# Annual Action Plan Format (2024-25)

**NATIONAL INNOVATIONS IN CLIMATE RESELIENT AGRICULTURE - TECHNOLOGY DEMONSTRATION COMPONENET**

**A. Basic information**

| *S.No.* | *Item* | *Detail* |
|---|---|---|
| 1.1 | Zone | Zone V |
| 1.2 | Name of KVK (district) | Puri |
| 1.3 | Name of Tehsil | Puri sadar |
| 1.4 | Name of Village | Jatipur, Pandaswar |
| 1.5 | Climatic vulnerability | Flood affected |

**B. What are the promising resilient practices identified based on the last 6 years of work**

| S No | Module | Resilient practice |
|---|---|---|
| **1.** | **Natural Resource Management** | |
| | | |
| **2.** | **Resilient varieties and systems** | |
| | | |
| **3.** | **Livestock related interventions** | |
| | | |

- **Suitability with reference to farming systems such as rainfed/ irrigated/ horticulture, etc.**
- **It can be lowland/ medium land/ upland situations in the village**
- **It can be temporary or shallow flooding/ prolonged and deep water situations, etc.**

**C. Predominant farming systems of the village and suitable low cost resilient practices for each of the farming situations**

| S No | Farming situation | Predominant crops grown | Extent of cultivated area in the village | % of the total cultivated area in the village | *Low cost resilient practices that can be scaled up | Proposed area to be covered during 2023-24 |
|---|---|---|---|---|---|---|
| **1.** | **Irrigated Medium land** | | | | | **-** |
| | **NRM** | **Rice** | | | **Wet DSR** | **1.0ha** |
| | | **Rice** | | | **Green manuring Dhanicha** | **4.0 ha** |
| | | **Vegetable** | | | **Mulching and drip irrigation in vegetable** | **0.8 ha** |
| | | **Vermicompost production** | | | **Community based vermicompost production** | **10 nos tank (10X5X3)ft.** |
| | **Crop Production** | **Rice** | | | **Demonstration of flood tolerant rice variety Bina Dhan11** | **4.0ha** |
| | | | | | **Demonstration on flood tolerant rice variety CR dhan 1009 sub -1** | **4.0 ha** |
| | | | | | **Demonstration of salt tolerant rice variety CR Dhan 412** | **4.0 ha** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | **Pumpkin** | | | **Cultivation of Frost and disease tolerant pumpkin variety "Arjun"** | **0.4ha** |
| | | **Sweet corn** | | | Short duration Sweet corn, Misthi as crop diversification | **0.4ha** |
| | | **Marigold** | | | **Cultivation of African marigold variety "Seracole" for round the income generation** | **0.4 ha** |
| | | **Millet** | | | **Demonstration of millet variety "Arjun"** | **0.4ha** |
| | | **Sweet-potato** | | | **Demonstration of sweet potato variety Kisan** | **0.1ha** |
| | | **Fruit crop, vegetable and Rice** | | | **Demonstration of traps for pest management** | **4.0 ha** |
| | **Livestock and Fishery** | **Poultry** | **-** | **-** | **Portable poultry housing system** | **10 units (50 birds per unit)** |
| | | **Poultry** | | | **Back yard poultry for income generation** | **10 units (50 birds per unit) with initial feed** |
| | | **Cattle** | | | **Scientific management of cowshed** | **2 nos** |
| | | **Goat** | | | **Demonstration of improved Goat housing system** | **2 nos** |
| | | **Buck** | | | **Demonstration of Sirohi buck for breed upgradation** | **2 nos** |
| | | **Fish** | | | **Scientific composite carp culture in small backyard tank** | **2.0 ha water area** |
| | **Institutional intervention** | | | | | |
| | | **Mushroom** | | | **Community based Mushroom cultivation** | **750 sq.ft** |
| | | **Vermicompost** | | | **Community based vermicompost production** | **10 nos tank (10X5X3)ft.** |
| | | **Hybrid napier** | | | **Fodder bank"** | **0.2 ha** |
| | | **Rice** | | | **Seed bank** | **-** |
| **2** | **Irrigated lowland** | | | | | |
| | **NRM** | | | | | |
| | | **Rice** | | | **Wet DSR in Rice** | **5.0ha** |
| | | **Rice** | | | **Mechanized Transplanting in Rice** | **4.0ha** |
| | | **Fish** | | | **Raising of peripheral** | **10 ha** |

