Unlocking the Benefits of Mangroves in Viet Nam: A Model for Participatory Forest Rehabilitation

BACKGROUND

Mangroves in Viet Nam, particularly in Thai Binh province, are in significant decline despite their critical role in climate resilience and coastal protection. Since 2000, Thai Binh has lost 19% of its mangrove cover due to economic pressures and inappropriate management practices.These losses are worsening the impacts of climate change such as severe storms, colder winters, and projected sea-level rises that could submerge 11% of the province's land.

This local environmental degradation poses a national economic threat, as it endangers Viet Nam's agriculture, forestry, and fishing sector, which contributed over $50 billion USD to GDP in 2023. Rising salinity and encroaching seas directly undermine rice production, jeopardizing both economic stability and community livelihoods.

To combat the degradation of its coastal defenses, Viet Nam's Administration of Forestry (VNFOREST) implemented a targeted mangrove rehabilitation project in Thai Binh province.

The results were multifaceted: the initiative not only planted 160 hectares and protected 960 hectares of critical mangrove forest, but also built the governance structures needed for lasting impact. This included drafting a provincial development plan, establishing village-level management regulations, and deploying map-based monitoring tools.

Through extensive training and study tours, the project empowered local communities, ensuring that efforts to reduce emissions protect biodiversity, and enhance livelihoods would continue long after the planting was done. Building on these achievements, the project is generating significant benefits for the country and the region, demonstrating ways to enhance the climate resilience and sustainability of mangrove rehabilitation efforts in the future.

Key Messages

1. Partnership and Funding: The success of restoration projects requires engaging local communities and securing funding through coordinated efforts across all levels of government.
2. Incentive-Based Conservation: For the effective restoration of mangroves, it is important to offer the local people incentives to plant trees and protect the area.
3. Mangroves for Climate Goals: Mangroves have been spotlighted as pivotal in advancing international climate and biodiversity goals. Through the AFoCO Landmark Program Restoration Component, the state government of Viet Nam has demonstrated their steps to realize their net-zero ambitions.

Figure 1. Mangrove Forest in Xuan Thuy National Park @ AFoCO

IMPACTS

Optimal Species Selection and Planting Designs Tailored to the Conditions of Northern Viet Nam

Despite the challenges of rough shores, cold waters, and tremendous tides, a mangrove restoration project in Thai Binh was successful due to a remarkable partnership between science and indigenous knowledge.

While scientists identified the best tree species for the challenging circumstances, local people, building on generations of experience, determined where and how to plant.

This teamwork resulted in a stunning 90% survival percentage for the restored forests after five years. The success of the Thai Binh project was driven by a dynamic multi-agency collaboration that turned local knowledge into innovative solutions.

When initial planting methods proved vulnerable, the project adapted by drawing on community expertise: mangroves were strategically positioned farther from the outermost shoreline, and three support fixtures were used instead of the standard single stake.

This multi-agency cooperation has played a crucial role in addressing challenges in planting methodology by adjusting the planting location of the mangroves to be positioned at a distance from the outmost shoreline and establishing three support fixtures instead of just one, the common practice.

The Vietnamese Academy of Forest Science (VAFS) validated the feasibility of this approach and provided technical backing for its implementation. This problem-solving process not only ensured higher survival rates but also empowered local communities.

The project's legacy is now captured in four technical guidelines covering nurseries, seedling standards, plantation methods, and community-based protection which are poised for adoption across northern Viet Nam.

Creating Income Opportunities

The Thai Binh project transformed mangrove restoration into a vehicle for community empowerment and economic inclusion. By hiring local residents particularly women for planting, monitoring, and law enforcement activities, the project generated vital income for rural households. These incentives did more than pay wages; they gave communities a personal stake in the forest's survival.

The governance structure reinforced this ownership, with the Thuy Xuan People's Committee coordinating four communes to form patrol groups. These local teams now serve as the eyes and ears of the mangrove forests, reporting violations and ensuring long-term protection from within the community.

The Thai Binh project succeeded by addressing not just the symptoms of mangrove loss, but its root causes. By replacing the economic pressures of poverty with the opportunities of ecotourism, they created a model where local communities profit from protecting nature.

A decade of results has proven the approach works. Now, with plans to develop the site into a major ecotourism destination, the project has secured something even more valuable: long-term national commitment. The Vietnamese government has pledged substantial annual funding for mangrove protection, cementing these forests as pillars of both ecological health and economic strategy.

