Impact assessment of IndusInd Bank's Lake Rejuvenation program for FY 22-23

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Image Source: RTI International

Executive Summary

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The Lake Rejuvenation Project, spearheaded by the Environmentalist Foundation of India (EFI), was conceived with the vision of ecologically restoring three lakes in Raipur—Sankra, Bandha, and Dongiya. The aim of the project was to revitalize these water bodies to ensure they serve as sustainable natural habitats, bolster water quality, augment storage capacity, preserve biodiversity, and provide reliable water sources for the local populace while mitigating urban encroachment and pollution. The lake rejuvenation project aimed to address several Sustainable Development Goals, including 3, 6, 11, 14, and 15.

The project was successful in meeting its goals by increasing water storage, improving water quality, and enhancing biodiversity. It has also delivered tangible benefits to the local community, enriching the lives of many through these improvements. The initiative has also taken proactive steps in delineating lake boundaries, effectively safeguarding the areas from potential encroachments.

While the project has made commendable strides in ecological restoration, it is recognized that deeper community involvement and the promotion of local stewardship are pivotal areas that could amplify the project's long-term gains.

Key Impacts:

- Post-rejuvenation, the lakes now hold more water, crucial for addressing drought and maintaining water supply during dry periods.
- Native flora has been promoted and new islands created, leading to richer biodiversity and a more balanced ecosystem.
- Desilting and cleaning efforts have improved water clarity and quality, benefiting both aquatic life and human use.
- Lake bunds have been reinforced to prevent erosion, while fencing and clear boundary marking have curbed illegal encroachment.
- Over 5,000 locals have benefited from better water accessibility and a more pristine, verdant living environment.

Key recommendations:

- Design programs to allow the team to work with catchment communities on establishing community-led governance for each lake targeted for rejuvenation.
- Ensure adherence to IndusInd Bank's branding protocols to maximize CSR brand amplification.
- Initiate the program only after setting up a robust Management Information System (MIS) for real-time tracking of activities, outputs, outcomes, and impact indicators.

Program Background

Implemented by Environmentalist Foundation of India (EFI), the Lake rejuvenation project aims to transform water bodies into thriving, sustainable natural habitats.

Program Objective: The primary objective of the lake rejuvenation project is the ecological restoration and conservation of three lakes in Raipur namely, Sankra, Bandha and Dongiya. This initiative aims to enhance water quality, increase storage capacity, protect local biodiversity, sustainable water sources for the surrounding communities and address the challenges of urban encroachment, pollution, and ecosystem degradation.

Program Strategy: The program strategies of the lake Rejuvenation project encompasses of the following dimensions:

- Demarcation of the original boundaries of the water body.
- Augmenting the water storage capacity.
- Improving biodiversity, in the lake ecosystem.
- Ensuring community inclusion by not restricting daily lake use.
- Achieving balance between humans and wildlife dependent upon the lake's ecosystem.

1	1	3	5K+
State	District	Lakes	Population

Evaluation approach & methodology

Using a qualitative approach, the evaluation has captured a 360-degree perspective of the impact from the lens of the local communities and implementing agency.

Evaluation objective:

- Assess the extent to which the Lake rejuvenation project has achieved the intended objectives
- Identify lessons learnt for informing similar future interventions

Evaluation Parameters:

The impact assessment was done based on the OECD DAC criteria. There are 6 broad pillars under this framework, they are: Relevance, Coherence, Effectiveness, Efficiency, Impact, and Sustainability. *

Evaluation Approach:

A qualitative approach was employed to evaluate the Lake Rejuvenation program. Site visits assessed the on-ground implementation status of the project. FGDs with community members, local government representatives, and KII with program team offered varied insights on the impact of the rejuvenation efforts.