| | | | | | | |
|---|---|---|---|---|---|---|
| | | | | | **embankment to address the fallow rice area** | |
| | **Crop production** | **Rice** | | | **Demonstration of deep water rice variety CR Dhan 507** | **1.0 ha** |
| | **Livestock and Fishery** | **Rice – cum - Fish** | | | **Sequential kharif fish farming in the renovated water storage structure viz., Catla, Jayanti Rohu and Amur carp @ 30 %, 40% and 30% respectively just after summer rice** | **6.8 ha** |
| | | **Rice – cum - Fish** | | | **Feed for fish** | **6.8 ha** |
| | | **Duck** | **-** | **-** | **Rearing of day old Khaki campbell ducklings** | **10 units of 25 birds each with initial feed** |
| | | **Goat** | | | **Low cost Goat house** | **02** |

***Indicate NRM, crop based and livestock based interventions for each of the farming situation**

**D. Module-wise existing practice and climate resilient practice/technology to be demonstrated for the year 2023-24**

| **Sl. No.** | **Module** | **Climatic constraint addressed** | **Key intervention** | **Measurable indicator (s)** |
|---|---|---|---|---|
| **1** | **Natural resource management** | | | |
| | | **Flood** | **Bund renovation** | **Water productivity (Kg/m$^3$), yield, B:C ratio** |
| 2 | Crop production | Frost / High cold | Cultivation of Pumpkin variety "Arjun" | Yield , Economics |
| | | Flood | Raised bed / dyke plantation of Pineapple variety " queen' | Yield, economics |
| | | Flood | Raised bed / dyke crop of African marigold variety "Seracole" | Yield , Economics |
| | | Flood | Raised bed / dyke crop of papaya variety " Lunar" | Yield , Economics |
| | | Flood | Drip irrigation in Brinjal hybrid " JK8031 as raised bed / dyke crop | Yield , Economics |
| | | Flood | Watermelon variety "Agasthya' as raised bed / dyke crop | Yield , Economics |

| | | | | |
|---|---|---|---|---|
| | | Flood | Sweetpotato variety " Kisan" as raised bed / dyke crop | Yield , Economics |
| 3 | Livestock & Fisheries | Flood | Rearing of day old pallishree poultry chicks | Mortality %, income per bird (Rs. /bird), body weight in 4 months, Meat yield, Egg yield, Economics |
| | | Flood | Fodder maize in Hydroponics as supplementary feed during flood | Economics, Health condition |
| | | Flood | Rearing of day old Khaki Campbell ducklings | Mortality %, income per bird (Rs. /bird), body weight in 4 months, Meat yield, Egg yield, Economics |
| | | Flood | Feed for ducklings | Meat yield , Health and Economics |
| | | Flood | Introduction of Sirohi buck for breed upgradation | Economics |
| | | Flood | Scientific management of Cow shed | Milk yield , Health and Economics |
| | | Flood | Improved Goat housing system | Meat yield , Economics |
| | | Flood | Portable poultry housing system | Meat yield , Egg laying capacity Economics |
| **4** | **Institutional interventions** | **Flood** | **Community based Mushroom cultivation** | **Yield and Economics (B:C)** |
| | | | **Community based vermicompost production** | **Yield and Economics (B:C)** |
| | | **Flood** | **Fodder bank"** | **Fodder cuttings will be supplied** |
| | | | **Seed bank** | |
| | | **Losses due to climatic hazards** | **Capacity building of farmers and farm women on Integrated farming system over the renovated bund structure** | **No. of farmers/ farm women trained** |
| | | **Flood** | **Animal health camp** | **Treatment and prevention of disease** |

