

# From Carbon Credits To Canopy Cover: Evaluating Redd++ For Forest Conservation In India

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## Abstract

As global climate governance increasingly incorporates market-based mechanisms to address environmental challenges, the REDD++ framework—Reducing Emissions from Deforestation and Forest Degradation, along with conservation, sustainable forest management, and enhancement of forest carbon stocks—has gained prominence as a policy tool for forest-rich nations like India. This paper critically examines the evolution, design, and practical outcomes of REDD++ implementation in India, with a focus on its effectiveness in achieving forest conservation, biodiversity protection, and climate change mitigation. India's adoption of REDD++ aligns with its international obligations under the Paris Agreement and is embedded within its Intended Nationally Determined Contributions (INDCs), emphasizing the expansion of forest cover and enhancement of carbon sinks. While REDD++ interventions have demonstrated positive developments, including improved canopy density, advanced forest monitoring techniques, and institutional capacity-building among forest authorities, persistent challenges remain. Key concerns include the equitable distribution of benefits, transparent governance, and genuine involvement of forest-dependent communities. The monetization of carbon through carbon credit markets may inadvertently undermine the rights of indigenous populations and marginalize traditional knowledge systems, particularly in regions where legal recognition under the Forest Rights Act remains inadequate. Additionally, the integration of REDD++ with existing domestic mechanisms such as the Compensatory Afforestation Fund Management and Planning Authority (CAMPA) often lacks coherence and effective coordination. This paper argues for a recalibration of REDD++ that transcends the narrow confines of carbon trading to encompass ecological resilience, social justice, and long-term sustainability. A shift towards holistic forest governance—balancing carbon sequestration with biodiversity preservation, livelihood security, and equitable participation—can enable REDD++ to evolve into a transformative instrument for sustainable forest management in India. Such an approach would not only strengthen India's climate commitments but also ensure that forest conservation efforts are inclusive, transparent, and socially responsive.

**Keywords:** REDD++, Forest Conservation, Management, Carbon Trading.

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## 1. INTRODUCTION

Deforestation, poverty and climate change are the three major concerns of the modern times. Development has been rampant through every passing day which in turn has been posing a significant risk on the environment. Today, when we talk about development, we have dug every nook and corner to make the best of what is available leaving behind the rich biodiversity that India once possessed. Mitigation of every harmful effect caused by the development has made human realize the importance of the nature. If we talk about development, it has been emphasized to promote sustainability so that evolution and environment can go hand in hand. Time and again, we have been neglecting the challenges posed by the climate change due to increased deforestation and degradation.<sup>1</sup> The unbridled expansion and encroachment onto the forest area have now posed a significant threat on the habitat around us.<sup>2</sup> The green house emissions have raised fundamentally which in turn is hovering around mankind in form of heat waves, extreme weather, rising levels of sea and so on. The prominent way of

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<sup>1</sup> LEVIN, K., C. McDERMOTT, and B. CASHORE. "The Climate Regime as Global Forest Governance: Can Reduced Emissions from Deforestation and Forest Degradation (REDD) Initiatives Pass a 'dual Effectiveness' Test?" *The International Forestry Review* 10, no. 3 (2008): 538–49.

<sup>2</sup> Green Earth, *The Role of Vital Habitats in Environmental Resilience*, Green Earth, <https://www.green.earth/vital-habitats> (last visited Aug. 7, 2025),