Evaluation Tools:

The impact assessment was done using the following data collection tools:

- Physical observation checklist
- KII with program team of EFI & Local Government Representatives
- FGD with community groups

SAMPLE LAKES

Sankra lake

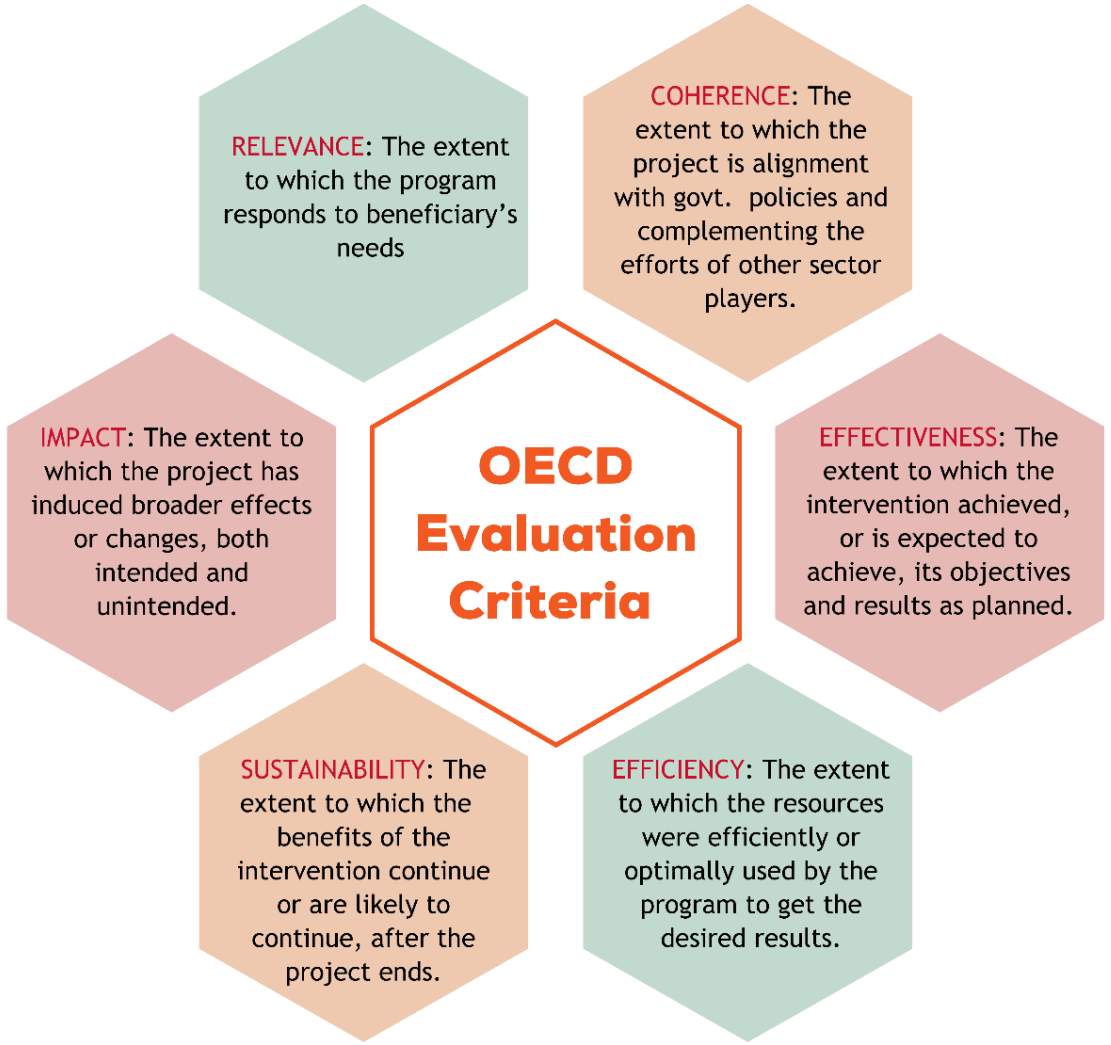
Bandha lake

Dongiya lake

* Note: A detailed note explaining OECD DAC criteria has been provided on the next page.

OECD Framework for Impact Assessment

Organization for Economic Co-operation and Development (OECD) approach has adopted for evaluation is based on six aspects



Measuring EFFICIENCY was out of the scope of this evaluation as financial dimensions of the project, including the utilization of funds provided by IndusInd by EFI, were not examined by RTI.