**2.0 Non-recurring contingencies – Equipment**

**Procurement of farm machinery/ implements for Custom Hiring Centre (CHC)**

| *S.No.* | *Item* | *Unit cost* (Rs)* | *No. of units* | *Amount (Rs)* |
|---|---|---|---|---|
| **1.** | **Self propelled Rice Transplanter** | **2,54,000** | **1** | **2,54,000** |
| **2.** | **Power Thresher cum Winnower** | **50,000** | **1** | **50,000** |
| **3.** | **GPS** | **20,000** | **1** | **20,000** |
| **4.** | **Weighing Balance** | **25,000** | **1** | **25,000** |
| **5.** | **Fishing net** | **25,000** | **1** | **25,000** |

| | | | | |
|---|---|---|---|---|
| | **Total NRC** | **3,74,000** | **5** | **3,74,000** |

** Wherever possible, subsidy extended by State Government for the machinery to be utilized and accordingly rate adjusted. Wherever required, include equipment for village level small weather station, rain gauge and any other critical equipment for community interventions.*

### 3.1 Module 1 – NRM interventions

***A) Repair / Renovation of existing water harvesting structures & drainage channels etc.***

| ***S. No.*** | ***Intervention*** | ***Dimensions*** | ***No. of beneficiaries*** | ***Convergence value, if any (Rs)*** | ***Value of farmers share, if any(Rs)*** | ***Cost to project (Rs)*** |
|---|---|---|---|---|---|---|
| 1 | Farm pond renovation | 0.4 ha | 20 | | Labour 100 nos | 70,000 |
| | Land development for water chestnut cultivation | 0.2 ha | 10 | | Labour 50 nos | 30,000 |
| | **Sub-total 3.1** | **0.6ha** | **30** | | **150 nos labour** | **1,00,000** |

**B) *In situ* conservation – Resource Conservation Technologies (RCTs)**

| ***Item (specify)*** | ***Unit cost Rs/acre*** | ***No. of demos*** | ***Coverage*** | | ***Amount (Rs)*** | ***Remarks*** |
|---|---|---|---|---|---|---|
| | | | ***Area (acres)*** | ***No. of farmers*** | | |
| | **A** | **B** | **C** | **D** | **A x C** | |
| Lime application | 1600/- | 10 | - | 10 | 16000/- | Adjustment of water quality for fish farming |
| Drip irrigation in Brinjal | 30,000/- | 04 | 2.5 | 5 | 75000/- | Optimum utilization of water, enhanced irrigation water use efficiency |
| Organic and inorganic Mulching in vegetbles | 30,000 | 10 | 1.0 | 10 | 30,000/- | In situ water conservation |
| Vermi composting | 3000/- per unit | 20 | 20 nos | 20 | 60,000/- | Using mushroom substrate |
| **Sub-total 3.1** | | **44** | **3.5acre/20 nos** | **45** | **1,81,000/-** | |

### 3.2 Module II – Crop production interventions

**A) Stress tolerant / improved varieties**

| ***Intervention*** | ***Description*** | | ***Cost (Rs)/acre*** | ***No. of demos*** | ***Coverage*** | | ***Amount (Rs)*** | ***Remarks (purpose of intervention)*** |
|---|---|---|---|---|---|---|---|---|
| | ***Crop*** | ***Variety (s)*** | | | ***Area (ac)*** | ***No. of farmer*** | | |
| | | | ***A*** | ***B*** | ***C*** | ***D*** | ***A x C*** | |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| Flood | Paddy | Bina Dhan11 | 560/- | 10 | 10 | 15 | 5600/- | Flood tolerant variety |
| | paddy | CR Dhan 412 | 800/- | 06 | 6 | 8 | 4800/- | Salt tolerant variety |
| Flood | Papaya | Lunar | 20000 (plant cost) | 05 | 1.0 | 05 | 20000 | Perennial plants for income during lean period |
| Water scarcity | Sweet potato | Kisan | 20000 (plant cost) | 05 | 1.0 | 05 | 20000 | As cover crop restricts soil erosion |
| Short duration varieties (specify) | Sweetcorn | Mishty | 7,200 (seed cost) | 10 | 2.5 | 10 | 18,000 | Low water requirement and day neutral crop |
| | Marigold | Seracola | 6,600 (seedling cost) | 17 | 1.0 | 17 | 6,600 | Income generation |
| | Colcasia | Muktakeshi | 12,000 | 10 | 1.0 | 10 | 12,000 | Tolerant to waterlogged condition |
| **Total** | | | **67160** | **63** | **22.5** | **70** | **87000** | |