curbing the emissions and its repercussions lies in reduction of deforestation and curtailment of land degradation. Skimming through the other factors resulting in greenhouse emissions, roots are deeply embedded in rural system of livelihood and persistent thrust on usage of land to fulfil the economic needs which have highly contributed in clearance of forest and its area for humans.<sup>3</sup> Elaborate discussions on curtailing the damage done to the environment have been focused on finding a mid-way to alleviate the levitating menace caused by such. The best possible outcome which has emerged in playing the pivotal role over past few years centered on twin objectives of boosting the economy and conserving the environment has been REDD+.<sup>4</sup> It was brought on the table during the United Nation Framework Convention on Climate Change and was conceptualized with the idea to accelerate economic growth and award the countries for conservation and protection of forest cover.<sup>5</sup> It was modelled around the system to provide compensation to the stakeholders resulting in arrangement that benefits one and all. This financial concept has been termed a lucrative solution curated for carbon effectiveness, transparency and cost friendly. It is designed on the model of conservation along with sustainable administration of the forests with the sole focal point of reducing the ever-increasing deforestation and degradation. It works on compensating the forest people in the developing countries for protecting and sustainably using their forests by putting a value to the carbon credit, one of the many benefits that forest gives. REDD+ has been put to effect with the twin objective – firstly making up to those countries who give up their economic gains to protect the forest which could have been put to use for some purpose from which money could have been made and secondly compensating these countries for the costs incurred by them in protecting and saving the forests as the benefits accrued shall be shared among all.<sup>6</sup> The mechanism involved in REDD+ can be a driving factor for all the developing countries to actively engage in conservation of the green cover and out in place all the activators through which the forest can be saved. This method will lead to active participation from countries which have rich cover of forests as via this instrument they can earn and protect the flora and fauna at the same time. In the global hemisphere, there is huge call for carbon credit which can extensively benefit the developing countries from such initiative. The design of REDD+ has been curated keeping in mind that the country sharing their credit will benefit from the money received from developed countries and will push them to provide alternate livelihood opportunities for forest dwellers which in turn will help them in saving their lush green cover. The mechanism has been evolving continuously to make it tailor made to suit the needs of the environment by keeping the mind the sole objective of protecting the forests from deforestation and degradation.<sup>7</sup>

## 2. HISTORY OF REDD++

The said concept has evolved through time and has unravelled the best mechanism of trading carbon credit and at the same time preserving and protecting the green flora and fauna. The history has played a crucial role in making REDD++ what it is today as stated below –

### 2.1 Weber and Deluze

There have been four game changing revolutions in the history of mankind. The cognitive, agricultural, industrial and digital. The advent of ‘modernity’ is marked by the industrial revolution.<sup>8</sup> Modernity marks the tilt of

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<sup>3</sup> West Bengal Pollution Control Board, *State of Environment Report, Vol. 2* (Sept. 10, 2021), <https://www.wbpcb.gov.in/files/Fr-09-2021-09-10-01SoE%20Report%20VOL%2002.pdf> (last visited Aug. 03, 2025).

<sup>4</sup> Theme A: Forests for People.” *The International Forestry Review*, vol. 16, no. 5, 2014, pp. 22–109. JSTOR

<sup>5</sup> UN Department of Economic and Social Affairs, *Understanding the Impacts of REDD+* (Mar. 2015), [https://www.un.org/esa/forests/wp-content/uploads/2015/03/Understanding\\_Impacts\\_REDD+.pdf](https://www.un.org/esa/forests/wp-content/uploads/2015/03/Understanding_Impacts_REDD+.pdf) (last visited Aug. 7, 2025)

<sup>6</sup> João M. G. C. Henriques & Philip A. T. James, *Economy-wide Impacts of REDD When There Is Political Influence*, *System*, vol. 51, 1 (2015), <https://www.sciencedirect.com/science/article/pii/S0928765515000160> (last visited Aug. 6 2025)

<sup>7</sup> International Union for Conservation of Nature, *Deforestation and Forest Degradation* (IUCN Issues Brief) (July 7, 2022), <https://www.iucn.org/resources/issues-brief/deforestation-and-forest-degradation> (last visited Aug. 6 2025)

<sup>8</sup> Yuval Noah Harari, *Sapiens: A Brief History Of Humankind* (Harper 2015).

mankind towards reinvestment and overproduction, apart from the orient-occident conversation with the cultural undertones. 'Modern' sociologists like Max Weber talk about 'raw materials' and 'rational spirit' wherein nature is perceived in terms of an unfinished product and it is 'logical' and in tune with the 'rational spirit' of a human to industrially process it to create a 'finished product'.<sup>9</sup> Philosophers like Deluze call it 'desiring production' wherein two kinds of 'machines' work. First, the 'desiring machine' that consumes and another 'production machine' that generates. Deluze sees the world as a function of interconnected machines.<sup>10</sup> Capitalism is a system that maximizes these connections, especially the ones that can be monetized, constantly recoding and decoding them, using Habermas's 'instrumental reason' as a logic internal to the structural system.<sup>11</sup>

## 2.2 Superimposing the idea

The historical origin of REDD++ can be marked as a consequence of this worldview. Nature, forest or land here, is seen as a raw material and a production machine that needs to be consumed which leads to deforestation or forest degradation. Industrialisation of land is seen akin to 'progress' or 'modernity' with 'consumption' being the goal of mankind. The one with more 'ability to pay' can consume more.<sup>12</sup>

The answer to why REDD++ can also be categorised as a financial instrument is found in this. Because nature is monetised as a subordinate set under the consumption based economic model, the cure to deforestation has to be monetary in nature as the current economic model is here to stay and a rebellious communist utopia is both impractical and impossible. Therefore, carbon emissions are monetised via the idea of 'carbon credits'. The idea is to stay under the current economic model using the very heart of the model as a libertarian nudge to drive the cause of sustainable development, afforestation and forest conservation.

