

Annual Report 2025-2026

Center for Research and Community Action (CeRCA)



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FOREWORD

The year 2025–2026 has been a period of consolidation and quite ambitious at CeRCA, as the conviction that has guided us since inception that healthy coasts and resilient communities are inseparable has translated into deeper, more interconnected action across Odisha's shoreline. Our work this year has moved fluidly between evidence, community, and policy, with each strand reinforcing the others.

On the research front, the publication of the Odisha Mangrove Report with the All India Disaster Mitigation Institute has reframed how we see our coastline not as a single mangrove belt, but as a mosaic of mangroves, salt marshes, oyster reefs, and seagrass meadows, each indispensable to coastal protection. This evidence has anchored our advocacy and grounded our field programmes. Through the People's Mangrove Academy, coastal villagers fisherfolk, women's collectives, and youth have stepped forward as frontline custodians, blending traditional knowledge with scientific practice in nursery raising, plantation, and monitoring.

This year also saw the launch of our Low-Carbon Model Village in Balikuda, Jagatsinghpur, where a detailed baseline study now positions a cyclone-exposed hamlet as a replicable site for decarbonisation, resilience, and rural well-being pursued together. Our academic partnership with Xavier University Bhubaneswar has brought a new generation of field-ready students into this work, while collaborations with the S N Mohanty Group and the India–Sri Lanka Foundation have extended our reach across corporate stewardship and cross-border learning. The dialogue with the Minister Forest and Environment, Government of Odisha, and our convening on International Mangroves Day 2025 with various stakeholders affirmed that durable restoration depends on co-designed solutions.

Let this report stand as both a record of progress and a renewed call to walk this path together.

Dr. Shakuntala Pratihary
Founder CeRCA

ODISHA MANGROVES STATUS REPORT

The year 2025–2026 has been a commendable one for CeRCA, marked by a unique collaboration with the All-India Disaster Mitigation Institute (AIDMI), an organization recognized worldwide for its contribution to community engagement programs that strengthen climate resilience at the grassroots level. Together, the two institutions have developed the Odisha Mangroves Status Report, drawing on extensive field visits across all six coastal districts of the state. The report covers a wide spectrum of mangrove-suitable land in Odisha alongside the existing mangrove cover of the state as enumerated in the India State of Forest Report 2023.



The Mangroves Status Report highlights that Odisha's coastal areas have unique geographical conditions that support a wide variety of saline vegetation, encompassing all categories of mangroves, including trees, shrubs, and herbs. These true mangroves, together with their associated species, are essential not only for enhancing Odisha's coastal resilience but also for the wider world. Although the state's 575-kilometer coastline is naturally endowed with this diversity of saline ecosystems, public awareness of their existence and ecological value remains limited.



The report further documents that the state's mangrove endowment is not restricted to the Brahmani–Baitarani estuary at Bhitarkanika alone, but extends across the estuaries of the Mahanadi and its tributaries, sporadically in the estuarine ecosystem of the Subarnarekha, and also sparsely available in the estuary of the Budhabalanga river. Beyond their role as a shield against frequent cyclones and storm surges, mangrove forests perform two further functions of global significance: the forest floor serves as a critical breeding ground for fish populations and helps sustain a clean ocean floor, while in the context of global warming, the mangrove forest stands as one of the most efficient carbon sinks available to humanity.

While mangroves remain the most visible and widely recognized form of saline vegetation, the report argues that they alone cannot bear the full burden of shielding Odisha's shoreline from cyclones, sea-level rise, and erosion. Genuine coastal resilience requires conservation efforts to extend beyond mangroves to actively promote and protect complementary ecosystems such as sand dunes, sea beaches, salt marshes, oyster reefs, and seagrass meadows, each of which performs distinct and irreplaceable ecological functions, which is beneficial for the local and global communities as well.

By framing Odisha's coastline as a mosaic of interconnected ecosystems rather than a single mangrove belt, the Odisha Mangroves Status Report advances a more holistic vision of coastal protection. It calls for a more coordinated effort to restore this saline vegetation across the state, and for the formal incorporation of Nature-Based Solutions into Odisha's disaster management policy as the surest path to disaster resilience. CeRCA and AIDMI continue to use the report as a foundation for advocacy, planning, and future restoration efforts across the state.