**B) Improved agronomic practices and other crop interventions**

| ***Intervention*** | | ***Cost (Rs)/ acre*** | ***No. of demos*** | ***Coverage*** | | ***Amount (Rs)*** | ***Remarks (Purpose of intervention)*** |
|---|---|---|---|---|---|---|---|
| | | | | ***Area (ac)*** | ***No. of farmers*** | | |
| | | ***A*** | ***B*** | ***C*** | ***D*** | ***A x C*** | |
| Water saving paddy cultivation methods | DSR | 2000 | 10 | 10 | 15 | 20000 | ***Wet DSR*** |
| | Aerobic | | | | | | |
| | SRI | | | | | | |
| Community nursery | | | | | | | |
| Critical inputs for Integrated crop management (specify crop) | | 2000 | 10 | 10 | 12 | 20000 | Fertilizer and pesticide application |
| Other inputs (soil amendments, soil test based nutrient management, bio-fertilizers, other soil and plant health related etc) | | 400 | 10 | 10 | 12 | 4000 | FYM application and Dhanicha incorporation |
| Harvesting and post harvesting related interventions | | 1400 | 10 | 10 | 15 | 14000 | In situ straw management after harvest of Paddy |
| Facilitating insurance for crops (specify) | | | | | | | |
| Income generation activities (Mushroom etc) | | 60/- per bed | 01 | 300 beds | 15 | 18000 | Community mushroom farming |

| | | | | | | |
|---|---|---|---|---|---|---|
| Income generation activities (Vegetables etc.) | | | | | | |
| Facilitation of marketing of farm produce | | | | | | |
| **Total** | | **41** | **40acre/300 beds** | **69** | **76000** | |

## 4.0 Module 3 – Livestock & Fisheries interventions

### 4.1 Year round fodder production strategies (annual/perennial fodder) in the village

| **Season** | **Name of fodder** | **Variety** | **Area (ha)** | **Unit cost of demo (Rs)*** | **No. of demos** | **Amount (Rs)*** | ***Remarks (purpose of intervention& farmers covered)*** |
|---|---|---|---|---|---|---|---|
| *Kharif* | Fodder | Hybrid napier/ Paragrass | 0.1 | 1000 | 10 | 10,000 | Fodder will be utilized as feed for large animals |
| | **Total** | | **0.1** | | **10** | **10,000** | |

*if applicable

### 4.2 Feed demonstrations for crop residue management / stress management: silage / feed blocks/ mineral mixture (MM) blocks / feed enrichment

| **Details of feed demo*** | **Unit cost of demo (Rs)** | **No. of demos** | **Amount (Rs)** | ***Remarks (purpose of intervention& farmers covered)*** |
|---|---|---|---|---|
| a) Poultry starter feed | 1500/- per bag (20 no. of bags) | | 30,000 | Feed to be provided to ducklings |
| b) Silage demos | | | | |
| c) Feed block demos | | | | |
| d) Mineral mixture demos | 350 | 20 | 7000 | Mineral mixture feeding will definitely affect the milk yield of cow |
| e) Unconventional feed resources (eg., red gram stalks, cotton stalks etc) used in preparation of complete feed | | | | |
| f) Feed preparation for fish | 2000 | 10 | 20000 | |
| g) Feeding management & disease control programme in livestock (Total Mixed Ration, Mineral block, medicines & disinfectant solution) | | | | |
| **Total** | | **30** | **57000** | |

