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Integrating Adaptive Management, Risk Mitigation, and Sustainability in Global REDD+ Projects:

Lessons from Implementation

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OCTOBER 2025

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How to cite: Freret, A. (2025) "Integrating Adaptive Management, Risk Mitigation, and Sustainability in Global REDD+ Projects: Lessons from Implementation". Lead32 (https://lead32.org/)

Introduction

It has never been more urgent to act and tackle climate change. To prevent a catastrophic climate emergency, global emissions need to be reduced in half by 2030, with carbon-neutral economies in 2050. The agriculture, forestry, and land use (AFOLU) sector accounts for 23% global greenhouse gas emissions and is hence an important point of intervention. 75% of newly updated Nationally Determined Contributions (NDCs) have included measures in the AFOLU sector, with several developing countries listing REDD+ as the priority mechanism.

This paper primarily examines how UNDP's Global Project on Support to REDD+ Implementation (designated as "the project" below, launched[2] in 2018) has navigated the complex challenge of supporting forested developing countries in reducing emissions from deforestation and forest degradation. Drawing on findings from its 2022 midterm evaluation[3] ("the evaluation"), we analyse three key elements that have proven essential for effective implementation the project has sought to employ: 1) application of adaptive management frameworks; 2) integration of risk mitigation approaches; and 3) embedding sustainability through innovative finance. We also review individual UNDP projects in Indonesia[4] and Myanmar[5], and identify challenges faced as well as lessons learned to inform future REDD+ implementation.

While REDD+ has gained broad multilateral support, its implementation remains highly contested. Critics point to systemic weaknesses, including weak accountability for financial flows, exclusion of Indigenous voices, and methodological flaws in emissions baselining. This paper focuses on perspectives from UNDP evaluations but also makes notes of wider critiques to explore operational lessons and structural tensions underlying REDD+ as a mechanism.

What is REDD+

"Protecting the world's forests is crucial for the climate. Forests absorb vast amounts of carbon dioxide and can be a source of greenhouse gas emissions when destroyed or damaged. Countries established the 'REDD+' framework to protect forests as part of the Paris Agreement. 'REDD' stands for 'Reducing emissions from deforestation and forest degradation in developing countries. The '+' stands for additional forest-related activities that protect the climate, namely sustainable management of forests and the conservation and enhancement of forest carbon stocks. Under the framework with these REDD+ activities, developing countries can receive results-based payments for emission reductions when they reduce deforestation. This serves as a major incentive for their efforts."

UNFCCC, What is REDD+[1]

https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd
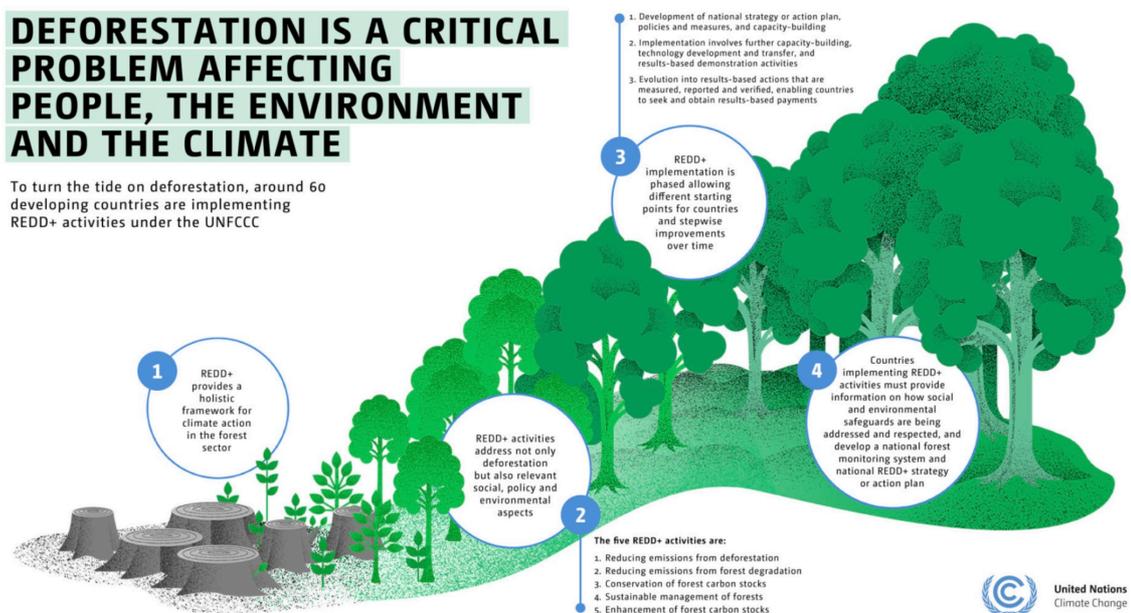
Adaptive Management Through Theory of Change