## 2.3 RED

The COP11 summit introduced the idea of RED, i.e., reducing emissions from deforestation. Under the United Nations Framework Convention on Climate Change (UNFCCC), the eleventh session Conference of Parties in Montreal in 2005, carbon emissions from deforestation were acknowledged and baby steps to course correct the same were taken. Papua New Guinea (PNG) and Costa Rica were the countries that laid down the proposal, in light of deforestation being a functional component to development in the emerging economies. Subsidiary Body for Scientific and Technological Advice (SBSTA) was mandated to undertake the study in relation to the same.

## 2.4 REDD

Reducing emission from deforestation was expanded to include 'forest degradation' between 2005 and 2008 by SBSTA and was formally made a part in the COP-13 summit which gave the Bali Action Plan. The focus is on further strengthening and supporting ongoing efforts to address deforestation. This includes providing capacity-building, technical assistance, and technology transfer to meet the methodological, technical, and institutional needs of developing countries. Countries were encouraged to explore various actions, identify suitable options, and implement demonstration activities tailored to their specific national circumstances to tackle the drivers of deforestation. Additionally, mobilizing financial resources was identified to be essential to support these efforts effectively.<sup>13</sup> In Copenhagen in 2009, at its fifteenth session, the COP adopted decision for methodological guidance, potential work to support the activities and general guidance for the establishment of reference levels.

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<sup>9</sup> Max Weber, *Economy And Society: AN OUTLINE OF INTERPRETIVE SOCIOLOGY* (Guenther Roth & Claus Wittich eds., Ephraim Fischhoff et al. trans., Univ. of Cal. Press 1978).

<sup>10</sup> Gilles Deleuze & Félix Guattari, *Anti-Oedipus: Capitalism And Schizophrenia* (Robert Hurley et al. trans., Univ. of Minn. Press 1983).

<sup>11</sup> Jürgen Habermas, *The Theory Of Communicative Action* (Thomas McCarthy trans., Beacon Press 1984).

<sup>12</sup> DENNIS C. MUELLER (ed.), *THE OXFORD HANDBOOK OF CAPITALISM* (Oxford Univ. Press 2012)

<sup>13</sup> United Nations Department of Economic and Social Affairs, *International Year of Forests Fact Sheet* (2011), [https://www.un.org/esa/forests/wp-content/uploads/bsk-pdf-manager/82\\_FACT\\_SHEET\\_IYF.PDF](https://www.un.org/esa/forests/wp-content/uploads/bsk-pdf-manager/82_FACT_SHEET_IYF.PDF) (last visited July 7, 2025)

## 2.5 REDD+ and REDD++

REDD+ was also adopted under the abovementioned conferences. The '+' refers to active forest conservation activities to be undertaken under the framework. It adds conservation, sustainable use and enhancement of forests apart from avoiding deforestation to reduce emissions and addressing forest degradation. At COP15, the Ad Hoc Working Group on Long-term Cooperative Action (AWG-LCA) began examining a draft decision text on REDD-plus.<sup>14</sup> It was clarified in Cancun Agreements in COP 16 in 2010.<sup>15</sup> This draft outlines the key components necessary for carrying out REDD-plus activities. It includes the range of actions that support climate change mitigation in the forest sector of developing countries, guiding principles, safeguards, stages of implementation, methods of support, and systems for measuring, reporting, and verifying both actions and the assistance provided.<sup>16</sup> The REDD++ is an informal and unofficial expansion beyond REDD+ and adds market instruments and mechanisms, agricultural governance and integrated landscapes into the discourse.<sup>17</sup>

## 3. NATIONAL FRAMEWORK OF REDD++ IN INDIA

The international REDD++ framework is a broad theme which further needs to be adjusted and tailor-made to suit the needs of specific countries as genesis and application of ideas has to lie embedded in particular socio-economic contexts. The thread of decentralization pervades the international REDD++ framework as well. Specific countries need to adopt a bottom to top approach so that context-specific instruments can be developed using the available design-kit.<sup>18</sup> Using the feedback loop approach, India too has gradually developed its own legal framework to give effect to the essence of REDD++. The existence of a framework gives clarity and is essential for the economic aspect of rule of law, enabling the society to conduct multiple transactions. The Indian perspective to give effect to REDD has blossomed into unique models of governance envisaged keeping in mind the complexity theory and the nascent stage of REDD++ jurisprudence keeping room for flux, churn, externalities, shocks and uncertainties of the future.<sup>19</sup> The common law of the country has also helped to knit and crochet the idea of REDD++ giving boost to the transformative spirit as and when invoked.

