ICAT-A Stakeholder Mapping Report

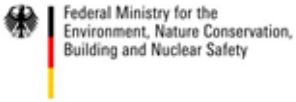
INDIA PHASE II

Developed by:
The Energy and Resources Institute (TERI)

DISCLAIMER

PREPARED UNDER

Initiative for Climate Action Transparency (ICAT) project supported by the German Federal Ministry for the Environment, Nature Conservation, Building and Nuclear Safety, the Children´s Investment Fund Foundation (CIFF), the Italian Ministry of Ecological Transition (IMET) and ClimateWorks.



The ICAT project is managed by the United Nations Office for Project Services (UNOPS).

Introduction

The changing climate and the risks associated with it make adaptation imperative for all countries. India, being a large country in the tropics with diverse agro-climatic regions and a long coast line, is extremely vulnerable to the consequences of a changing climate. Extensive resources are being targeted at not only designing activities and projects specifically addressing adaptation but also at ensuring that adaptation is integrated into the development planning to help reduce risks associated with climate change.

The Government of India in 2015 established the National Adaptation Fund on Climate Change (NAFCC) through which targeted projects on adaptation are being sanctioned to States and Union Territories (UTs). The objective of establishing the NAFCC is to support the costs for adaptation in States/ UTs that are vulnerable to the adverse effects of climate change. A budgetary provision has been made to support activities in States under the SAPCCs and the NAPCC. An existing institutional entity engaged in supporting development projects has been identified as the implementing entity for adaptation projects and is the National Implementing Entity for projects supported under the Adaptation Fund and the NAFCC.

While these projects have been established, monitoring and evaluation frameworks that indicate the progress in work related to these projects are needed. The ICAT-A project seeks to identify some of these projects that are being implemented in the country to monitor, evaluate and learn from the processes of implementation that are underway.

In its first phase of ICAT- A Project, case studies were chosen from the state of Telangana in India which sought to cover interventions related to:

i) Existing programs and schemes targeted towards development with adaptation co-benefits
ii) Initiatives exclusively designed to support adaptation activities in the state.

In the second phase of ICAT-A, new case studies have been chosen along the same objectives in the two priority sectors of agriculture and water in the Union Territory of Puducherry and State of Odisha and Bihar.

In the state of Odisha, TERI has identified the project on water conservation through run off management for climate change adaptation. The case study has been identified in consultation with experts in the Odisha and has been discussed in the sections below.

ICAT-A Approach for Stakeholder Engagement

- **Scales of Engagement**

Since Adaptation is locally oriented and has to be context specific, there is a need to engage stakeholders' at all possible levels of the implementation process. An effective implementation of any climate change adaptation intervention requires engagement at various scales starting from individuals to institutions, both horizontally and vertically oriented. The various scales as indicated below apply based on the kind of Adaptation intervention being planned/ implemented;

- *International: Multilaterals, Bilaterals, UN agencies, MNCs,* Insurance agencies etc.,
- *National:* Central Government, Other relevant entities in the implementation of these projects, Private Sector, Research Institutions, Academia and NGOs, Financial Institutions etc.
- *Subnational:* State relevant departments, State research institutions, Private Sector, Academia and NGOs, Financial Institutions etc.
- *Local:* CBOs, Gram panchayats, Village level committees
- *Beneficiaries:* Can be divided based on the social strata - type, class, caste
    - Types: Households/ Individuals Groups (Farmers, Fisher-folk, Forest dependent communities, Coastal communities (any other if applicable))
    - Class: High, Mid, Low Income Groups
    - Caste: General categories, SC/ STs

The objective of interactions being to understand, co-produce information that then assists in the learning process of how the implementation is being carried out.

- **Mode of Engagement**

The mode of engagement would primarily vary according to the type of stakeholder being taken into consideration and the type of information that needs to extracted. For instance, key person interviews and one-to-one interactions is normally done for interactions with various institutions to garner information on the nature of the intervention, roles and responsibilities in implementation and understanding the barriers and bridges for implementation. Community interactions are also conducted to understand their perspectives on the nature of impact and the interventions being carried out or proposed. Group discussions, FGDs, Surveys are common modes of engagement and collation of information from the beneficiaries.