UNDP's project's theory of change recognized that there is no single recipe for tackling deforestation drivers. It established a flexible framework allowing for multiple technical assistance pathways tailored to specific country contexts. By midterm evaluation in 2022, this approach had demonstrated measurable impact, with the evaluation finding that 90% of stakeholders confirming agreed that UNDP's technical support aligned with their national climate and forest priorities.
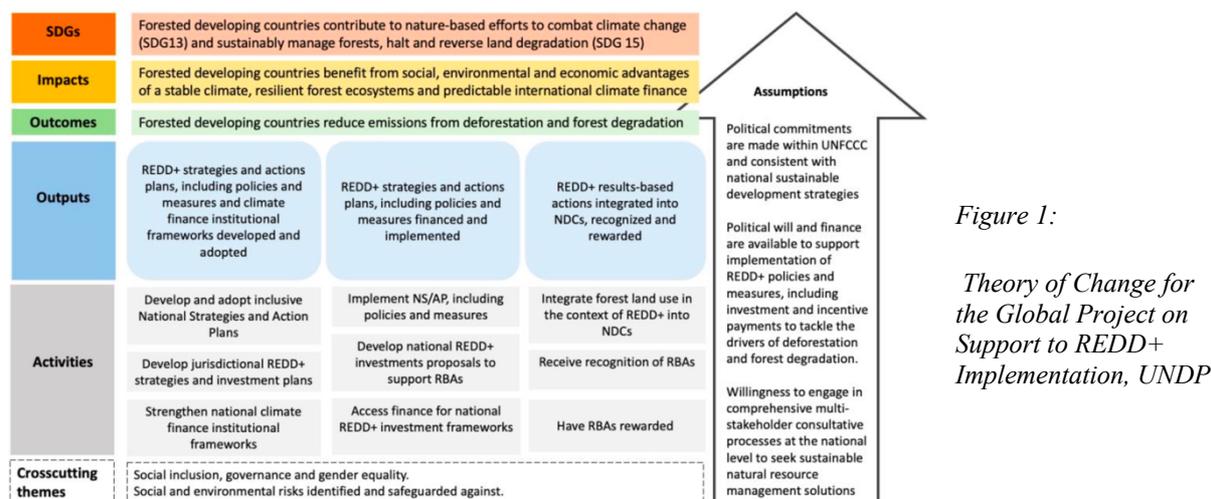

Figure 1:

Theory of Change for the Global Project on Support to REDD+ Implementation, UNDP

However, the evaluation also highlighted some gaps between project design, results framework and reporting tools, particularly for outputs related to national financing frameworks and results-based payments. For example, the lack of mid-term targets for Output 1.3 [*Selected REDD+ countries develop and adopt national climate finance institutional frameworks, capable of delivering REDD+ investment plans*] contributed to its low prioritization and delayed implementation. Greater alignment and specificity in the results framework could enhance accountability.

The UN-REDD Programme's formative review[7] also highlighted that the original Theory of Change developed in the early 2010s underestimated the time and resources required for REDD+ readiness. It noted that readiness is not a discrete phase but an ongoing process requiring continuous adaptation, especially as the external financing landscape has grown more complex and fragmented.