### 4.3 Improved housing /shelter for protection of livestock against extreme weather

| Type of shelter improvement* | Unit cost of demo (Rs) | No. of demos | Amount (Rs) | *Remarks (purpose of intervention& farmers covered)* |
|---|---|---|---|---|
| Low cost portable poultry house using wood and wire mesh | 18,000/- | 4 | 72,000 | The unit may be shifted to safe place during flood situation,04 |
| Low cost goat house | 35,000 | 2 | 70,000 | Low incidence of infectious diseases during flood condition,02 |
| Scientific management of cowshed (cement concrete flooring with drain) | 8000 | 5 | 40000 | Hygienic condition husbandry is possible |
| **Total** | **61000** | **11** | **182000** | |

**Specify animal type and material used; Plan innovative demonstrations using locally available material*

### 4.4 Livestock / Fisheries units

| A | B | C | D | E | F | G |
|---|---|---|---|---|---|---|
| **Enterprise/unit*** | **Unit cost (Rs)** | **Convergence share in unit cost, if any** (Rs)** | **Project share in unit cost (Rs)** | **No. of units** | **Cost to Project (D x E) (Rs)** | ***Remarks (purpose of intervention& farmers covered)*** |
| Rearing of day old Kuroiler poultry breed | 2,000 | - | 2000 | 10 | 40,000 | Round the year income generation activity |
| Rearing of quail | 1,000 | | 1,000 | 10 | 10,000 | Round the year income generation activity |
| Breed up gradation of local goats | 35,000 | - | 35,000 | 02 | 70,000 | Improvement of local breed for higher income |
| Yearlings | | | | 10,000 (no. of yearlings) | 50,000 | Catla, Jayanti rohu and Amur carp fish farming @ 3: 4:3 ratio |
| Bee keeping | 6,000 | | 6,000 | 5 | 30,000 | Increase the crop yield through pollination |
| **Total** | **49000** | | **49000** | **27** | **2,00,000** | |

** Stress tolerant breeds/piggery/goatery/duckery/backyard poultry/ fisheries/bee keeping etc.*

## 5.0 Module 4 – Community interventions

### 5.1 Establishment of fodder banks (hay)

| Name of the SHG | Fodder type | Quantity of storage (t) | Unit cost (Rs.) | No. of units | Amount (Rs.) | *Remarks (purpose of intervention& farmers covered)* |
|---|---|---|---|---|---|---|
| **Maa Saraswati SHG** | **Hybrid Napier slips** | **1000 slips** | **1000/-** | **10** | **10000** | **Increase the milk yield dairy animals** |
| **Total** | | **1000** | | **10** | **10000** | |

### 5.2 Establishment of Seed banks

| Name of the SHG | Crop and variety | Quantity of storage (t) | Unit cost (Rs.) | No. of units | Amount (Rs.) | Remarks (No. of beneficiaries & Period of use) |
|---|---|---|---|---|---|---|
| **MaaSaraswati SHG** | **Paddy, CR Dhan 412** | **0.5** | **12500** | **01** | **12500** | **10** |
| **Total** | | **0.5** | **12500** | **01** | **12500** | **10** |

## 6.0. Capacity Building & Training Programmes

### 6.1 Training Courses

| Theme | Title of training course | Proposed month | No. of participants | Cost to project (Rs.) |
|---|---|---|---|---|
| ICM | Integrated crop management in rice under flood situation | August | 30 | 2250 |
| Resource conservation technology | Mulching in vegetable crops | November | 30 | 2250 |
| SFM | Soil sampling and soil health management | September | 30 | 2250 |
| IPM | Use of traps and trap crop for Pest management | October | 30 | 2250 |
| IFS | Scientific pond management | September | 30 | 2250 |
| Income generation | Mushroom cultivation under shade net. | December | 30 | 2250 |
| Farm mechanization | Operation of drum seeder for wet DSR | December | 30 | 2250 |
| **Total** | | | **210** | **15750/-** |