Stakeholder Identification and Mapping for the Odisha in India

CASE: Conserve water through management of runoff in Jonk river basin to reduce vulnerability and enhance resilience for traditional livelihoods in Nuapada district

Rationale for selection of case study

The project "*Conserve water through the management of run-off in the river basin to reduce vulnerability and enhance resilience for traditional livelihood in Nuapada*" in Odisha initiative is a National Adaptation Fund for Climate Change (NAFCC) funded project. While the funding is routed through a central agency, but the interventions, implemented by the state are specific to the needs and the requirements of the state. The initiative promotes adaptation in water resource sector and comply with the objective of National Water Mission of NAPCC and water related streams of SAPCC. It also targets poverty alleviation initiatives of the region so as to reduce poverty and social imparity.

Description of the Case

Odisha is an eastern Indian state with 480 kilometres of coastline exposed to Bay of Bengal. The state is dependent on monsoon for its water resources. About 230.76 billion cubic meter (BCM) of precipitation is received under normal conditions, of which 78% of rainfall occurs during June to September. The state is facing a change in climate patterns with erratic rainfall inducing floods and drought in its different parts. Beside its vulnerability due to geographical location, dependency of water sector on monsoon also makes it vulnerable to climate change as there is variation in river flow with increase in frequency/intensity of extreme climate events such as floods, droughts and cyclone.

Of the 10 agro-climatic zones in Odisha, the selected case study district, Nuapada falls under zone-8 which is western undulating zone. The district receives about 1352mm of mean annual rainfall and experiencing a mean maximum temperature up to 37.8 degree Celsius during summer and a mean minimum temperature of 11.9 degree Celsius in winter. There is a wide variation in climate patterns in the district. It is classified under the multi-hazard zone which is a water stressed and drought prone region lying in western and south western part of Odisha. However, the hilly regions are vulnerable to flash floods leading to sand casting and degradation of top soil. Due to erratic rainfall, agriculture and fishery is affected the most in the district.

The selected project to develop the MEL framework for climate action transparency relates to Jonk river basin which lies in the Nuapada district. The river basin feeds in several non-perennial streams some of which have become defunct due to the inconsistency in monsoon of the region and have resulted in the change of their

course. Other factors making the climate change impact more intense in the region includes lower soil moisture retention and water harvesting, and poor run-off management affecting the vegetation and economy in the area consequently, altering the socio-economic character of the region. The invariability in the rainfall pattern has led to poor employability causing people to migrate with increase in the number of traffickers.

Given this background, the state is implementing water conservation activities conforming to the National Water Mission under National Adaptation Fund for Climate change (NAFCC). The case study project titled 'Conserve water through management of runoff in Jonk river basin to reduce vulnerability and enhance resilience for traditional livelihoods in Nuapada district' funded by NAFCC is a part of such water conservation initiatives taken for adaptation in water sector in Nuapada district. The project aimed to build water harvesting structure i.e. check dams in the command area in the Jonk River basin of Nuapada district targeting water conservation through run-off management in order to reduce the vulnerability to agriculture sector and enhance resilience of traditional livelihood. The main objectives of the project is to protect the natural streams near the basin to reduce the climate variability, suggest structural measures, provide diversify livelihood options for livelihood security, use renewable energy in selected crops for efficient use of water, to strengthen the water management by developing linkages with Pani Panchayats for capacity building, and to develop resource material and tool for monitoring of the climate change adaptation and mitigation co-benefits. The details of the project location is shown in Table *1*.

Table 1 Details of Project location *(source: DPR-NAFCC)*

S. No	Check Dam	Stream	Village	Block	Catchment Area in Sq. Km.	Length in Meter	Ayacut (In Ha.)
1	Budhipali Check Dam	Kharkhara Nalla	Budhipali	Nuapada	115	60	50
2	Parsadadar Dam	Kharkhara Nalla	Parsadadar	Nuapada	123.5	65	45
3	Parkod Check dam	Kharkhara Nalla	Parkod	Nuapada	127.5	68	50

Governance Structure:

The project is governed by a range of entities at the National, State and local level. The table below details the multi-tier structure indicating the agencies and their nature of involvement.