Key observations & findings – ‘Relevance’

4.1

The EFI lake rejuvenation support local water needs and complement the region's development, forming a crucial part of the Kharun River's extensive lake system.

Relevance to the region: The project area falls under the Kharun river system catchment and is situated 20 kilometers southwest of Raipur, This is a pre-urban area enveloping the villages of Amleshwar and Sankra within its expanse. The Kharun River passes through the region with the perennial flow of water from tributary streams and Nallahs joining it from both sides. In the absence of widespread tap water connectivity, the inhabitants predominantly rely on groundwater. This is sourced through hand pumps and tube wells. The region is witnessing rapid infrastructure development, with an array of group housing projects, resorts, hotels, and industrial complexes emerging throughout the area. Thus, the area is under the potential threat of over exploitation of ground water resources.

There are 19 lakes in the catchment area of the Kharun river system which is in a dire need for rejuvenation. The 3 lakes selected under the project is part of this system of 19 lakes. Thus, it is an integral contribution to the overall rejuvenation of the catchment area of this river system.

19 lakes that are part of the Kharun river system.

Key observations & findings – 'Relevance'

4.1

The Lake Rejuvenation program is relevant to the current global priorities and national policies on one hand, and with the needs of the primary stakeholders (i.e., local communities) on the other hand.

Relevant to the SDGs: The EFI lake rejuvenation project aligns with several Sustainable Development Goals (SDGs), particularly SDG 6 (Clean Water and Sanitation), SDG 11 (Sustainable Cities and Communities), SDG 13 (Climate Action), SDG 14 (Life Below Water) and SDG 15 (Life on Land). The project directly and indirectly impacted over 5000 people, contributing to SDG 3 (Good Health and Well-Being) by improving the water quality, and providing a healthier ecosystem for local flora and fauna.

Relevant to the Local Communities: The project is crucial for the local communities that depend on the lakes for water and as part of their daily lives. The rejuvenation efforts ensure a stable supply of water, support local agriculture, and maintain the ecological balance, which is essential for community well-being and sustainable livelihoods. By increasing the water storage capacity and improving the health of the lakes, the project also indirectly supports the local economy and development.

Relevant to the Policy Environment: The project's activities are in direct concordance with the National Water Policy 2012, which mandates the prohibition of encroachments and diversions of water bodies. By strengthening lake bunds and constructing fences, the project effectively prevents encroachment, adhering to the policy's provisions and demonstrating a commitment to restoring and maintaining the integrity of water bodies as stipulated. The restoration adheres to the 'Indicative Guidelines for the restoration of water bodies' issued by the Central Pollution Control Board (CPCB). This ensures that the project follows the recommended practices for the restoration and rejuvenation of water bodies, contributing to national efforts to improve water quality and ecological health. The project's implementation strategies are in compliance with the Water (Prevention and Control of Pollution) Act of 1974. By regulating the discharge of effluents and controlling the sources of pollution within the project scope, the initiative supports the enforcement of standards overseen by the State Pollution Control Boards (SPCBs) and Pollution Control Committees (PCCs), thereby contributing to the national agenda of water pollution prevention and control.

Key observations & findings – 'Coherence'

