Increasing Resilience and Reducing Risk of Coastal Communities to Climate Change and Natural Hazards in the Bay of Bengal (PROJECT PARIBRATAN)

European Union

RCDC

CONCERN worldwide

Goal and Objectives

- **Overall Objective** is to contribute towards poverty alleviation amongst poor communities in coastal areas of the Bay of Bengal, through reducing their risk to the impacts of hazards and climate change.

- **Specific Objective** is to build resilience of coastal communities along the Bay of Bengal by increasing their ability, along with that of authorities and organisations, to prepare for and adapt to the impacts of hazards and climate change.

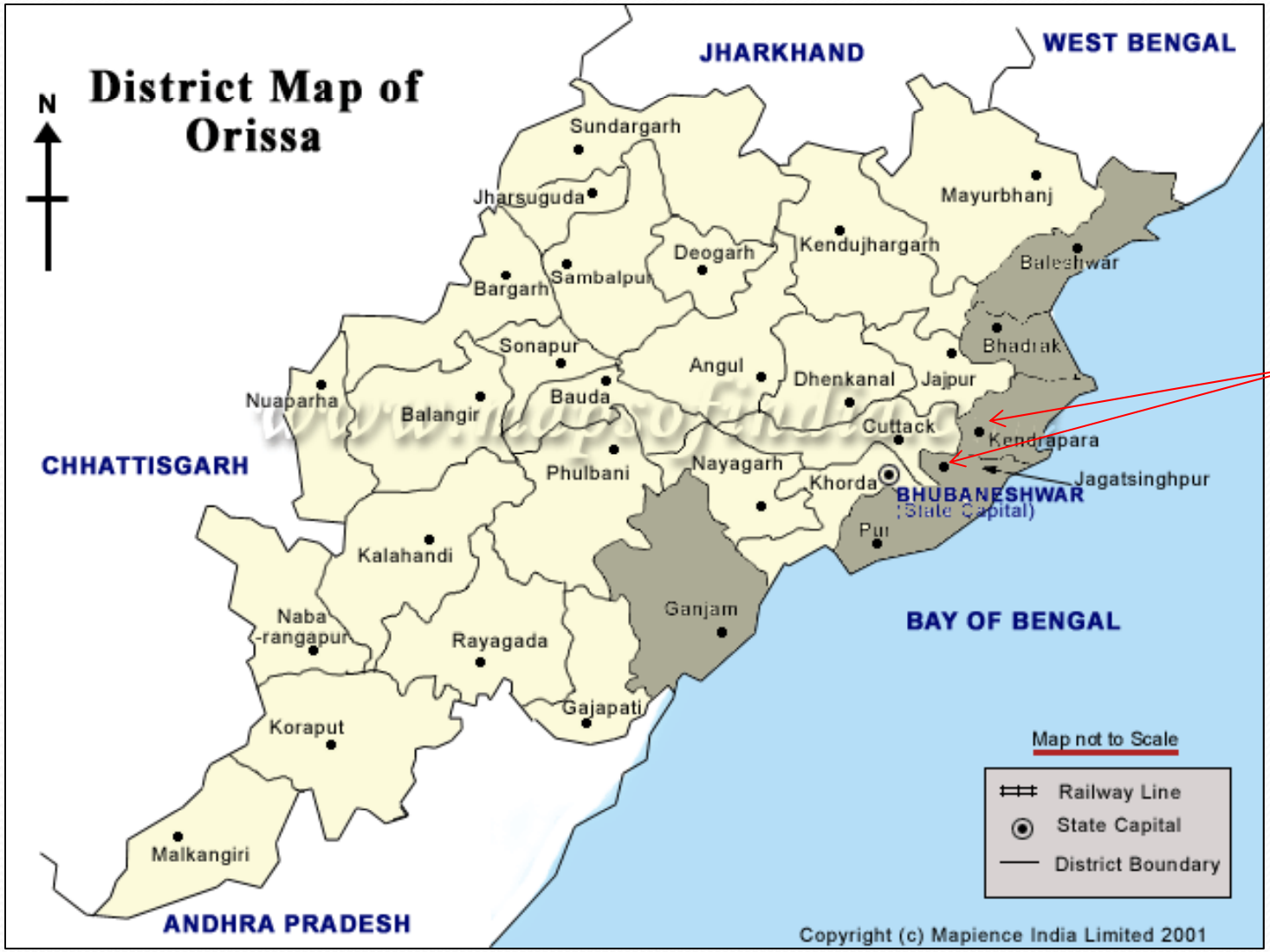
Operational area

- 74 villages 6 Panchayats of Kendrapara and 10 villages of 2 Panchayats of Jagatsingpur.
- The Panchayats of Kendrapara are – Dera, Gupti, Koilipur, Brahmansahi, Rangani and Talchua.
- The Panchayats of Jagatsingpur are – Baramunduli and Kusupur.

Target population

- 54,148 beneficiaries directly (27,581 male and 26,567 female) and
- 5,89,602 beneficiaries indirectly (296,224 male and 293,378 female).

State map



PROJECT DISTRICTS

Results to be achieved…

- **RESULT AREA 1 - Increased capacity of state and non-state actors leading to the integration of appropriate Disaster Risk Reduction and climate change adaptation activities into relevant multi-sectoral development plans.**

- **RESULT AREA 2 - Increased capacity of target communities to withstand, respond to and recover from the impact of hazards through a number of preparedness measures**

- **Result 3: Pilot project implemented to demonstrate practical way for climate change adaptation.**
  Work Package 7: Community awareness on DRR measures

- **RESULT AREA 4 - Lessons learnt are promoted and shared amongst practitioners and policymakers at state national**

Knowing Odisha

- Odisha has a coastline of 480 km covering 6 districts (Puri, Ganjam, Balasore, Bhadrak, Kendrapara and Jagatsingpur).