Governance Structure	Entities

1	Funding Agency	Ministry of Environment, Forests and Climate Change (MOEF&CC), *GoI*, under the National Adaptation Fund for Climate Change (NAFCC)
2	National Executing entity	National Bank for Agriculture and Rural Development (NABARD)
3	State Level Steering Committee (SLSC)	*(Need clarification from the executing entity during site visit)*
4	Project Executing Entities	1. Department of Water Resources, Government of Odisha 2. A district level project committee at basin level 3. Partner departments: Directorate of Agriculture, Horticulture, Fishery, Energy
5	Nodal Agency	Department of Water Resources, Government of Odisha
6	Beneficiaries	Inhabitants of along the river basin of Jonk River (a tributary of Mahanadi) in Nuapada affected by both drought and flood.

Table2: Governance Structure [**Source:** Revised Detailed Project Report-NAFCC]

Output-based Activities:

The project has six major components involving creation of structural measures, diversification of livelihood, promotion of integrated farming system, use of solar pumping for efficient use of water, capacity building by linking Pani Panchayats/village committee for water management, and develop resource material & tool for monitoring of the climate change adaptation and mitigation co-benefits.

The funding for the project is released by NABARD, which is the National Implementing Entity (NIE) for NAFCC projects. The total budget for this project is INR. 20,00,00,000. This had been planned to achieve with 53% in Investment activity, 27% in Capacity Building activity and 20% in Project Management activity.

The expected outputs and outcomes for each of the components are described in the table below along with their budget.

S No.	Project/Programme Components	Expected Concrete Outputs	Expected Outcomes	Amount (in crores)
1	**Protection of the natural streams near the basin undertaking structural measures such as check dams based on future climate**	1. check-dams in the Jonk basin to protect the natural spring 2. Enhance the command to 145 ha (at least 95% of the potential)	Reduced risks of adverse impacts of climate change (drought and flood) in water and	7.85

	variability analysis along the basin for checking run-off and use measures for both drought and flood control endemic to the area.	3. Provide farm level water management through drip and sprinkler in stressed areas	agriculture sectors and rejuvenation of hill stream for long term sustainability	
2	**Diversify livelihood from paddy monoculture and Introduce horticultural crops (fruits and vegetables)**	At least 500 farmers take additional horticultural crops in the command area after paddy based on the water use efficiency	Poverty alleviation, livelihood security an enhanced awareness of community on efficient water use in the economic activity	2.0
3	**Link fishery and poultry as part of livelihood diversification initiative**	1. Fishery activities are taken up in the command and farm ponds 2. User associations to work with about 100 no of landless people to involve them in fishery activities 3. Backyard poultry unit established	Enhanced adaptive capacity through livelihood diversification from non-land based activity as well as fishery, especially for the landless	1.00
4	**Solar pumping system for efficient use of water in select crops based on vulnerability**	Pilot programme on solar pumping to be introduced and 15 units made operational for efficient use of water	Reduced dependence on fossil fuel and efficient management of water in the stressed region	1.5
5	**Achieving sustainability by linkages with Pani Panchayats for water management**	3 no of pani panchayats to be formed and capacity of the members enhanced on issues relating to climate risk and vulnerability related to water and efficient use of water.	Strengthened awareness and ownership of adaptation and climate risk reduction processes at local level	2.5
6.	**Develop resource material and tool for**	1. Modules on climate	Maximized multisectoral,	2.5

	monitoring of the climate change adaptation and mitigation co-benefits	adaptation at the local level to be developed for the PP 2. The adaptation benefit and mitigation co-benefits to be determined through concurrent monitoring 3. Knowledge products/best practice documents developed	cross-sectoral benefits/co-benefits to meet the challenges of water and food security

Table 3: Activity-output-outcome-Impact [**Source:** Detailed Project Report (DPR-NAFCC)]

Expected Beneficiaries

Community living in the settlements along the Jonk river basin in Nuapada district who are affected by drought and flood would be the direct beneficiaries of the project.