The adaptive framework nonetheless proved particularly valuable in:

- Supporting 20 tropical forest jurisdictions to develop new REDD+ strategies and helping 12 others improve existing frameworks
- Enabling rapid pivots during COVID-19 to maintain stakeholder engagement through innovative digital platforms
- Facilitating integration of gender-responsive approaches across implementation
- Adapting to shifting political contexts, as in Myanmar, where project efforts focused on partnering with NGOs and CSOs to reach out to local communities after the 2021 coup, instead of government agencies.

A key success factor has been the project's ability to maintain what practitioners term "structured flexibility" - clear frameworks that guide action while allowing adaptation to local realities. As one government counterpart noted, "the technical assistance provided by UNDP's Climate & Forest Programme is very valuable, is aligned with the annual work plans agreed with the government and contributes significantly to the achievement of planned targets." Balancing this flexibility with robust monitoring systems will be critical moving forward. However, broader research has shown that adaptive management alone may not overcome entrenched power asymmetries. According to an analysis led by researchers[8], REDD+ reforms are often constrained by "institutional dependencies, dominant actors' interests, and competing ideas" that sustain deforestation, raising questions about whether technical adaptability can deliver political transformation.

Risk Mitigation as a Path to Resilience

The project's approach to risk mitigation established dynamic systems for identifying and addressing emerging challenges. This was particularly evident during the COVID-19 pandemic, when the project rapidly developed various approaches to maintain progress despite severe operational constraints, including:

- Establishing digital consultation protocols that sought to maintain inclusivity while respecting public health restrictions during COVID
- Developing biosecurity frameworks for essential in-person activities
- Upscaling investment in country-based presence to reduce reliance on international travel

The effectiveness of these adaptations is reflected in the project achieving some key milestones even during peak pandemic disruption, with no substantial delays.

On inclusive participation, despite the COVID challenge, the evaluation notes that "leaders from Indigenous Peoples and local communities engaged through online questionnaires indicated that the support provided by UNDP's Climate and Forest Programme had been helpful to integrate the vision and concerns of Indigenous Peoples and/or local communities in national REDD+ processes". It should be noted that this topic has been an area of broader critiques of REDD+ implementation, and should therefore be thoroughly considered in any project's risk assessment. Case studies, in Kenya[11] for example, show how projects lacking Free, Prior and Informed Consent have resulted in contested land rights, legal rulings against project legality, and project suspensions. Broader academic studies[9] confirm this pattern: forest-dependent communities are at risk of being excluded from REDD+ planning and benefit-sharing, leading to food insecurity, disrupted livelihoods, and cultural dislocation

Innovative Financing and Implementation

One area where the global project has sought to innovate has been its ability to catalyse financing mechanisms while maintaining strong social and environmental safeguards. Managing USD 34.2 million in expenditure (2018-2021) out of a total planned budget of USD 74 million, through initiatives like the Global Italian Initiative on REDD+ National Implementation (GIORNI), the project has:

- Supported an innovative partnership for deforestation-free cocoa production between Ecuador and Lavazza, demonstrating successful private sector engagement
- Facilitated four countries (Costa Rica, Ecuador, Ghana and Vietnam) in signing Letters of Intent with the LEAF Coalition to secure results-based finance for REDD+ outcomes
- Helped develop six successful Green Climate Fund proposals for REDD+ implementation

Looking at additional projects points to more successes. Indonesia's REDD+ RBP project showed how a robust Performance-Based Payments Agreement (PBPA) model can serve as a scalable foundation for future emission reduction financing. Allocating adequate resources and expertise to strengthen jurisdictional investment planning and project pipelines is key to mobilizing finance at scale. Myanmar's project also contributed to sustainability by producing publicly available, technically rigorous guidance and spatial analysis for mangrove restoration and conservation, promoting replicability.

According to the 2024 UN-REDD Formative Review[7], while results-based finance mechanisms like LEAF have emerged, they have not yet materialized at the scale needed to meet country demands. The proliferation of standards and mechanisms has introduced complexity and uncertainty that was not anticipated in UN-REDD's original planning

Long-term sustainability however can be dependent on external funding sources which are subject to market and donor fluctuations. Developing more diversified funding portfolios and domestic resource mobilization strategies could help mitigate this risk. The risks of excessive market reliance are not hypothetical. Friends of the Earth[12] and other civil society groups have warned that linking REDD+ to volatile carbon markets "holds the future of forests ransom to financial speculation". This concern is echoed by academic reviews[6] of REDD+ financing governance, which highlight fragmentation across multilateral and bilateral sources as a major barrier to reliable support. The inability to align funding flows under the UNFCCC framework undermines long-term sustainability[13].