Governance of forests, or the idea of governance of forestry in India, must be viewed from the perspective of sociological or historical school of law as predominantly seen in the countries of 'global south', best example being, 'Te Awa Tupua' of New Zealand.<sup>20</sup> There is a fundamental difference between this and the 'first world' approach to forestry. Before we delve into the Indian governance, it is pertinent to highlight the contrast in thought between the two for a better understanding. The western worldview, historically has been of 'Dual-Cartesian' approach, which basically distinguishes between the 'rational' human and 'non-rational' nature, with an under-pinned idea that the 'non-rational' nature is a gift of God and exists solely for the purpose of enjoyment of man.<sup>21</sup> This, over a period of centuries of global European dominance led to exploitation of nature and its resources leading the discourse to the point of 'sustainable development'. The pagan-worshipping, pre-colonial

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<sup>14</sup> Ad Hoc Working Group on Long-term Cooperative Action under the Convention (AWG-LCA), UNFCCC, <https://unfccc.int/process/bodies/bodies-that-have-concluded-work/ad-hoc-working-group-on-long-term-cooperative-action-under-the-convention-awg-lca> (last visited July 7, 2025)

<sup>15</sup>The Cancun Agreements, UNFCCC, <https://unfccc.int/process/conferences/pastconferences/cancun-climate-change-conference-november-2010/statements-and-resources/Agreements> (last visited July 7, 2025)

<sup>16</sup> *Supra note 12*

<sup>17</sup> Arild Angelsen et al. (eds.), *Realising REDD+: National Strategy and Policy Options* (2009), CIFOR, (last visited July 10, 2025)

<sup>18</sup> TOM GINSBURG (ed.), *COMPARATIVE CONSTITUTIONAL DESIGN* (Cambridge Univ. Press 2012).

<sup>19</sup> Neha Bothra, "You Cannot See the World in Silos": Sanjeev Sanyal, *Forbes India*, July 10, 2023.

<sup>20</sup> New Zealand, Parliamentary Debates (Hansard), Te Awa Tupua (Whanganui River Claims Settlement) Bill – Third Reading, vol. 719, 14–15 Mar. 2017, at 1–25, available at [https://www.parliament.nz/en/pb/hansard-debates/rhr/combined/HansDeb\\_20170314\\_20170315\\_12](https://www.parliament.nz/en/pb/hansard-debates/rhr/combined/HansDeb_20170314_20170315_12)(last visited Aug. 7, 2025)

<sup>21</sup> J. Sai Deepak, *INDIA, THAT IS BHARAT: COLONIALITY, CIVILISATION, CONSTITUTION* (Bloomsbury India 2021)

non-European world on the other hand has always seen itself as a part of the nature and the unifying whole and today is being asked to play the 'catch-up' game by the erstwhile colonizers and to pay for the latter's deeds of while drawing ire on even attempts of sustainable growth while the 'first-world' days of exploitative growth are brushed under the carpet.<sup>22</sup>

This is the reason why most 'carbon credit+' countries like Bhutan belong to the global south. The critique of global REDD++ implementation is that it helps the rich 'first-world' countries to brisk-off their liabilities by trading in carbon-credits, while the rich in forest cover 'underdeveloped' world, compromises on its industrial aspirations, fuelling the vicious loop of west dominant global economic order. Keeping in mind and the backdrop of this perspective, lets analyse the Indian 'framework' of REDD++ in detail.

An important colour in the Indian REDD++ framework caricature is that of federalism, as 'forest' is a subject in the concurrent list of the seventh schedule of the Indian constitution where the central government reserves the right to regulatory autonomy while the state governments reserve the right to managerial autonomy regarding the 'subject-matter'. We shall discuss both the pre- and post- REDD++ policies and laws that aid the implementation of the leviathan in focus.