Quantitative and qualitative estimate of the expected impact of the adaptation intervention

The primary objective of the project activities is to conserve water resource through run off management in the region which will cater to the agriculture and allied sectors and lead to enhanced lives and livelihoods. The following table elucidates quantitative and the qualitative impacts of the project.

Components	Quantitative Impact	Qualitative Impact
Component 1: Protection of the natural streams near the basin undertaking structural measures such as check dams based on future climate variability analysis along the basin for checking run-off and use measures for both drought and flood control endemic to the area.	Construction of 3 check-dams in the Jonk basin Enhance the command to 145 ha (at least 95% of the potential)	Natural recharge
Component 2: Diversify livelihood from paddy monoculture and introduce horticultural	At least 500 farmers take additional horticultural crops in the command area after paddy based on the water use efficiency	Better Liquidity

crops (fruits and vegetables)		
Component 3: Link fishery and poultry as part of livelihood diversification initiative	User associations to work with about 100 no of landless people to involve them in fishery activities Backyard poultry unit established	Income and nutrition security
Component 4: Solar pumping system for efficient use of water in select crops based on vulnerability	Pilot programme on solar pumping to be introduced and 15 units made operational for efficient use of water	Renewable source, mitigation co-benefit
Component 5: Achieving sustainability by linkages with Pani Panchayats for water management	3 no of pani panchayats to be formed and capacity of the members enhanced on issues relating to climate risk and vulnerability related to water and efficient use of water.	Capacity building of Pani panchayats
Component 6: Develop resource material and tool for monitoring of the climate change adaptation and mitigation co-benefits	Modules on climate adaptation at the local level to be developed for the PP Knowledge products/best practice documents developed	Maximized multisectoral, cross-sectoral benefits/co-benefits to meet the challenges of water and food security

Table 4: Quantitative and Qualitative Impact of the project [**Source:** Detailed Project Report]

Stakeholder Analysis

The key stakeholders in the project are listed in Table 5. Based on the secondary literature available, the role of stakeholder involved is summarized in Table 5 to identify their interest and influence on the project implementation.

The stakeholder matrix depicts (Figure 1) that most of the stakeholders have high interest and high influence on the project. Stakeholders that plan, monitor and implement actions at basin level are more influential since they are directly involved in achieving and implementing the project-objectives. These departments conducted training programs, provided resources and expert knowledge base with an attempt to increase the uptake of the intervention. The Department of Water Resources, Krishi Vigyan Kendra (KVK) and Department of Agriculture played a vital role followed by the other partner departments since most of the adaptation actions are structured on the water and agriculture sector.

S. No	Stakeholder	Role of stakeholder	Stakeholder interest	Stakeholder influence on intervention
1.	MOEFCC	Financing	High (Borderline) (Objective of the entity is to increase channelization of NAFCC funds towards adaptation-oriented projects)	Medium (Regulates NAFCC fund disbursement for project implementation)
2.	NIE (NABARD)	Project cycle support	High (Borderline) (Objective of the entity is to increase channelization of NAFCC funds towards adaptation-oriented projects)	Medium (Regulates NAFCC fund disbursement for project implementation)
3.	**Department of Water Resources**	• Coordinating agency to MoEFCC and NIE and Project Implementing Agencies (PIA) for project execution • Conducted training programs in 8 villages	High	High
4.	**Agriculture Science Centre (KVK)**	• Provided vocational training to small, poor and landless farmers on poultry farming to control them to work as bonded laborers. • Constructed 20 demonstration units for this purpose	High	High
5.	**Department of Agriculture**	• Awareness generation among the farmers • Explained monetary benefits of utilizing water funded under NAFCC scheme to cultivate cash crops	High	High