- It is gifted with Asia's largest brackish water lagoon, the Chilika, 672 sq.km extensive mangrove forest and wetland, and the worlds largest known nesting beaches of olive Ridley sea turtles, the Gahirmatha and the Rushikulya.

Climate vulnerability of the State…

- A deadly cocktail of floods, cyclones and droughts have made Odisha the disaster capital of India.
- Of the last 100 years the State has been disaster affected for 90 years.
- Calamities are not only becoming frequent but striking areas that never had a vulnerability record (Down to Earth, 2001).
- Climatic variability in the State during the last 3 decades has shown deviations in rainfall of 20% or more every 3rd year.

Source – vulnerability to CINDs with special emphasis on coping strategies of rural poor in Coastal Odisha, India – B.C Roy, Mruthyunjaya and S. Selvarajan.

Climate change Adaptations… strengthening livelihood options in coastal Odisha

Major issues in the intervention areas

- Decrease in production of primary sources of livelihood of the area (agriculture and fishing)
- Frequent disasters
- Tidal surge and saline ingress
- Sea erosion
- Decrease in forest cover
- Youth migration

Strategy of intervention

Building and strengthening social structures	Participatory approach	
Ensuring gender equity	Cognizance to local issues/ needs and knowledge	Undertaking pilot initiatives in selected areas with most vulnerable population (mix of scientific & traditional knowledge)
Emphasis on awareness building		
Skill up-gradation	Ensuring sustainability and replicability.	

Pilot options

Agriculture (integrated rice fish unit)	Pisciculture (integrated pisciculture unit)	Integrated homestead garden
Rain water harvesting structures	Fuel efficient chulha	Plantation (avenue, embankment and coastal bio-shields)

Integrated Rice-fish culture unit

- Paddy (traditional variety, saline/ flood resistant)
- Fish (local varieties that can withstand salinity to some extent)