Let us briefly skim through the pre-independence forest laws of India for a wholistic understanding though the British interest primarily lied not in forest conservation but rather, control of the forest so that the rich forest cargo could be imported from 'the east' without cost and sold without competition thereby strengthening British imperialism. The Indian Forest Act, 1927, strengthened the concept of 'reserve forests' introduced in 1878 act which even prohibited activities like 'permitting cattle to trespasses. Only by some stretch of wild imagination can this be seen as British attempt for 'forest conservation', though it might have been an incidental benefit, the original intent and purpose being enforcement of framework and structures to keep the native population and resources under check.

The Forest (Conservation) Act, 1980 also aimed at striking the golden balance between economic needs and natural heritage by restraining the use of forests for 'non-forestry' purposes, which only could be done after bowing down to the bureaucratic class, and after going through the ritual of red-tapism. The objective of the act has been relatively well accomplished in India, also aided by introduction of institutions like Compensatory Afforestation Management and Planning Authority (CAMPA).

The first is the National Forest Policy of 1988. The aims and objectives of the policy stand congruent with REDD++ with the policy making some leeway for the local tribal populations of India in tune with the ILO standards to help tribes sustain themselves who avoid mainstreaming and prefer isolation. The policy importantly highlighted the need to limit reliance on fuel-woods for the general populace of India and the promotion of modern and contemporary forms of domestic energy. It is famously said that any project or law in India needs to have both constitutional and environmental clearance. A glimpse of this can be seen in the 1988 policy as it tries hard to strike a careful balance between the rights of forest dwellers, ecology and the urban industrialised economy.

The Biological Diversity Act, 2002 reestablishes state's control over resources and the ability to coerce others via bodies like National Biodiversity Authority (NBA) established under section 18 of the same act, to eventually give effect to the objectives of REDD++. It can be seen in the all-abovementioned post-independence acts that the local stakeholders have been clearly identified, their interests met hitherto, and their participation and livelihood has been ensured while giving effect to the REDD++ aspirations of the 'global village', as the idea of different 'national frameworks' intended. This has been further strengthened by the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006 popularly known as Forest Rights Act, 2006. The Wildlife Protection Act, 1972 needs to be mentioned, breaking the sequence. 'Forest' ought to be understood both in etymological and metaphysical terms. The flora and fauna both complement and supplement each other and to talk about preservation of one without the other is absurd, when both exist as a part of the unifying whole. Such a loophole is fatal and would frustrate the purpose of the entire structure. The act defines

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<sup>22</sup> *Constitutionalism in the Global South*, Module 4, Comparative Constitutional Law, e-PG Pathshala (Ministry of Education, Govt. of India), available at <https://epgp.inflibnet.ac.in>. (last visited Aug. 2, 2025)

under section 2(36), 'wild animal' and categorises them into five schedules, prohibiting hunting under section 9, to mention the most crucial section.

Judiciary too, has played its role in building the environmental jurisprudence in India, via judicial activism like in cases of T.N. Godavarman Thirumulpad v. Union of India, 1995, engaging in issuing writs of continuing mandamus for forest protection. The jurisprudence is less of nature-centric and more of anthropocentric nature invoking article 21, which fortunately or unfortunately, happens to be the fate of all human knowledge.

At institutional level, 'National REDD++ Cell' ensures synchronization and supervision of nationwide actions vis a vis the same.<sup>23</sup> It would also work towards planned and intelligent distribution of resources and interact with civil society apart from giving methodical support to states when needed.

To conclude, both statutory and institutional frameworks are in place for the promotion of REDD++ in India, and would need to be improvised from time to time apart from constantly working on development of the same.