This project has offered further evidence to strengthen the cost-benefit analysis of mangrove restoration. The compelling evidence of costs in relation to the survivability and overall nature-based indicators effectively demonstrates to policymakers and local communities the multiple functions and benefits of mangrove forests in protecting ecosystems and biodiversity, reducing greenhouse gas emissions, and supporting local livelihoods.

Figure 2. Monitoring by Central and Provincial PMBs, RIFEE and Community @ AFoCO

FUTURE OPPORTUNITIES

Mangroves: Key Players in Global Climate Actions

Mangroves are highlighted as vital blue carbon ecosystems that combat climate change by sequestering carbon more effectively than terrestrial forests (supporting SDG 13).

They also preserve marine biodiversity by providing essential habitats (SDG 14) and sustain coastal communities by supporting fisheries and local livelihoods (SDG 2).

Due to these critical benefits, mangroves are a central focus of the UN Decade of Ecosystem Restoration, which targets a 20% increase in global mangrove cover by 2030.

Aligning with Global Frameworks

Mangrove restoration is a strategic priority under major international agreements like the Kunming-Montreal Global Biodiversity Framework (GBF) and the Ramsar Convention.

The GBF advances mangroves through targets focused on sustainable management, climate resilience, and ecosystem restoration.

Concurrently, the Ramsar Convention underscores their importance as coastal wetlands requiring conservation.

Together, these frameworks highlight the urgent need for innovative policies and regional initiatives to prioritize mangrove restoration as a means of achieving global biodiversity and climate objectives.

Opportunities for Nature-Based Solutions Strategy

Viet Nam, aiming for net zero by 2050, is leveraging its extensive coastline to make mangroves a key part of its nature-based solutions strategy.

These ecosystems support climate mitigation through carbon sequestration and aid adaptation by shielding coasts from storms and sea-level rise, a commitment reflected in the nation's updated NDCs.

Furthermore, the country's blue carbon credit potential presents an opportunity to attract funding, provided it establishes clear policies, engages the private sector, and integrates these efforts into national strategies.

Pathways to Long-term Sustainability

With a decade of proven results in Thai Binh, AFoCO's mangrove restoration model has become a blueprint for success.

Looking ahead, AFoCO envisions a future where this impact multiplies across four strategic fronts:

- integrating mangrove conservation into policy at every level of government
- empowering communities through training and shared knowledge
- unlocking the potential of blue carbon markets to fund long-term protection, and
- scaling the model beyond Viet Nam to restore coastlines across the region.

Together, these pathways chart a course from local success to global influence.

Figure 3. Mangrove Rehabilitation Activities in Viet Nam @ AFoCO

THE WAY FORWARD

The AFoCO project in Northern Viet Nam showcases a replicable model for tackling global mangrove degradation, demonstrating that lasting impact requires blending traditional knowledge with innovation and ensuring communities have a genuine stake in conservation.

Scaling this approach can lead to thriving mangroves, prosperous coastal communities, and long-term ecosystem protection.

More broadly, AFoCO's Mangrove Initiatives strengthen regional conservation by improving research, enabling collaboration, and enhancing coastal management helping member parties identify degraded areas, apply proven techniques, and build local capacity for sustainable impact.

The successful rehabilitation of Thai Binh's mangroves, driven by afforestation, community engagement, and sustainable management, highlights the power of integrating local knowledge to empower communities and raise awareness.

As Viet Nam positions itself as a leader in blue carbon ecosystems with AFoCO's support, these efforts aim to restore not only forests but also long-term climate resilience.

To ensure mangroves thrive for decades, the approach must shift from project-based interventions to permanent, institutionalized support.

Based on local stakeholder feedback, this transition rests on four pillars: securing dedicated national budget allocations; adopting a comprehensive, policy-aligned plan with clear responsibilities; embedding planting and patrols into routine government planning; and actively pursuing new frontiers like ecotourism and blue carbon markets.

Together, these measures transform conservation from a temporary effort into a lasting commitment.

Figure 4. Mangrove Rehabilitation Activities in Viet Nam @ AFoCO

Figure 5. Mangrove Conservation and Rehabilitation in Viet Nam @ AFoCO

Figure 6. Mangrove Rehabilitation Activities in Viet Nam @ AFoCO

ACKNOWLEDGEMENT

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https://afocosec.org/project/006/