### 6.2 Field Days

| Theme | Title of training course | Proposed month | No. of participants | Cost to project (Rs.) |
|---|---|---|---|---|
| Crop production | Field day on cultivation of CR Dhan 412 | December | 50 | 3000 |
| | Field day on post flood potato cultivation | February | 50 | 3000 |
| | Field day on Watermelon | February | 50 | 3000 |
| **Total** | | | **150** | **9000** |

### 6.3 Exposure Visits

| Place of visit | Purpose of visit | Proposed month | No. of participants | Cost to project (Rs.) |
|---|---|---|---|---|
| OUAT and ICAR institutes at Bhubaneswar | Exposure visit | March | 30 | 25000 |
| **Total** | | | **30** | **25000** |

### 7.0 Up-scaling of Successful Interventions (Practices which can be scalable with minimal cost are to be selected for scaling up)

| Sl.No. | Name of technology | Unit cost/ha (Rs.) | No. of farmers covered | Cost to project (Rs.) | Remarks (justification) |
|---|---|---|---|---|---|
| 1 | Mushroom unit | 60/- per bed(50 beds)-3000/- | 10 | 30,000 | Mushroom cultivation throughout the year |
| 2 | Vanaraja breed rearing in backyard | 35/- per bird 20 nos – 700/- | 20 | 14000 | Lean season |
| 3 | Vermicompost production | 2000/- | 10 | 20000 | Low milk yield from CB cows, jersey cows |
| 4 | Mechanized line transplanting of paddy | 5000/- | 10 | 25,000 | Summer paddy cultivation |
| 5 | Stocking of Amur carp | 5000/- | 05 | 25,000 | Amur carp is a bottom feeder with very high growth rate |
| **Total** | | **15700** | **55** | **114000** | |

### 8.0 Contractual Manpower (SRFs)

| Category | Rate/month (Rs.) | No. of positions | No. of months | Amount (Rs.) |
|---|---|---|---|---|
| SRF | 31,000 plus HRA | 1 | 12 | 390600 |
| | | | | |
| | | | | |
| **Total** | 31,000 plus HRA | 1 | 12 | 390600 |

### 9.0 Media Products to be developed (brochure/bulletin)

| Item description | No. of copies | Amount (Rs.) |
|---|---|---|
| Flex board and flex | 30 | 15000 |
| NICRA VIDEO | 1 | 40000 |
| Publications | 2 | 18000 |
| **Total** | | **73000** |

**Summary of budget Estimates for 2024-25 (Tentative)**

| ***S.N.*** | ***Item*** | ***Amount (Rs)*** |
|---|---|---|
| 1. | Procurement of farm machinery/implements for CHC | 374000 |
| 2. | Repair/ Renovation of existing water harvesting structures & drainage channels etc. | 100000 |
| 3. | *In situ* conservation – Resource Conservation Technologies (RCTs) | 181000 |
| 4. | Stress tolerant/ Improved varieties | 87000 |
| 5. | Improved agronomic practices and other crop interventions | 76000 |
| 6. | Year round fodder production strategies (annual/perennial fodder) in the village | 10000 |
| 7. | Feed demonstrations for crop residue management / stress management: silage / feed blocks/ mineral mixture blocks / feed enrichment | 57000 |
| 8. | Improved housing /shelter for protection against extreme weather | 182000 |
| 9. | Livestock/fisheries units | 200000 |
| 10. | Establishment of fodder banks (hay) | 10000 |
| 11. | Establishment of seed banks | 12500 |
| 12. | Training courses | 15750 |
| 13. | Field days | 9000 |
| 14. | Exposure visits | 25000 |
| 15. | Up-scaling of successful interventions | 114000 |
| 16. | Contractual manpower (SRFs) | 390600 |
| 17. | Media products to be developed | 73000 |
| 18. | Any other contingencies (TA etc) | 40000 |
| | **Grand total** | **19,56,850** |

**Date: 31.05.2024** **Signature of PI/PC, NICRA- KVK**