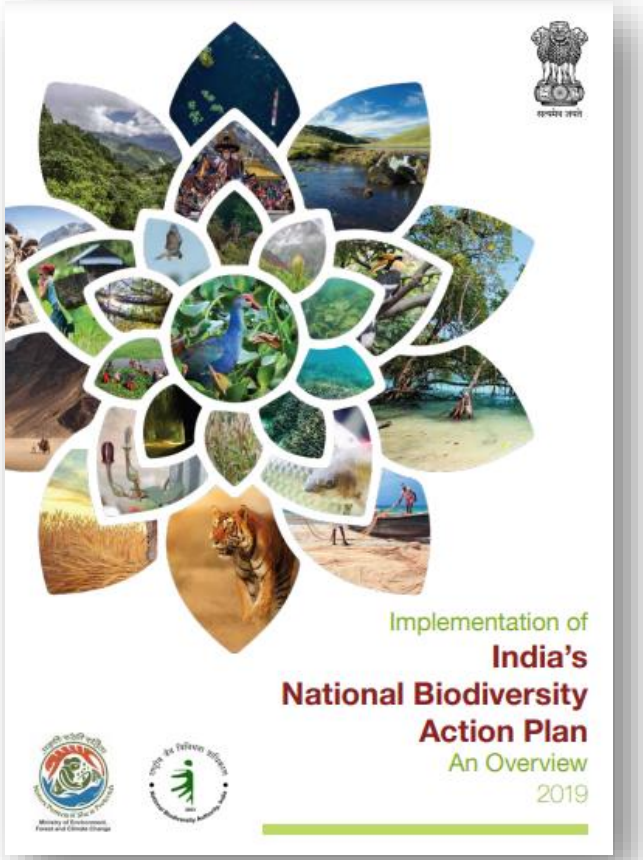
4.2

The Lake rejuvenation program exhibits full alignment and integration with the strategic focus areas and overarching vision of EFI, the implementing partner.

Internal Coherence: EFI has consistently collaborated with various Corporate Social Responsibility (CSR) initiatives across multiple regions, focusing on revival of polluted/ contaminated freshwater bodies through a scientific approach. This consistency ensures a high degree of internal coherence within the organization regarding its programmatic approach. Such uniformity not only facilitates the gradual refinement of program design and interventions but also enables the seamless integration of insights and learnings from one project into another, thereby continually enhancing the effectiveness and impact of the initiative

External Coherence: The EFI lake rejuvenation initiative plays a pivotal role in advancing India's agenda for sustainable development and environmental preservation. By focusing on the restoration of water bodies, the program aligns with the National Biodiversity Action Plan, striving to protect and enhance the nation's rich biological diversity. The efforts extend beyond mere conservation; they include increasing the water retention capacity of lakes, which contributes to better water security and addresses the scarcity concerns.

Simultaneously, the program supports India's commitment to reversing land degradation, in line with the objectives set by the Bonn Challenge and the United Nations Convention to Combat Desertification. The restoration activities involve measures that prevent soil erosion thereby ensuring that the land can continue to be productive and sustain various forms of life.



Key observations & findings – ‘Effectiveness’

4.3

The project team has effectively executed all the key interventions like desilting, bund construction, fencing, de-weeding, and island development within the lake ecosystem, as per the mandate of the project.

Activity Execution: The project successfully carried out all crucial activities as part of the program's mandate.

- Desilting: Desilting operations were conducted to augment the water storage capacity of the lakes.
- Bund construction: Strengthening and construction of lake bunds were effectively completed to ensure better structural stability.
- Fencing: Robust fencing was established around the lakes to regulate access and protect the area.
- De-Weeding: The project undertook the removal of invasive species and the creation of islands to bolster local biodiversity, aiming for an ecologically balanced environment.

Despite these successes, there are ongoing challenges such as persistence of garbage around the lake peripheries. The presence of garbage suggest that post-restoration maintenance requires a long-term engagement with the communities. Another notable challenge is the increased difficulty in accessing of the lakes due to bund construction, risking damage to the bunds for improved access paths.

Desilting

Bund construction

Fencing

De-Weeding

Key program activities undertaken for rejuvenation of lakes.

Key observations & findings – 'Effectiveness'

4.3

The EFI lake rejuvenation boosted the water storage capacity and quality of water, promoting biodiversity and supporting local beneficiaries through enhanced water availability and improved agricultural opportunities.

Increased Water Storage Capacity: Sankra Lake has seen an impressive increase in water storage capacity from 1,33,867.5 cubic meters to 2,23,112.5 cubic meters post-restoration, marking an approximate 67% increase. Bandha Lake and Dongiya Lake have also reported significant increments of 60% and 40%, respectively. These increments are crucial for supporting local ecosystems during dry seasons and reducing the stress on water resources during periods of drought.