- Vegetable cultivation on the bunds
- Horticulture plantation on the bunds

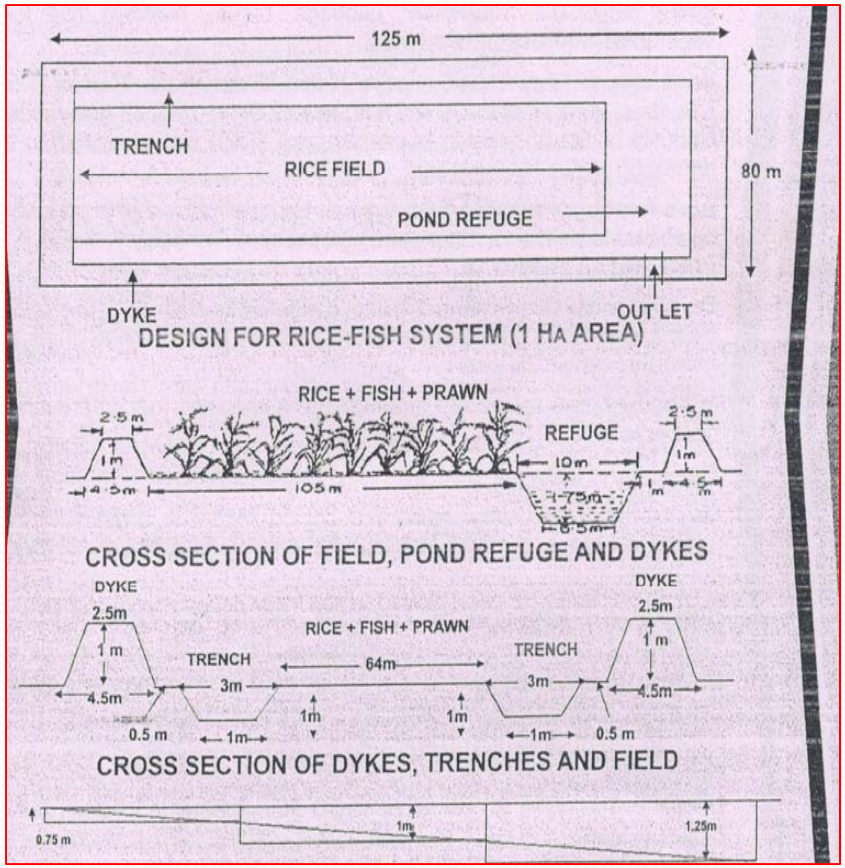
- Vermin compost unit
- Duckery

Specifications of an integrated rice-fish unit …

- Land – 1 acre
- Pond – 50 decimal
- Vermin unit – 6*4*3 feet
- Horticulture plants – have been planted on the raised bunds of the field.
- Vegetable cultivation – has been done on the bunds of the pond. Farmers have created beds for the vegetable cultivation and the plants planted depended on the available area around the pond.
- Ducks – 10-15 depending on pond size

Rice – Fish Plot Design

- **Trench Model design of rice – fish plot (technical design by; CRRI Cuttack)**

