हर कदम, हर डगर
किसानों का हमसफर
भारतीय कृषि अनुसंधान परिषद

Agrisearch with a human touch

Technology Demonstration Component

Krishi Vigyan Kendra- Phek Nagaland

ACTION PLAN 2022-23

NICRA
National Initiative on Climate Resilient Agriculture

Details about the existing NICRA villages

S No	Details	Village 1	Village 2	Village 3	Village 4	Village 5
1	Name of the village	Thipuzu	K. Basa	Phusachodu	Kikruma	Pfutseromi
2	Involved in TDC	2011	2017	2018	2018	2022
3	Cultivated area (ha)	1322.08	1018.07	887.10	6671.84	470.19
4	Rainfed Area (ha)	1320.64	1017.17	885.90	6670.04	468.82
5	Irrigated Area (ha)	1.4	0.9	1.2	1.8	1.3
6	No. of households in the village	421	310	900	1190	618
7	Distance from KVK Phek	50 km	64 km	18 km	24 km	15 km

PREDOMINANT CLIMATIC AND RESOURCE CONSTRAINTS OF THE MAJOR FARMING SYSTEM TYPOLOGIES OF NICRA VILLAGES

NICRA adopted Villages	Climate constraints	Resource /Crop/Animal constraints	Other constraints
Farming System Typologies: Rainfed Upland with animal (Hills with steep slopes)			
THIPUZU	Erratic rain fall during Kharif and excess moisture stress in Rabi and windy	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, Farm mechanization, high input cost, organic farming, lack of agricultural policy
KIKRUMA	Thunder storm, wind storm, Excess rainfall during Kharif and drought during Rabi	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, m Farm mechanization, high input cost, organic farming, lack of agricultural policy
PFUTSEROMI	Erratic rain fall, terminal drought, hailstones and moisture stress during Rabi , Thunder storm	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, Farm mechanization, high input cost, organic farming, lack of agricultural policy
PHUSACHODU	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, Farm mechanization, high input cost, organic farming, lack of agricultural policy
K. BASA	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, high input cost, damage of crops by Mithun

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KIKRUMA	Water stress, erratic rain fall during Kharif and excess moisture stress in Rabi and windy, hailstones	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, wind erosion, mud slide, run off, lack of storage facility , organic farming, lack of agricultural policy
PFUTSEROMI	Erratic rain fall, terminal drought, hailstones and moisture stress during Rabi	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, organic farming, lack of agricultural policy, lack of storage facility
PHUSACHODU	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	Crop- wilting/damping/ Plant nutrient loss/moisture stress Animal- Respiratory infections/viral disease	Soil erosion, mud slide, run off, Farm mechanization, high input cost, organic farming, lack of agricultural policy
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Identified promising resilient technologies for addressing the constraints

Farming System Typologies: Rainfed Upland with animal (Hills with steep slopes)

NICRA adopted Village	Climate constraints	Resource /Crop/Animal constraints
THIPUZU	Erratic rain fall during Kharif and excess moisture stress in Rabi and windy	1. Rain water harvesting through *Jalkund* for off season vegetable cultivation in Broccoli and cabbage 2. Zero tillage using drought tolerant garden pea varieties
KIKRUMA	Thunder storm, wind storm, Excess rainfall during Kharif and drought during Rabi	1. Zero tillage using drought tolerant garden pea varieties 2. Short duration millet cultivation 3. Organic management in turmeric
PFUTSEROMI	Erratic rain fall, terminal drought, hailstones and moisture stress during Rabi , Thunder storm	1. Rain water harvesting through *Jalkund* for off season vegetable cultivation 2. Zero tillage using drought tolerant garden pea varieties 3. (SRI) using short duration paddy varieties
PHUSACHODU	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	1. Zero tillage using drought tolerant field pea varieties 2. Straw mulching in garden pea.
K. BASA	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	1. Zero tillage using drought tolerant field pea varieties 2. Straw mulching in garden pea. 3. Organic management in turmeric.