#### 4. UNPACKING THE REDD++ PARADIGM: A CRITICAL LENS

At last, the author attempts a qualitative critical analysis of the issue at hand. Because of the absence of world government, the scope for traditional 'sanction' and 'enforcement' of any idea goes out of the window.<sup>24</sup> Therefore, 'consensus building' at the international level becomes more important before putting out a signed draft in front of the world, for the endurance of any structure rests on the backs of the autonomous agents involved and a bet that they wouldn't want to opt out of the design because any rational agent would see more benefit staying in the framework than going rogue.<sup>25</sup> The power dynamics between sovereign countries are Foucauldian in nature, and are complex, conjectural and constantly evolving trying to achieve the equilibrium of balance of power.<sup>26</sup> The negotiating table is asymmetric and is tilted in favour of 'great power' countries with economic might rich in narrative building.<sup>27</sup> It is owed to history and is no coincidence that the 'donor countries' are the 'first world' 'developed' countries and the rainforest nations are countries that the erstwhile coloniser once used to call 'uncivilised, barbaric, savage and backward'. The REDD++ framework can be critically seen as a contract between the donor countries and rainforest nations. But one ponders if it is a fair contract and could have it been better. As happens in the case of free market, the party that holds power dictates the terms of the contract and here too, it can be seen to affect the liberal balance between forestry, carbon credits and the monetary value attached to it.<sup>28</sup> The formation of cartels by the first world countries to majorly act as one unit at the negotiating table to manipulate and influence the rainforest nations has and does happen and therefore, even though consensus is built on paper, its applicability and efficacy is affected at the domestic level of independent sovereign states precisely because the churn of the idea at the international fora was manipulated.<sup>29</sup> The one who has control over resources had and has ability to coerce others and therefore, the first critique of the international REDD++ framework, questions the substance of the idea in the first place and asks, how 'democratic' was the process in substance and procedure that manifested into the final draft the assessment of carbon trading and its stock is not developed to its full extent to serve the purpose. Various reasons revolving around non - maintenance of all the documents, mistrust and unwillingness on the part of forest officials and community and frequent shifts of officers pose a huge block for implementation. The methodology for calculation of credit and stock is way too complex and requires skill set of highly trained personnel which further requires approval from the global level at United nations. Furthermore, there have been many problems

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<sup>23</sup> REDD+ and Forest Governance in India, The Energy and Resources Institute (TERI) (2008-2013), TERI

<sup>24</sup> Scott J. Shapiro, *LEGALITY* (Belknap Press of Harvard Univ. Press 2011)

<sup>25</sup> William B. Zartman, "Corroding Consensus-Building: How Self-Centered Public Diplomacy Is Damaging Diplomacy and What Can Be Done About It", *Place Branding & Public Dip.* 153 (Aug. 2019)

<sup>26</sup> CHLOË TAYLOR, *The Routledge Guidebook To Foucault's The History Of Sexuality* (Routledge 2016).

<sup>27</sup> KO UNOKI, *Competition Laws, National Interests And International Relations* (Routledge, 2019)

<sup>28</sup> Wolfgang Friedmann, *Law In A Changing Society* (2d ed. Columbia Univ. Press 1972) .

<sup>29</sup> *Supra* note 4.

encountered of double counting of credits which lead to fabrication of the original data.<sup>30</sup> There has no effective robust system of calculation of credits, involvement of many actors in between and proper measuring and monitoring of the same.<sup>31</sup> The main counting problem which lies open and a roadblock in monitoring, measurement and verification of the number of carbon credits as double counting, disengagement of parties involved, no proper definition and no effective cooperation between the state and local community are many reasons which stall the progress of REDD++ in India. The concept has the ability to guard the forests with firmness and still allows the country to use them for the development purposes thereby promoting sustainable development and safeguarding the flora and fauna at the same time. The idea embedded around REDD++ is the forefront which can nurture the forests alongside conserving them and not posing threat on the very existence of the same. Following are pointers if addressed can paint a future with no blurriness and protect the greenery for the coming generations.

- **The defining problem-** Also, because it is left to sovereign states to inculcate REDD++ in their municipal laws, and to create a context specific national framework to achieve the desired ends, on the other side this has created the problem of non-uniformity among transacting states because of lack of standardised definitions. Even the most used basic term 'forest carbon credit' does not seem to have a standardised definition.<sup>32</sup> Another surrounding concern about the said issue is the countries trading carbon credit have their own system of evaluating the stock which in turn creates a huge barrier of mistrust among the countries involved regarding the transparency and real time calculation. In addition to this, major solicitousness revolves around the community benefit sharing. In Global South, some countries give importance to local people rights over transaction of carbon credits and elsewhere, the same interests are being neglected as there are many arguments put forth related to providing compensation, its method of computation, requirement of approval and ownership of these stocks. All these weakens the indigenous people stand rather than strengthening their stand in bargaining a better price for the same. The negotiation is often hurdled by various intermediaries which in turn results in fuelling disparity between the local stakeholders and the government. The less the trust, the less impact of REDD++. The mechanism and role of equitable benefit sharing does not yield the envisioned goal as many governments have not yet designed a system of distributing the benefit accrued to the real stakeholders which create problems of mutual cooperation in the future.<sup>33</sup> To add, one important grey area that still lingers around the smooth implementation of REDD++ is the true and accurate definition of desertification and degradation of forests. The way forest definition in some countries include shrubs, coffee plantation, bamboo tress which adds to the false number to afforestation status thereby leading to scam in analysing the overall credits.