6.	**Department of Fishery**	• Encouraged farmers to take up fishery activity • Provided fingerlings and feeds to the farmer • Made provision for individual beneficiary and the SHG group for scientific fishery	High	High
7.	**District Horticulture department**	• Involve migrating farmers in horticultural activities • Encouraged farmers to take vegetable and fruit cultivation • Distribution of different seeds and saplings to the farmers along with fertilizers, medicines, sprayers, crate and different horticultural tools and implements	High	High
8.	**CTRAN**	• Partner agency to develop baseline and conduct assessment of adaptation benefits and co-benefits • assisting climate change cell in the M&E of the climate change related activities	High	Medium
9.	**OLM (DRDA)**	• Implemented Livelihood activity such as “Mo Upakari Bagicha” or Organic Nutrition in 8 villages of 3 panchayats • Provided 17 different vegetable seeds with fruits saplings such as banana, Moringa, Papaya, Lemon, etc.	High	High
10.	**Veterinary Department**	• Selected poor and landless people from 8 villages of the project area • Provided training about animal husbandry practices and awareness about its benefits in sustaining livelihood • Provided selected beneficiaries medicines, feeds & Vaccines • Selected 93 farmers for goat farming, 89 poultry farmers and 40 duck farmers	High	High
11.	**Odisha Renewable Energy Development Agency (OREDA)**	• Provided expert knowledge base and assisted in solar pumping for efficient use of water	High	High
12.	**Community**	• Direct beneficiary of the project	High	Medium