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KIKRUMA	Thunder storm, wind storm, Excess rainfall during Kharif and drought during Rabi	1. Short duration millet cultivation 2. Potato treatment with bio-fertilizer . 3. Organic management in turmeric
PFUTSEROMI	Erratic rain fall, terminal drought, hailstones and moisture stress during Rabi , Thunder storm	1. Rain water harvesting through *Jalkund* for off season vegetable cultivation 2. (SRI) using short duration paddy varieties
PHUSACHODU	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	1. Zero tillage using drought tolerant field pea varieties
K. BASA	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	1. Advancement of sowing time and sowing method in soybean

Identified promising resilient technologies for addressing the constraints

Farming System Typologies: Rainfed Midland with animal (Hills with mild slopes)

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THIPUZU	Erratic rain fall during Kharif and excess moisture stress in Rabi and windy	1. Rain water harvesting through *Jalkund* for off season vegetable cultivation in Broccoli and cabbage 2. Zero tillage using drought tolerant garden pea varieties
KIKRUMA	Water stress, erratic rain fall during Kharif and excess moisture stress in Rabi and windy, hailstones	1. Zero tillage using drought tolerant field pea varieties 2. Potato treatment with bio-fertilizer and organic management in turmeric
PFUTSEROMI	Erratic rain fall, terminal drought, hailstones and moisture stress during Rabi	1. Rain water harvesting through *Jalkund* for off season vegetable cultivation 2. Zero tillage using drought tolerant garden pea varieties 3. (SRI) using short duration paddy varieties
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K. BASA	Excess rainfall during Kharif and drought during Rabi and Hailstones and windy	1. (SRI) using short duration paddy varieties

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Module 1: Natural Resource Management
(Details of Technologies to be up-scaled)

1. Name of the technology	**Rain water harvesting through "*Jalkund*' for off season vegetable cultivation**
2. Objectives of study	To assess the water storage capacity and irrigation of winter vegetables.
3. Problem diagnosis	Water scarcity during lean season (winter) for crop cultivation.
4. Comparisons/treatments **a) Farmers practice**	Farmers dependent on rainfed agriculture
b) Improved technology	Jalkund (size-5x4x2 cu. m) (300 micron) can store rain water upto 40,000 litres . Harvested water used for agricultural use for 0.34 ha/Jalkund during lean season. Winter vegetables-Broccoli and cabbage
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	➢ Quantity of water stored during lean period ➢ Water use efficiency ➢ BC ratio

Module 1: Natural resource management
(Details of Technologies to be up-scaled)

1. Name of the technology	**Resource management using Biofertilizers and Straw Mulch in Garden Pea**
2. Objectives of study	To assess the growth, yield and soil parameters
3. Problem diagnosis	Low moisture content and Low soil nutrient status
4. Comparisons/treatments **a) Farmers practice**	Without mulch
b) Improved technology	Garden Pea Var. Arkel Biofertilizer : Rhizobium and Phosphotika @ 200 gm each per 10 kg seed Use of straw as mulch material (paddy straw)
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	➢ Growth and yield ➢ Soil parameters ➢ BC ratio

Module 1: Natural resource management
(Details of Technologies to be up-scaled)

1. Name of the technology	**Resource management using Biofertilizers in Turmeric**
2. Objectives of study	To assess the growth, yield and soil parameters
3. Problem diagnosis	Low soil nutrient status
4. Comparisons/treatments **a) Farmers practice**	Without biofertilizers
b) Improved technology	Turmeric Var. Megha Turmeric 1 Biofertilizer- Azotobacter and Phosphotika biofertilizer @5 kg/ha+ neem cake@ 100 kg/ha vermicompost@ 0.5t/ha
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	➢ Growth and yield ➢ Soil parameters ➢ BC ratio

Module 1: Natural resource management
(Details of Technologies to be up-scaled)

1. Name of the technology	**Resource management using Biofertilizers in Potato (2nd Year)**
2. Objectives of study	To assess the growth, yield and soil parameters
3. Problem diagnosis	Low soil nutrient status
4. Comparisons/treatments **a) Farmers practice**	Without biofertilizers
b) Improved technology	Potato Var. Kufri Girdhari, Biofertilizer- Azotobacter and Phosphotika biofertilizer @4kg each per ha
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	➢ Growth and yield ➢ Soil parameters ➢ BC ratio

Module 2 : Crop production

1. Name of the technology	**Water saving method in paddy cultivation (System of rice intensification)**
2. Objectives of study	To study the growth and yield of short duration varieties in paddy To study the economics
3. Problem diagnosis	Low yield and long duration of local cultivar
4. Comparisons/treatments **a) Farmers practice**	Conventional method
b) Improved technology	TO1 - CAUR1 TO2 - CAU R3 TO3 – RCM 11 TO4 – Farmers practice (CAU R1) Seed rate – 10 kg/ha Spacing – 20 X 20 cm MOT – June
Number of unit to be replicated in convergence from (with other stake holders)	3
Observation	Growth and yield of short duration varieties BC ratio