PEOPLE'S MANGROVE ACADEMY

In an effort to build awareness among coastal communities about the mangrove ecosystem, CeRCA established the People's Mangrove Academy as a dedicated platform through which the mangrove ecosystem can be popularised among the very communities that live alongside it. The Academy is conceived as a sustained attempt to demystify the many concepts that surround this unique form of saline vegetation, comprising saline trees, shrubs, and herbs each of which carries distinct ecological significance and provides essential provisioning services to coastal communities.



The prosperous biodiversity of Odisha's mangroves supports a rich assemblage of flora and fauna, and in doing so opens up diverse livelihood opportunities for the communities that depend on the coast. By bringing this knowledge directly to fisherfolk, women's collectives, and youth groups, the Academy enables them to recognise the everyday value of the mangrove forest as a source of fish and fuel, a buffer against storms, a habitat for birds and crustaceans, and a long-term economic asset rooted in their own landscape.

The overarching purpose of the People's Mangrove Academy is to restore and regenerate the mangrove ecosystem of Odisha, so as to enhance the coastal resilience of the state and reduce the risks and vulnerabilities faced by its shoreline communities. By placing communities at the center of restoration as informed custodians rather than distant beneficiaries, the Academy seeks to ensure that mangrove regeneration is locally owned, ecologically grounded, and durable over time.



LOW-CARBON MODEL VILLAGE

CeRCA has launched a new initiative to develop a Low-Carbon Model Village in a coastal village of Balikuda block, Jagatsinghpur district, with the baseline report completed during the reporting year. Situated within one of Odisha's most cyclone-exposed stretches, the village was selected for its ecological



vulnerability, dependence on fishing and small-scale agriculture, and the willingness of its residents to engage in climate action. The baseline study establishes a detailed profile of the village's current carbon footprint, covering household energy use, cooking fuels, transport, livestock, agricultural practices, and waste management, alongside an assessment of natural carbon sinks in surrounding mangrove and homestead vegetation.

The findings reveal a community whose emissions remain modest in absolute terms but whose exposure to climate risk is disproportionately high. Firewood and kerosene dominate cooking energy, diesel pumps drive irrigation, and waste segregation is largely absent each representing an entry point for low-cost, high-impact intervention. At the same time, the report documents significant untapped potential in solar adoption, biogas, improved cookstoves, mangrove-linked livelihoods, and regenerative farming. By



grounding the model village pathway in measured evidence rather than assumption, the baseline report positions Balikuda as a replicable demonstration site where decarbonization, resilience, and rural well-being are pursued together, and where every subsequent intervention can be tracked against a clear starting point.

ACADEMIC COLLABORATION

CeRCA has initiated a structured academic collaboration and field learning partnership with Xavier University Bhubaneswar, opening up sustained internship opportunities for students alongside our ongoing mangrove conservation and coastal research work. The collaboration is designed to bridge classroom learning with grounded field experience, allowing students to engage directly with the ecological, social, and policy dimensions of coastal protection in Odisha. Through this partnership, interns from Xavier University are placed within CeRCA's active research and community programs, where they contribute to and learn from real-time fieldwork rather than observing it from a distance.



Internship engagements span a wide range of activities, including participation in mangrove plantation drives, biodiversity surveys, community consultations, and documentation of traditional ecological knowledge. Students gain exposure to research design, data collection and analysis, stakeholder engagement, and the practical realities of working with coastal communities. In turn, their fresh perspectives, energy, and academic training enrich CeRCA's programmes and bring new analytical lenses to our work.

The collaboration also fosters joint workshops, guest lectures, and field visits that connect faculty, researchers, and practitioners with students at an early stage of their careers. By nurturing a new generation of informed, field-ready professionals committed to environmental and social action, this partnership with Xavier University Bhubaneswar strengthens both academic engagement and the long-term institutional foundation of mangrove conservation in Odisha.