Gender Integration and Social Inclusion

The project sought to integrate gender-responsive approaches from design through implementation. The midterm evaluation found "considerable evidence of positive results for gender equality and the empowerment of women," including:

- Technical support to 35 jurisdictions to incorporate gender-responsive monitoring and evaluation into REDD+ strategies
- Development of specific gender action plans in jurisdictional strategies
- Support for women's leadership in stakeholder consultation processes, demonstrated by balanced engagement in evaluation consultations.

In Myanmar, explicit gendered roles in forest resource use—such as women's reliance on non-timber forest products versus men's dominance in timber—led to tailored safeguards and inclusion strategies. These differentiated roles informed planning and community-level engagement. In Indonesia, a comprehensive gender action plan helped address earlier gaps, including the omission of gender considerations from the SIS-REDD+ framework.

There is more to be done, and the evaluation recommends "expanding tracking of gender results across the project based on existing good practices and lessons learned for monitoring gender responsive actions implemented through UN-REDD". This should be done "in a way in which results can be compared and aggregated across initiatives".

Challenges and Lessons Learned

Although the project showed considerable success and achieved significant progress, the midterm report indicated several areas in need of attention that can derive useful lessons for future programmes:

Results Framework and Measurement

- Lack of mid-term targets for some outputs led to their delayed implementation or de-prioritization
- The Myanmar project illustrated how limited institutional cooperation—due to political constraints—impacted safeguard implementation and slowed engagement with government actors.
- **Recommendations**: Develop clear, measurable, and aligned results frameworks and reporting systems from the very beginning. Include interim targets and indicators not only for emissions outcomes, but also for institutional capacity building, safeguards, and inclusion to avoid de-prioritization.

Stakeholder Engagement and Inclusion

- Indigenous peoples and local communities are at risk of being inadequately included.
- Gender integration requires adequate effort and tracking mechanisms.
- COVID-19 disrupted participatory processes and reduced accessibility for some groups
- **Recommendations**: Establish protocols for sustained, meaningful engagement of key stakeholders throughout implementation. Prioritize inclusion and access in activity design and stakeholder mapping. Maintain dedicated staff and resources for oversight of cross-cutting priorities like gender.

Resource Allocation and Sustainability

- Key outputs related to results-based payments and UNFCCC-recognized results lacked adequate funding
- Long-term sustainability depends on external funding sources subject to market volatility
- Challenge of Over-Crediting: Recent rigorous evaluation[14] of 52 voluntary REDD+ projects found pervasive over-crediting, with official baselines for deforestation risk substantially higher than counterfactual estimates. On average, only an estimated 13.2% of the total tradable carbon credits examined were genuinely additional and

could offset emissions. This highlights a significant discrepancy, indicating a 5.6-fold increase over the estimated genuinely additional credits that were issued by December 2022.

- **Recommendations**: Ensure sufficient funding for critical path outputs through clear resource mapping. Bolster investment planning and project pipeline development support for jurisdictions. Explore diversified funding sources and strategies. Beyond diversification, the integrity of the carbon finance mechanism itself must be improved by strengthening baseline methodologies, increasing transparency in certification, and enhancing accountability to reduce over-crediting.

The project's experience offers several key insights for similar initiatives:

1. Adaptive systems need to balance flexibility with well-defined accountability mechanisms
2. Digital infrastructure, and local capability investments, build the resilience to withstand external shocks
3. Both technical skills and effective stakeholder involvement are required in innovative finance
4. Maintaining gender equality and social inclusion demands committed resources and accountability
5. Results frameworks and reporting mechanisms should be coordinated, with periodic milestones to monitor progress
6. Budgets should properly fund important outputs to achieve impact
7. Stakeholder engagement should be structured and sustained, with inclusion prioritized in design

