ON	FW	July., 23	-	25	25	-	-	-	-	-	-	25

6. Animal Science

Topic	NO. of days	OFF/ON	Category	Month	No. of Participants									GT
					SC			ST			Others			
					M	F	T	M	F	T	M	F	T	
Scientific preparation of livestock and poultry feeds		OFF	RY	Aug., 23	-	-	-	-	-	-	13	12	25	25
Scientific rearing of commercial broiler farming		ON	PF	Sept., 23	20	5	25	-	-	-	-	-	-	25
Importance of Dual purpose of birds		OFF	PF	Oct., 23	-	-	-	-	-	-	13	12	25	25
Economic importance of oig breeding		ON	RY	Nov., 23	13	12	-	-	-	-	-	-	-	25
Cultivation of fodder and silage making		ON	PF	Dec., 23	13	12	25	-	-	-	-	-	-	25

Extension Activities (Programmes : 1340 & Beneficiaries : 8840)

Activity/ programme	No. of activity/ prog	Beneficiary (No.)	Activity/ programme	No. of activity/ prog	Beneficiary (No.)
Field trips and Visits			**Publications**		
1. Exposure Visits	06	180	1 Popular Articles	10	
2. Diagnostic Visit	300	400	2. Extension Literature	12	
3. Scientist Visit to Farmer's Field	300	700	**Others**		
Group activities			1. Field Day	09	300
1. Group Meeting	20	400	2. Method demonstration	30	480
2. Ex-Trainee Meeting	10	200	3.Farmer's Seminar	01	50
Mass outreach program			4. Advisory Service	500	500
1. Technology Week	01	100	5. TV Talk	05	
2. Jai Kishan Jai Bharat	01	120	6. Radio Talk	07	
3. Mera Goan Mera Gaurav	06	440	7. Resource Person	15	2150
4. Kishan Gosthi	02	200	8. Proposed farmer's club to be form	10	150
5. Awareness Programme	06	600	9.Celebration of Important Days	08	250
6. Interaction Programme	20	800	10.Newspaper coverage	20	
Camps and Campaigns			11.Film show	10	
1.Swatchata Bharat Campaign	05	160	12.Technology showcasing	06	
2. Soil Health Camp	05	220	13.Mass awareness	04	400
3. Agri Mobile Clinic	05	500			

Other Demonstrations

Materials	Crop	Variety	Quantity
A. Seed materials (q)			
Cereals	Paddy	CAU-R1	100 qt
Oilseeds	Rapeseed Mustard	TS-38; NRCH-101	10 qt; 10 qt
Pulses	Greengram	IPM 2-3	10 qt
	Blackgram	PU-31	20 qt
B. Planting materials (No.)			
Spice	Onion	Bhima Dark Red/ Bhima Shakti	10000
Vegetable	Cauliflower	White Treasure/white Excel	10000
	Cabbage	Rareball	15000
	Tomato	Arka Rakshak	12000
	Peas	Makhyat mubi	80 kg
	Strawberry	Winter dawn	1000
	Coriander		10 kg
Plantation crops/ forest	Tree beans	Local	500
Bio-agents (Kg)	Earthworm	*Eisenea foetida*	10 kg
Bio-fertilizers (kg)	Vermicompost		1000 kg
Livestock strains/ fingerlings (No.)			
1.	Fish Spawn	Indian Major carp	1 million
2.	Fish Fry	Indian Major carp	50000
3.	Fish Fingerling	Indian Major carp	10000
4.	Poultry chicks	Giriraja	600 chicks
5.	Piglets	Cross Bred	60 piglets
6.	Weaner kid	Local goat	60 kids
7.	Native Poultry	Kadaknath	50 chicks

Soil testing and SHCs

Sample	No. of samples to be tested	No. of SHCs proposed to be supplied to farmers
Soil sample	50	50
Water sample	200	200
Plant sample	-	-
Total	**200**	**200**

Mobile Advisory for 2023

Message type sent	Crop		Livestock		Weather		Marketing		Awareness		Other (Fisheries) 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
Text only	50	500	55	150	20	500	-	-	50	100	50	500	-	-
Voice only	150	150	80	220	30	100	-	-	100	100	200	200	-	-
Voice and Text both	200	650	135	370	50	600	-	-	150	200	250	700	-	-
Total	**400**	**1300**	**270**	**740**	**100**	**1200**	**-**	**-**	**300**	**400**	**500**	**1400**	**-**	**-**

Functional linkages to be established with different organizations

Sl. No.	Name of organization	Nature of linkage
1.	ATMA	Sponsored programme for conducting research and demonstration on crops, collaborative training programmes
2.	NABARD	Sponsorship, credit linkage of farmer's club and subsidy schemes
3.	NFDB	Providing financial assistance for organizing fisheries training programme for the fish farmers
4	College of Agriculture, Iroisemba, CAU, Imphal	Technology support and other logistics
5	DEE, CAU, Imphal	Sponsored for conducting awareness cum training programme on PPVFRA
6	Dept of Vety. and Animal Husbandry, Govt. of Manipur	Awareness programme and vaccination programme
7	Dept of Fishery, Govt of Manipur	Training, fish seed production
8	Dept of Agriculture, Govt of Manipur	Distribution of seeds and fertilizer
9	Dept of Horticulture and soil conservation , Govt of Manipur	Distribution of seedling and planting materials
10	National Rural Livelihood Mission	Collaborative training programme, fund, SHG linkage
11	Community food and nutrition extension unit, Ministry of women and child development	Collaborative training programme and faculty support

Thank You…