- **The accounting problem-** There is also a problem of using the framework as licensing market by the highly industrialised countries with higher carbon emissions wherein they stop viewing carbon credits as a 'compensation' and start treating it like a currency or token for greater environmental degradation.<sup>34</sup> On the supplier side, because increasing the forest cover is rewarded under the REDD++ framework, paradoxically, even increasing the forest cover can be environmentally damaging if it is artificial in nature and non-native plant species are promoted to speedily increase the cover, as has been seen to be the case many times.

For every system that exists, there also exists agents and players who twist the system to meet personal ends. So has been the case in REDD++. But the fact that a system may be misused is no ground for invalidating it in its entirety. The intermediaries and dominant enterprises at the domestic level leverage the asymmetry of

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<sup>30</sup> Robyn Clark, James Reed, Terry Sunderland, Bridging funding gaps for climate and sustainable development: Pitfalls, progress and potential of private finance, Land Use Policy, Volume 71, 2018, Pages 335-346, Elsevier

<sup>31</sup> *Ibid.*

<sup>32</sup> Anirban Roy, Manan Bhan, Forest carbon market-based mechanisms in India: Learnings from global design principles and domestic barriers to implementation, Ecological Indicators, Volume 158, 2024, ELSEVIER

<sup>33</sup> *Options and Motivations for International AI Benefit Sharing*, Governance.ai (2025), [https://cdn.governance.ai/Options\\_and\\_Motivations\\_for\\_International\\_AI\\_Benefit\\_Sharing.pdf](https://cdn.governance.ai/Options_and_Motivations_for_International_AI_Benefit_Sharing.pdf) (last visited Aug. 13, 2025)

<sup>34</sup> *The Ultimate Guide to Understanding Carbon Credits*, CarbonCredits.com (June 26, 2024), <https://carboncredits.com/the-ultimate-guide-to-understanding-carbon-credits/> (last visited Aug. 3, 2025)

information between them and the tribal or village communities, wherein the communities waive off their right to carbon credits in favour of the corporates.<sup>35</sup> Such instances need to be addressed by evolving the regulatory framework which seems to be lagging behind at this point. People and climate do not seem to benefit properly and the market does not seem 'voluntary'.<sup>36</sup>

- **Disparity in pricing mechanism-** Consider for instance a U.S. based company that may keep polluting in the country but balance out its emissions by funding a project in a poorer country of the global south. Because of cost difference, cutting a tonne of CO<sub>2</sub> in a tropical forest can cost < US \$10; lessening in a steel plant in the OECD can cost > US \$100. This is problematic because this makes emissions happen in one place and removals happen in another, which looks balanced on paper, but may not actually help the planet much—especially if the foreign project isn't well monitored or leaks. This can be remedied by having stronger pricing rules for carbon credits, wherein, If a company is found to be shifting emissions or causing leakage, they should have to pay a much higher price for their carbon credits. These higher prices should be decided by local, national, or international authorities, depending on where and how the project is happening. This would discourage bad behaviour and reward real emission reductions.

- **Double counting-** Double counting happens when two or more agents who are interested in the purchase of carbon credit claim the same carbon reduction credit. Introduction of digital governance for the same could help reduce the same. Also, many projects claim carbon removals when it would have happened on its own in due course precisely by the absence of any deforestation or forest degradation threat.<sup>37</sup> This is called as 'additionality'.<sup>38</sup>

- **Increased community participation-** Local communities should be recognized as active collaborators rather than mere recipients of benefits, with appreciation for their cultural traditions related to forest use and respect for their beliefs and indigenous knowledge. In practical terms, this means creating and implementing new and inclusive ways to ensure compliance and monitor forest conservation efforts.

The framework modelled to support REDD++ in the country is adequate enough but not implemented in a manner depicts lack on the part of forest department in setting effective coordination with the local community. The need for adequate sensitization has become the pressing concern as it determines the goal to be realised when REDD++ was envisioned at the global level.<sup>39</sup> The concern of local communities in showing full support is not handled in the right direction which has forced them to take a step back and rethink the idea of contributing to the overall development, protection and conservation of forests. The mechanism of active involvement of these people is also minimal as the payment mechanism through which the betterment of the indigenous people takes place is not proper which creates a huge roadblock and displays their mistrust in the overall architecture of REDD++.<sup>40</sup> In India there exists an issue of property rights, conflicting interests and unresolved land ownership issues create confusion over who has the authority to decide how forest land is used