ADVOCACY

In keeping with the advocacy mandate of CeRCA to bring policy changes that accommodate Nature-Based Solutions in the disaster resilience building of coastal communities, our mentor Dr. Ambika Prasad Nanda engaged directly with the Hon'ble Chief Minister of Odisha and the Hon'ble Forest & Environment Minister



during the reporting year, presenting a detailed account of the organisation's work and the policy openings it surfaces. The conversations traversed the four pillars that anchor CeRCA's coastal agenda: ecosystem restoration through mangroves and complementary coastal vegetation, a just energy transition for rural and fishing communities, the Low-Carbon Model Village being piloted in Balikuda block of Jagatsinghpur district, and the facilitation of disaster resilience in cyclone-prone stretches of the Odisha coast. Dr. Nanda emphasised that these are not parallel programmes but interlocking strategies mangroves shield coastlines and sequester carbon, low-carbon village pathways reduce household emissions and energy poverty in

tandem, and community-led preparedness translates ecological gains into measurable resilience when cyclones such as Dana make landfall.

He further drew attention to the need for state-level convergence between the forest, energy, rural development, and disaster management departments to scale these models meaningfully. As a marker of the dialogue, Dr. Nanda shared his recently published book with both the Hon'ble Chief Minister and the Hon'ble Forest & Environment Minister, offering it as a scholarly reference and a record of field-tested approaches drawn from Odisha's own coastal communities. The exchanges reflected the spirit in which CeRCA approaches advocacy: carrying grounded evidence, community voice, and practitioner experience into the highest chambers of state decision-making, so that policy commitments are informed not by abstraction but by the lived realities of the coast.



INTERNATIONAL MANGROVES DAY

On 26 July 2025, CeRCA marked International Mangroves Day with a flagship convening in Odisha that brought together an exceptional cross-section of stakeholders' senior government officials, scientists, civil society organisations, coastal



community representatives, and business leaders to deepen the state's commitment to mangrove ecosystem restoration. The Hon'ble Minister for Forest, Environment and Climate Change, Government of Odisha, graced the occasion as the Chief Guest, lending the event significant policy weight and signalling continued state-level resolve to safeguard Odisha's

coastline. The conference was anchored around the theme “Design Thinking for Mangrove Restoration: Weaving Technology with Community Stewardship,” positioning the day not as a ceremonial gathering but as a working forum to reimagine how Odisha protects and regenerates its mangroves.

Discussions explored how remote sensing, satellite-based monitoring, drone mapping, mobile data tools, and predictive modelling can be paired with the lived knowledge of fisherfolk, women's collectives, and youth groups who steward these forests day to day. Business leaders shared



perspectives on CSR-backed restoration, blue carbon investment, and supply chains that depend on healthy coastal ecosystems, while community voices grounded the conversation in on-ground realities. The convening produced a shared understanding that no single actor government, science, industry, or community can secure Odisha's mangroves alone, and that durable restoration depends on co-designed solutions where technology amplifies rather than replaces community agency. International Mangroves Day 2025 thus reaffirmed CeRCA's role as a convener of evidence, partnership, and stewardship, advancing a model of mangrove conservation that is both technologically informed and deeply rooted in the coast.

BUILDING COLLABORATION

Recognizing that mangrove restoration cannot be carried out by any single institution, CeRCA has actively built collaborations that bring together corporate stewardship, international partnership, and community action. A significant step this year has been the partnership with the S N Mohanty Group of Companies, whose support has enabled community-based mangrove plantation drives along select stretches of the Odisha coast. The collaboration is structured around long-term engagement rather than one-time plantation: village-level

institutions, women's collectives, and fisherfolk groups lead the on-ground work, while the partnership underwrites nursery development, sapling supply, monitoring, and protection during the critical early years when survival rates determine the ultimate success of a mangrove patch.



In parallel, CeRCA has entered into an important cross-border collaboration with the India–Sri Lanka Foundation to facilitate a shared learning initiative between mangrove-dependent communities in India and Sri Lanka. Both countries face strikingly similar coastal challenges, including cyclones, salinity intrusion, erosion, and pressure on small-scale fisheries, while coastal communities in both countries hold deep reservoirs of traditional ecological knowledge. The initiative creates structured opportunities for exchange visits, joint workshops, and co-documentation of community practices, so that lessons travel in both directions, i.e., how Odisha's villages organize plantation and protection, on the other hand, how Sri Lankan coastal communities sustain restoration through livelihood linkages.

Simultaneously, efforts were made to understand how cross-country experience can refine each other's approaches by listening to one another's experiences. Together, these partnerships exemplify the model of collaboration CeRCA seeks to advance: one in which corporate, philanthropic, governmental, and international actors align behind community-led mangrove stewardship, strengthening both the ecological resilience and the social fabric of the coasts they protect.



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