Recent Developments

Looking ahead, recent policy developments provide a significantly stronger foundation for countries to comprehensively implement REDD+ and ratchet up the ambition of their forest climate action in the coming years:

- The first Global Stocktake under the Paris Agreement in 2023 highlighted the importance of efforts to halt deforestation, providing a clear signal for countries to prioritize REDD+ in their NDCs by 2025
- The Green Climate Fund adopted a policy in October 2024 integrating REDD+ results-based payments into its regular project cycle, unlocking a major source of finance
- Decisions by the Article 6.4 Supervisory Body in 2024 opened the door to crediting REDD+ under the Paris Agreement's new carbon market mechanism
- Voluntary Carbon Market Integrity: Continued efforts in 2024-2025 by standards bodies (e.g., Verra, ICVCM) to enhance the integrity and credibility of REDD+ carbon credits, driving higher quality standards. These integrity efforts are critical, as new research[14] in October 2025 confirmed that while voluntary REDD+ projects are delivering partial climate benefits, systematic over-crediting remains a persistent concern, with a vast majority of credits currently overestimating actual deforestation reductions.

Financing at scale will depend on governments establishing effective national REDD+ frameworks, systems, and safeguards consistent with UNFCCC decisions - and translating them into results on the ground. Facilitating such capacity development with technical assistance, and funding targeted accordingly, should be the international community's priority. Projects such as UNDP's *Global Project on Support to REDD+ Implementation* can make significant contributions to speeding climate action in the forestry sector in the current decade. Ongoing investments, partnerships, and commitment will be critical in bringing the promise of REDD+ to fulfil its role as a paradigm shift for forest conservation as well as sustainable development.

References

 [1] United Nations Framework Convention on Climate Change (UNFCCC). *What is REDD+?* Retrieved from https://unfccc.int/topics/land-use/workstreams/redd/what-is-redd

[2] UNDP *Signed Project Document: Global Project on Support to REDD+ Implementation* (2018) United Nations Development Programme (UNDP).

[3] Perea Blazquez, A. K. *Midterm Evaluation Report: Global Project on Support to REDD+ Implementation (ATLAS Project ID 00101619* (2022) United Nations Development Programme (UNDP).

[4] Gapare, N., & Viandrito, J. *Interim Evaluation Report: Indonesia REDD+ Results-Based Payments (RBP) for Results Period 2014–2016* (2023) United Nations Development Programme (UNDP).

[5] Food and Agriculture Organization of the United Nations (FAO), United Nations Development Programme (UNDP), & United Nations Environment Programme (UNEP). *Final Evaluation Report: UN-REDD Technical Assistance – Integrating Mangroves Sustainable Management, Restoration, and Conservation into REDD+ Implementation in Myanmar* (2024) UN-REDD Programme.

[6] Morita, K., Matsumoto, K. *Challenges and lessons learned for REDD+ finance and its governance. Carbon Balance Manage 18, 8* (2023). https://doi.org/10.1186/s13021-023-00228-y

[7] Blomley, Tom. *UN-REDD Programme Formative Review – Final Report* (2024) UN-REDD Programme

[8] Brockhaus, M., Wong, G., Moeliono, M. *What have we learned from 15 years of REDD+ policy research? (analysis)* (2025) Mongabay

[9] Bayrak, M.M.; Marafa, L.M. *Ten Years of REDD+: A Critical Review of the Impact of REDD+ on Forest-Dependent Communities*. Sustainability 2016, 8, 620. https://doi.org/10.3390/su8070620

[10] Lang, Chris. *What has happened to Verra's "investigation" into the Kariba REDD project in Zimbabwe?* (2025) REDD-Monitor

[11] Lang, Chris. *Verra has suspended the Northern Kenya Rangelands Carbon project for the second time* (2025) REDD-Monitor

[12] Friends of the Earth International. *Nine reasons why REDD is a false solution* (2014)

[13] Marigold Norman and Smita Nakhooda. *The State of REDD+ Finance.* (2014) CGD Working Paper 378 . Washington, DC: Center for Global Development.

[14] Yuzhi Tang et al., *Tropical forest carbon offsets deliver partial gains amid persistent over-crediting*. Science 390, 182-187 (2025).