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<sup>35</sup> Nitai Hinduja, *A Policy Explainer on Carbon Credits, Markets and Adivasi Rights*, National Law School of India Review (Nov. 2, 2023), updated Nov. 4, 2023, <https://www.nlsir.com/post/a-policy-explainer-on-carbon-credits-markets-and-ativasi-rights> (last visited Aug. 11, 2025)

<sup>36</sup> Neel Kamal, *Voluntary Carbon Market Is Not Benefitting People or Planet, Might in Fact Be Leading to More Emissions: CSE Investigation*, Times of India (Oct. 5, 2023), <https://timesofindia.indiatimes.com/india/voluntary-carbon-market-is-not-benefitting-people-or-planet-might-in-fact-be-leading-to-more-emissions-cse-investigation/articleshow/104192871.cms> (last visited Aug. 13, 2025)

<sup>37</sup> Thales A.P. West, Barbara Bomfim, Barbara K. Haya, *Methodological issues with deforestation baselines compromise the integrity of carbon offsets from REDD+*, Global Environmental Change, ELSEVIER, Volume 87, 2024

<sup>38</sup> *Ibid.*

<sup>39</sup> *About REDD+: Fact Sheet 1*, UN-REDD Programme (Oct. 2021), <https://www.un-redd.org/sites/default/files/2021-10/Fact%20Sheet%201-%20About%20REDD3.pdf> (last visited Aug. 13, 2025).

<sup>40</sup> Reed, P. REDD+ and the Indigenous Question: A Case Study from Ecuador. *Forests* 2011, 2, 525-549, MDPI

and who is entitled to receive the benefits from it under market-based mechanisms.<sup>41</sup> This also affects the implementation capacity of the same. In India, the imbalance of power between state forest departments and local communities makes it difficult to design effective market-based mechanisms that ensure fair benefit-sharing among all stakeholders involved.

## 5. CONCLUSION AND SUGGESTIONS

Forests are the pathways which protect every creature on the planet from adverse effect of climate change and global warming. The future has been painted with pollution, deforestation, degradation, rampant commercialization and technological advancement. Forest ecosystem promises a better tomorrow if the objectives envisioned via REDD++ can be effectively put into motion. The green cover can be conserved if the credit exchange mechanism runs well as per the set guidelines, and the money reaches to the right people at the right time. There are many interconnected twines in the above idea which encompasses credit trade, finance, assured development for the undeveloped nations, equitable benefit sharing and due recognition to the local community which lays down a bright and guaranteed approach in safeguarding our emerald canopy. Following are few suggestions which if implemented can ease the growing concern revolving around the green cover from so long.

- For effective implementation of REDD++ in India, we need an unshakable well-crafted modality which suits the geo - political condition and covers all aspect of monitoring the credits, measuring it via robust apparatus and focuses on overall biodiversity protection and promote forest conservation.
- Effective and smooth coordination between the authorities has become the need of the hour as the main grey area surrounding the REDD++ is no cooperation among the institutions involved which makes the entire process more cumbersome and ineffective as was envisioned by the world leaders. The bodies and the bureaucrats involved in the entire procedure should make arrangements for potent training so that every person understands the role and work to fulfil the objectives desired in the timeline given.
- Times immemorial, there has arisen the need to understand the age-old knowledge of the nature possessed by the local community living in the forests. The traditional knowledge and the local community has been the cure to many outbreaks. The partaking of these indigenous people in REDD++ in fair and transparent manner which makes them feel heard and trustful. The system should give due consideration to their contribution and compensate them righteously. The equitable benefit sharing model will work wonders if the participation of these people increase manifold.
- More accountability should be introduced and due weightage must be given to other parallel pointers apart from carbon exchange for biodiversity conservation, increase in the green cover, opportunities to the community people which shall in turn increase overall credibility of the idea of REDD++.
- Proper technology must be deployed for accurate data measurement so that adequate credit can be reported can compensation can be demanded. The use of satellites and GIS mapping will lead a long way in yielding desired results and giving the effective numbers will eventually help in realising the goal envisioned at the global forum.
- The ultimate focus should be on the development of forestry resources and its produce in line with the growth of green canopy so that along with economic growth, simultaneously benefiting from the REDD++ concept and promoting the twin aims at the same time.

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<sup>41</sup> Bharti Nandwani, *Forest Rights Act: An Account of Contradictory Conservation Laws, Ideas for India* (Sept. 22, 2023), <https://www.ideasforindia.in/topics/governance/forest-rights-act-an-account-of-contradictory-conservation-laws.html> (last visited Aug. 2, 2025).