Enhanced Average Depth: The restoration activities have successfully deepened the average depth of each lake. For instance, Sankra Lake's depth increased from 1.5 meters to 2.5 meters, while Dongiya Lake increased from 2.5 meters to 3.5 meters. A deeper lake not only means improved storage capacity, but also can contribute to improved water quality and offer better flood mitigation benefits. The deepening and cleaning of the lakes also have had a positive impact on local flora and fauna, encouraging biodiversity and offering a healthier habitat for species to thrive. This is crucial for maintaining ecological balance and ensuring the continuity of life cycles within these freshwater ecosystems.

Parameters	Sankra Lake	Bandha Lake	Dongiya Lake
Area (Acres)	22.05	8.08	8.31
Pre-restoration avg. depth (m)	1.50	1.00	2.50
Post-restoration avg. depth (m)	2.50	1.60	3.50
Pre-restoration storage capacity (Lakh Litres)	1338.67	326.84	840.45
Post-restoration storage capacity (Lakh Litres)	2231.12	522.94	1176.63
Percentage increment in storage	67%	60%	40%
Approx. beneficiary count	~2,500	~1,500	~1,500

Before-After Comparison of the lakes rejuvenated

4.3

Sankra Lake: Before and After Bund Construction

BEFORE

AFTER

Before-After Comparison of the lakes rejuvenated

4.3

Bandha Lake: Before and After Desilting the Lake-bed

BEFORE

AFTER

Before-After Comparison of the lakes rejuvenated

4.3

Bandha Lake: Before and After Island Creation

BEFORE

AFTER

Before-After Comparison of the lakes rejuvenated

4.3

Dongiya Lake Before and After De-weeding

BEFORE

AFTER

Key observations & findings – ‘Effectiveness’

4.3

The program effectively demarcated lake boundaries to prevent future encroachments, but existing settlements within these perimeters continue to challenge the lakes' ecological health.

Preventing Encroachments: The EFI lake rejuvenation program made significant strides in demarcating lake boundaries, a crucial step in preventing future encroachments and ensure preservation of the lake ecosystem. With the authoritative support, the project successfully outlined the perimeters, establishing clear markers to delineate the protected areas.

However, the program faced limitations when it came to addressing existing encroachments. The project could not extend to the removal of these established settlements as the district authorities were not willing to create a chaos by removing people from their settlements. Individuals and families who have lived within the lake boundaries for extended periods have been permitted to stay, a decision which was a compulsion for the district administration to ensure that communities continue to contribute positively towards the rejuvenation process.

The presence of domestic dwellings within the lake boundaries has however led to the continuity of human and animal activities around the lake and direct release of waste into the lakes, harming the ecological health of the lakes.

Encroachments within lake boundary, Sankra Lake, Raipur, Chhattisgarh

Key observations & findings – ‘Effectiveness’

4.3

The lake rejuvenation project's ecological gains could have been further strengthened through intensive community engagement and investment in fostering local stewardship.

Community Engagement: Effective community participation is the cornerstone of sustainable management of common pool resources, especially those concerning natural resources that local populations depend upon. With the lake rejuvenation project, the technical and ecological dimensions of rejuvenation have been competently handled. However, there remains a valuable opportunity to further enhance the management of the lake through community engagement. Investing additional resources in the creation, training, and fortification of a lake management committee, holds the promise of guiding the lake's sustainable stewardship well beyond the program’s exit, thereby amplifying and enduring the long-term benefits of the project.

Community feedback: During community level FGDs, it was evident that the communities appreciates the effectiveness of the project towards improving increased water availability in the drinking water sources in its catchment; improved cleanliness in and around the lake; improvement in water quality; and even a place for social gatherings. However, they also opined that interventions like ghat creating and more plantation around the lake would have added more value to this already useful intervention.

Interaction with community members, Bandha lake, Raipur, Chhattisgarh

Key observations & findings – 'Impact'

4.4

The lake rejuvenation has not only increased their water retention capacities but also bolstered biodiversity, improved water quality and strengthened infrastructure to prevent erosion and encroachments.

Increased Water Retention: Lakes have shown a significant increase in water capacity post-rejuvenation, with Sankra Lake experiencing a 67% rise of 892.45 lakh liters, Bandha Lake a 60% rise of 196.104 lakh liters, and Dongiya Lake a 40% rise of 336.18 lakh liters, enhancing drought resilience and water availability during dry seasons.

