

Water Conservation through the Management of Run-off in the River Basin to reduce Vulnerability and Enhance Resilience for Traditional Livelihood in Nuapada District, Odisha



The pilot project proposed by Department of Water Resources, Government of Odisha, illustrates the need for conservation and management of the water resource in the climate vulnerable Nuapada district of Odisha. The climate proofing of the natural water streams and river basins would be done by the construction of check dams, managing excess runoff, and drought & flood management. Livelihood diversification activities like shift from traditional paddy monoculture to horticulture crops, fishery, and poultry would be promoted. The water use efficiency would be ameliorated through introduction of solar water pumping systems, formation of Pani Panchayats, climate adaptive crop advisory services, and scientific soil water management practices. Training and capacity of stakeholders would be done through the development of resource material and tool for monitoring impacts of the climate change in the region.

PROJECT RATIONALE

Water resource availability in Odisha is largely dependent on rainfall and is highly dynamic due to variability in the rate of evaporation, transpiration, deep percolation, and surface runoff. Existing water resources in Nuapada district of Odisha like rivers, water reservoirs, streams, canals, etc., are highly vulnerable to the impacts of climate change and extreme weather events such as floods, droughts, and heavy rainfall sedimentation. Nuapada district falls under western undulating zone which has been classified as a part of a multi-hazard zone which is prone to repeated pattern of drought and flood instances. About 474 existing check dams serving an area of 7,560 hector of Nuapada district are not able to effectively manage irrigation and agriculture due to increasing population pressure and rainfall variation. The project proposes to diversify agricultural cropping pattern, irrigation infrastructure, skill base of farmers, agricultural inputs, and market infrastructure & linkages.

PROJECT FACTS

NAFCC Support	INR 200 million (USD 3.33 million)
No. of Participants/ Beneficiaries	600
Project Duration	January 2016- January 2020

Project Approach

Project rejuvenates hill water stream in Jonk basin of Nuapada district to enhance water use efficiency and run off management. Soil and water management work would be planned based on the database on climate modelled parameters of the region on stream-flow, precipitation, and temperature. Based on the findings, climate proofing of the canal irrigation and command area would also be done. Locally adaptive and less water demanding horticultural crops and vegetables farming would be promoted. Scientific inland fishery would be introduced in rice fields to control vector borne diseases and promote fresh water fishery in the farm-ponds. Project would link different sectors like agriculture, horticulture, and fishery. Capacity building and Institutional Development of Pani Panchayats would be done to facilitate micro-finance, micro-insurance, skill development, and develop market linkage to the farmer producer organizations. Climate adaptation and mitigation tools along with knowledge management products would be developed for building climate change responsive infrastructure in Nuapada district.

Impact of the Project

The key impacts of the project would be:

- Climate change induced drought and flood risk reduction through the construction of 3 check dams in the Jonk river basin.
- Development/Enhancement of the water command area in 145 ha coverage area.
- Adoption of horticulture and development of fruit orchards by 500 farmers.
- Livelihood diversification training of 100 number of landless people for adopting fishery and backyard poultry.
- Establishment of 15 units of solar water pumps.
- Formation of 3 Pani Panchayats for addressing water stress related risk and augmenting its availability.
- Climate knowledge development and management through formulation and distribution of resource material for fostering water and food security.



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