Module 2 : Crop production

1. Name of the technology	**Zero tillage in early varieties of garden pea**
2. Objectives of study	To popularize early varieties of garden pea To study the growth and yield To study the economics
3. Problem diagnosis	Local long duration variety vulnerable to terminal stress
4. Comparisons/treatments **a) Farmers practice**	Tilling the soil
b) Improved technology	TO 1 – Arka Priya TO 2 – Arka Mayur TO 3 – Arkel (control) Seed rate – 80 kg/ha Spacing – 60 X 20 cm MOT – October
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	Growth and yield BC ratio

Module 2 : Crop production

1. Name of the technology	**Zero tillage in drought tolerant field pea varieties**
2. Objectives of study	To popularize drought tolerant field pea varieties To study the growth and yield of short duration varieties To study the economics
3. Problem diagnosis	Local long duration variety vulnerable to terminal stress
4. Comparisons/treatments **a) Farmers practice**	Tilling the soil
b) Improved technology	TO 1 – Aman TO 2 – VL Matar 47 TO 3 – Prakash TO 4 – Aman (control) Seed rate – 80 kg/ha Spacing – 60 X 20 cm MOT – October
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	Growth and yield BC ratio

Module 2 : Crop production

1. Name of the technology	**Advancement of date of sowing and sowing methods in soybean**
2. Objectives of study	To study the growth and yield of short duration varieties To study the economics
3. Problem diagnosis	Low yield in local cultivar and haphazard sowing methods
4. Comparisons/treatments **a) Farmers practice**	Date of sowing – 15th of May Method of sowing – Dibbling
b) Improved technology	Date of sowing – 1st of May, 30th of May Method of sowing – Line sowing Variety – MACS 1460 Seed rate – 80 kg/ha Spacing – 45 X 10 cm
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	Growth and yield BC ratio

Module 2 : Crop production

1. Name of the technology	**Cultivation of short duration Foxtail Millet**
2. Objectives of study	To study the growth and yield To study the economics
3. Problem diagnosis	Low yield due to bird attack and long duration of crop in local cultivar
4. Comparisons/treatments **a) Farmers practice**	Month of sowing - February/March
b) Improved technology	Date of sowing – August Variety – SiA 3085 Seed rate – 8 kg/ha Spacing – 30 X 10 cm
Number of unit to be replicated in convergence from (with other stake holders)	5
Observation	Growth and yield BC ratio

CAPACITY BUILDING (HRD) ACTIVITIES (2022-2023)

Sl. No	Title	No. of Participants		
		Male	Female	Total
1	Production technology in millet (2 nos)	20	20	40
2	Water saving technology (SRI) in paddy (4 nos)	40	40	80
3	Production technology in soybean (3 nos)	30	30	60
4	Conservation agriculture in field pea (7 nos)	70	70	140
5	Conservation agriculture in garden pea (8 nos)	80	80	160
6	Training on Organic cultivation in Turmeric (2 nos)	30	20	50
7	Training on Garden pea cultivation (5 nos)	20	105	125
8	Training on Natural farming (5 nos)	50	75	125
9	Training on Low cost water harvesting (2nos)	10	15	25
	Total	220	325	545

EXTENSION ACTIVITIES (METHOD DEMONSTRATION, FIELD DAY, KISAN GHOSTHI ETC) (2022-23)

Sl. No	Title	No. of programmes
1	Kisan Gosthi on SRI	1 +
2	Exposure visit	1 +
3	Field days	10 +
4	Method demonstrations	10 +
5	Diagnostic Visits	10 +
6	Mobile Advisory Services	36 +
	Total	

BUDGET REQUIREMENT

S. No	Items of Expenditure	Budget required (Rs)
1	Non-recurring contingencies – Equipment Proposal for Procurement of farm machinery/ implements for Custom Hiring centre	300000.00
2	NRM	242400.00
3	Crop production	115350.00
4	Capacity Building Activities	26400.00
5	Extension Activities	83500.00
6	Contractual Manpower (YP II) @ Rs 35000.00 per month	420000.00
7	Media Products to be developed (video films/brochures/bulletins proposed to be developed)	25000.00
8	TA and vehicle hire charges, POL	150000.00
9	Other operational expenses	70000.00
	TOTAL	


thank
you