Improved biodiversity: The promotion of native plant species, along with the creation of 8 islands in Sankra Lake and 3 in Bandha Lake using excess soil from lake-bed leveling, have boosted biodiversity and helped stabilize the ecosystem.

Water Quality Improvement: The concerted desilting and cleaning efforts within the restoration project have substantially enhanced the clarity and quality of the water, which has been beneficial for both aquatic life and human use. This improvement has been unanimously noted by all 26 participants in the focus group discussions, highlighting the project's positive impact on the lakes' water quality.

Infrastructure strengthening: Construction of bunds has strengthened the lakes' infrastructure, preventing erosion whereas fencing and demarcation of boundaries have helped in preventing encroachments.

These impacts were reflected from community interactions and based on data shared by EFI.

> *The efforts of the program team has significantly improved the condition of the IndusInd lakes . I have seen a visible change in the quality and clarity of the water as well as in the cleanliness of the surrounding areas. I am very happy with the changes and hope that more such activities happen in the region.*
>
> *Nirmala,*
> *Local community member*

Key observations & findings – 'Impact'

4.4

Lake rejuvenation has enhanced the lives of over 5,000 individuals by providing cleaner water, improving the local environment, beautifying the community spaces, and fostering educational and conservation engagement.

Community Benefits: The lake rejuvenation initiative has positively affected over 5,000 community members in multiple ways, including:

- Greater availability of clean water for daily activities, which supports better hygiene and health outcomes.
- Enhanced agricultural productivity due to improved water quality, leading to economic growth in the locality.
- Prevention of encroachment and pollution, improving the overall living conditions around the lakes.
- Environmental beautification resulting in spaces for leisure with the potential to attract eco-tourism, generating economic opportunities.
- Educational opportunities through the demonstration of effective environmental restoration techniques.
- Increased awareness and community involvement in environmental conservation efforts.

These impacts were reflected from community interactions during the evaluation.

Beneficiary Count	Sankra	Bandha	Dongiya
Drinking water	500	100	0
Agriculture/Fishing/Dairy	200	50	150
Daily use (Other thank drinking)	1800	1350	1350
Total	2500	1500	1500

> *The intervention has benefitted us in many ways, and we are grateful for the efforts of EFI and IndusInd Bank.*
>
> *Local community members, Bandha Lake*

Key observations & findings – 'Sustainability'

4.5

An extended engagement with communities to establish a governance mechanism would have catered more towards the sustainability of the program in the long-run.

We can look at sustainability of the lake rejuvenation program in terms of the following 3 dimensions (as per the TRIPLE BOTTOMLINE APPROACH):

i. Ecological Sustainability
ii. Economical Sustainability
iii. Social Sustainability

It was found that the project has been successful in improving the ecological parameters of the lake. However, this was a one-time resource-intensive intervention. It has led to the improvement in a lot of social parameters as well like cleanliness around the lake thus improving its aesthetic elements; increased water availability in the drinking water sources in summers; and an asset to the community to fulfil many other domestic water requirements. It would have been worthwhile to stay in the same community for at least 6 to 12 months after the completion of the hardware activities to establish a community-led lake governance system. This would not only have ensured that sustainability of the ecological and social dimensions but would also helped communities to generate some funds to take care of the recurring cost of maintaining the lake ecosystem for subsequent years.

Members of local community, Bandha lake, Raipur, Chhattisgarh

Way forward: Improving program's efficiency & long-term success

5

- Moving forward, the program such be designed in a way that the program team have time and resources to engage with the catchment communities to establish a community-led governance mechanism of each and every lake that they take-up for rejuvenation work. A detail sustainability plan base don the triple bottom-line approach will be useful in this context.
- The implementation agency must also focus on the abidance of the branding protocols of IndusInd Bank for ensuring the brand amplification for the CSR.
- The program must be launched only after establishing a robust MIS system for tracking the activities, outputs, outcomes and impact indicators from day one of the program. For a lake rejuvenation project, impact parameters like ground water data, water quality data, bio-diversity measurement data, availability of drinking are in the sources, etc. are of paramount importance to establish that the strategy is working well.

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