Table 5: Stakeholder Analysis

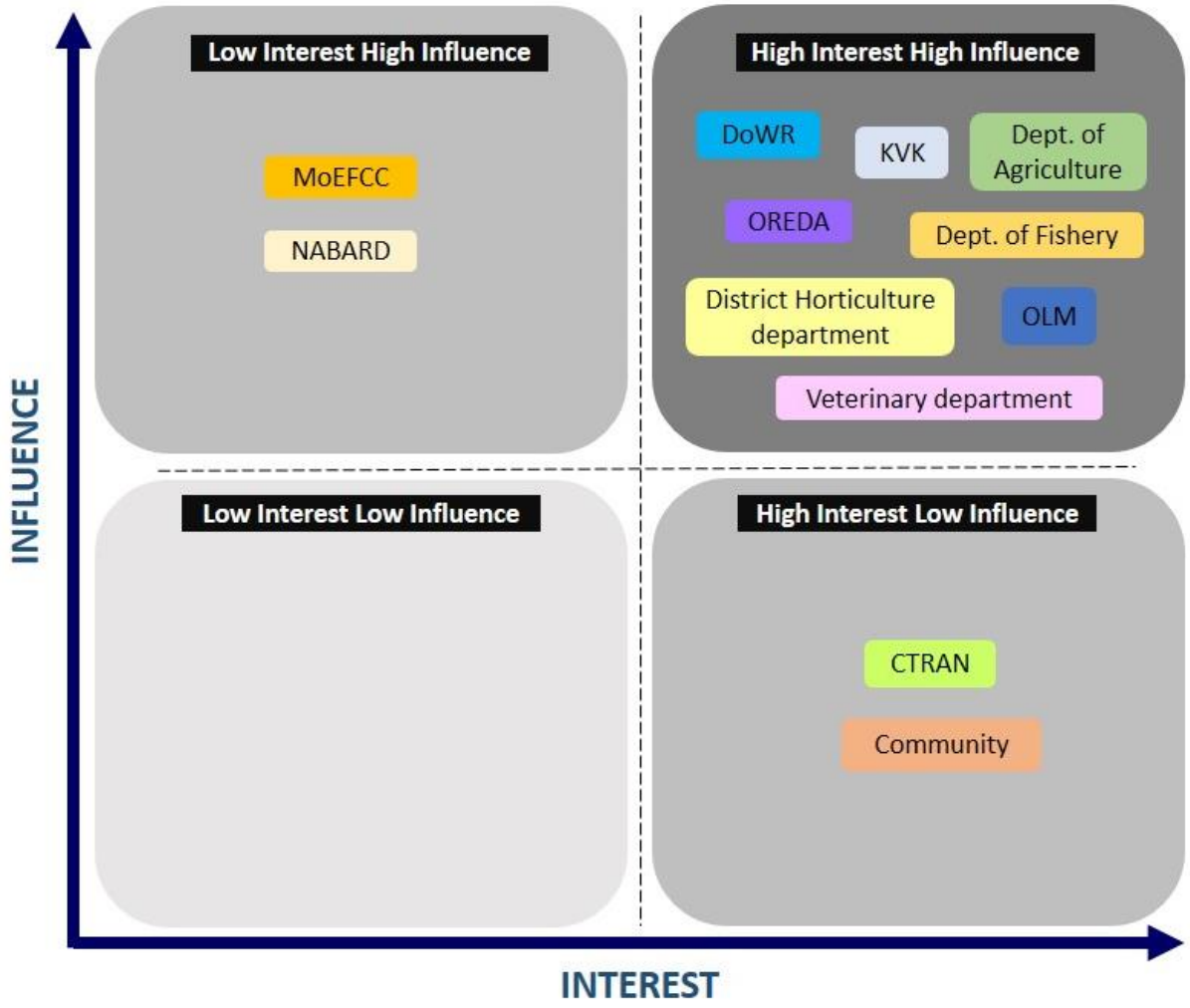


Figure 1 Stakeholder interest and influence mapping*[1]. (*Source: Author, based on secondary literature*)

[1] Stakeholder interest and influence matrix is filled through secondary literature and author's judgement. The matrix results needs to be vetted by relevant stakeholders through consultations.

Way Forward

Stakeholder Consultations.

The stakeholder influence and interest matrix would be vetted by the relevant stakeholders in Odisha. The consultations would also ensure establishing mechanism to receive constant feedback from to maintaining the efficacy of the intervention in light of changing circumstances. Further, it would also be important to establish continuous stakeholder engagement as part of the ICAT process for ensuring proper documentation that can be developed for MEL purposes.

References

DoWR, D. o. (2017). *DPR-NAFCC: Conserve water through the management of run-off in the river basin to reduce vulnerability and enhance resilience for traditional livelihood in Nuapada assisted by CTRAN Consulting.* Government of Odisha.

Annexure

No Objection Certificate from the Government of Odisha

By e-mail - faiza.jamal@teri.res.in

GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
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No. 31145 /WR, Dated 6/12/2021
WR-LI-SCH-0030-2021

From

Smt. Madhusmita Sahoo, I.A.S.,
Deputy Secretary to Government.

To

Faiza Jamal,
Project Associate, Earth Science & Climate Change division, CGER Area,
The Energy and resources Institute (TERI).

Sub: Regarding No Objection Letter (NOC) for taking up NAFCC & GCF Projects for research oriented collaboration under ICAT-TERI.

Madam,

In inviting a reference to your e-mail dated 10.11.2021 on the subject cited above, I am directed to convey 'No Objection' and willingness to share information related to NAFCC project titled "Conserve water through management of runoff in Jonk river basin to reduce vulnerability and enhance resilience for traditional livelihoods in Nuapada district" and GCF project titled "Ground water recharge and solar micro irrigation to ensure food security and enhance resilience in vulnerable tribal areas of Odisha" for research oriented initiative under ICAT-TERI partnership to develop MEL (Monitoring, Evaluation & Learning) of adaptation action under the two projects with the condition to share the draft results/ reports with us before officially releasing & publishing it.

Yours faithfully,

Deputy Secretary to Government

Memo No. 31146 /WR, Dated 6/12/2021

Copy forwarded to the P.S. to Principal Secretary to Govt., DoWR for kind information of Principal Secretary.

Deputy Secretary to Government

Memo No. 31147 /WR, Dated 6/12/2021

Copy forwarded to the PD,OCTDMS/Project Director,NAFCC/CE,MI/EE,Khariar MI Division for kind information and necessary support in sharing information.

Deputy Secretary to Government