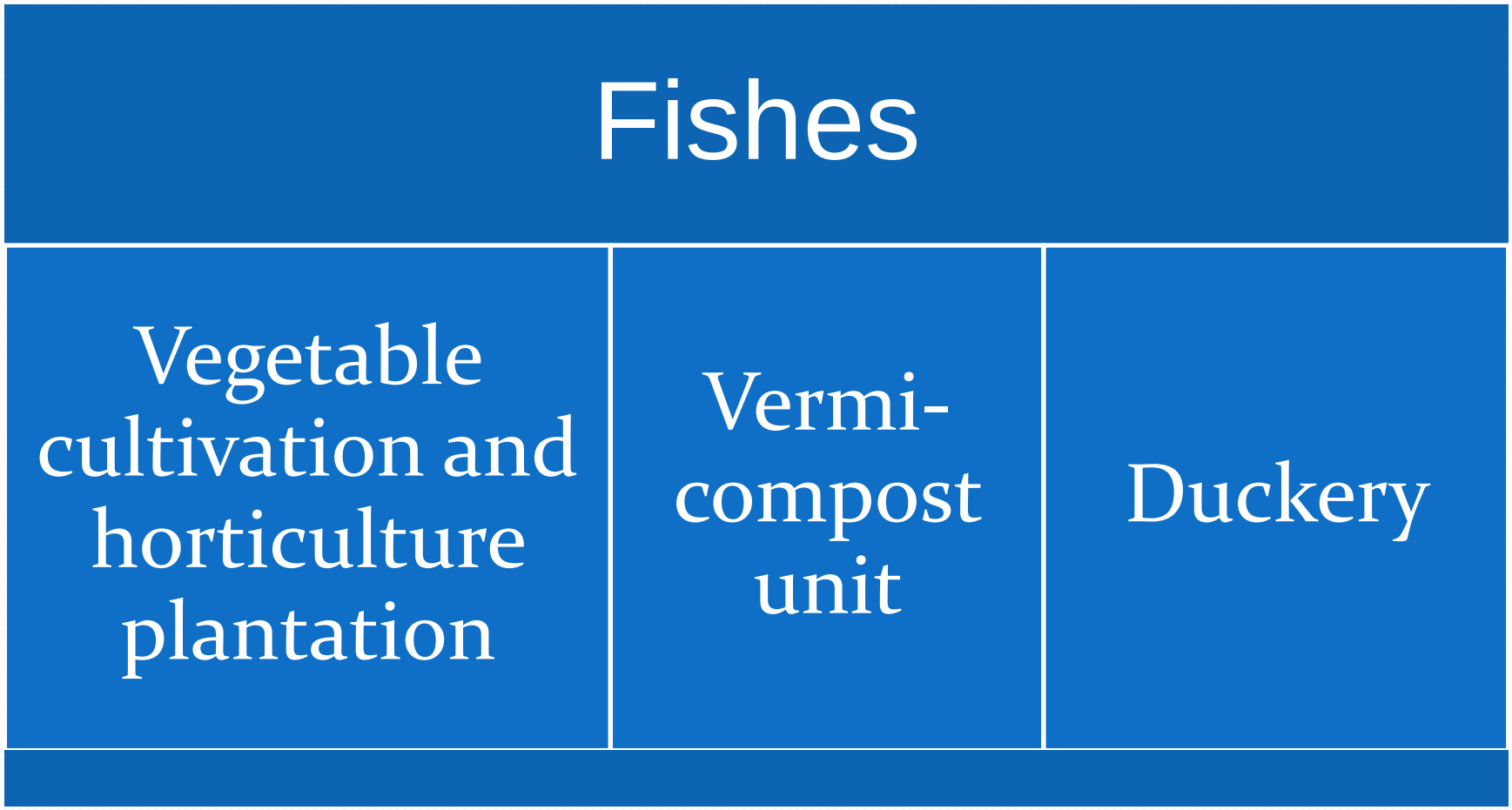


Climate adaptability of the model.

- Using paddy variety specific to the issue of the area (Puja variety that can stand 8-10 days of flooding)
- Ducks are held be better resilient to changing climate in comparison to poultry birds.
- Bed cultivation ensures plants growth in spite of salinity.
- Use of organic manure will not only help to reduce cost of investment by farmer in the field but also ensure better soil health.

Integrated Rice-fish unit

Integrated Pisciculture unit



Making the unit climate resilient….

- Raising the height of pond bunds.
- Bed cultivation
- Vermi compost unit will help to restore health of soil besides reducing pollution due to excessive use of chemicals and also reduce the input cost of the farmers.
- Ducks are held to be a good choice for climate resilient models as they are better adapted to changing climates then poultry birds.

Integrated Pisciculture Unit

Integrated homestead garden

- Vegetable cultivation/ Horticulture plantation (if possible on raised platform)
- Vermi compost unit
- Roof top rain harvesting structure

Presented by

Regional Centre for Development Cooperation (RCDC), Bhubaneswar

Major learning from the intervention….

Strong social structures capacitated to take the process forward (gender equity)

Sharing with larger community at regular interval

Mix of traditional and scientific knowledge

Integration – with local NGOs, CBOs, PRI, other stakeholders

Pilot with small groups

Awareness with larger community

THANKS

Awaiting your response……