forests

REDD+ in West Africa: Politics of Design and Implementation in Ghana and Nigeria

Adeniyi P. Asiyanbi [1], Albert A. Arhin [2,*] and Usman Isyaku [3,4]

[1] Department of Development Studies, The School of Oriental and African Studies (SOAS), University of London, London WC1H 0XG, UK; aa158@soas.ac.uk
[2] Department of Geography, University of Cambridge, Cambridge CB2 3EN, UK
[3] Department of Geography, University of Leicester, Leicester LE1 7RH, UK; ui9@le.ac.uk
[4] Department of Geography, Ahmadu Bello University, Zaria P.M.B 1045 Kaduna State, Nigeria
[*] Correspondence: aaa72@cam.ac.uk; Tel.: +44-758-624-445

Abstract: This paper analyses the design and implementation of Reducing Emissions from Deforestation and Degradation, conserving and enhancing forest carbon stocks, and sustainably managing forests (REDD+) in the West African region, an important global biodiversity area. Drawing on in-depth interviews, analysis of policy documents and observation of everyday activities, we sought to understand how REDD+ has been designed and implemented in Nigeria and Ghana. We draw on political ecology to examine how, and why REDD+ takes the form it does in these countries. We structure our discussion around three key dimensions that emerged as strong areas of common emphasis in our case studies—capacity building, carbon visibility, and property rights. First, we show that while REDD+ design generally foregrounds an ostensible inclusionary politics, its implementation is driven through various forms of exclusion. This contradictory inclusion–exclusion politics, which is partly emblematic of the neoliberal provenance of the REDD+ policy, is also a contingent reality and a strategy for navigating complexities and pursuing certain interests. Second, we show that though the emergent foci of REDD+ implementation in our case studies align with global REDD+ expectations, they still manifest as historically and geographically contingent processes that reflect negotiated and contested relations among actors that constitute the specific national circumstance of each country. We conclude by reflecting on the importance of our findings for understanding REDD+ projects in other tropical countries.

Keywords: climate change; forests; Ghana; Nigeria; political ecology; REDD+; West Africa

1. Introduction

Reducing Emissions from Deforestation and forest Degradation plus sustainable forest management, conservation and carbon stock enhancement (REDD+) has continued to inspire climate policy optimism over the last decade. Yet, growing evidence from the implementation of this scheme across tropical countries reveals inherent complexities that warrant close scrutiny. This is crucial not only to understand the extent to which REDD+ does or does not deliver on its promises but also to provide insights and lessons from the very processes of designing and implementing such an ambitious scheme. Such insights and the promises of REDD+ are even more important in the wake of the newly agreed Sustainable Development Goals (SDGs) which aim to, among other things, urgently combat climate change, while sustainably managing forests and halting land degradation and biodiversity loss [1].

In this paper, we analyse the politics of design and implementation of REDD+ in the West African context, focusing on Nigeria and Ghana. Compared to other regions, the REDD+ literature on West

Africa is still relatively nascent [2]. Yet Arhin and Atela [3] have argued that unlike previous global climate change dispatches (e.g., the Clean Development Mechanisms) where African countries lagged other regions as project hosts, the advent of REDD+ has seen significant participation from the region, and from West Africa in particular. This represents a shift from the early REDD+ "bias against Africa and toward Latin America" [4]. For instance, all but one (Mauritania) of the continental coastal West African countries stretching from Mauritania to Nigeria are involved in REDD+. Host to a major global biodiversity hotspot [5,6], this region has a strong and diverse socio-cultural heritage, well-developed traditional ecological knowledge, as well as a significant rural population who rely directly on the forest for their livelihoods [2,7,8]. Besides, the rainforest (and to some extent, the transition zone) vegetation belt extending from the Congo Basin to Senegal (breaking at the Dahomey Gap) has a well-studied history of colonial and post-colonial forest development that reflect both regional continuities and a variety of inter-country specificities in terms of colonial legacies, political-administrative structures and geographies [9–15]. Since these socio-cultural, political, ecological, and historical dimensions significantly shape the prospect, nature and impact of REDD+, detailed studies are required to further our understanding of country specificities and regional patterns, thereby generating the much-needed debates on REDD+ in this region.

In contributing to such studies, we draw on insights from political ecology to analyse the politics of design and implementation of REDD+ in our case study areas. Political ecology emphasises questions of interests and power as actors engage in unequal relations over the environment [10,16–18]. We find this perspective useful to foreground the politics in REDD+ design and implementation by scrutinising the convergence of actors, the interplay of multiple interests, and the interactions of power, histories and geographies that underpin the framing and the implementation of REDD+ [19]. We have allowed our empirical findings to guide the overall structure of our discussion, choosing to only foreground political ecology's critical ethos and its attentiveness to fields of interest-laden relations. Through our case studies, we demonstrate how REDD+ design reflects and is underpinned by ostensibly inclusive visions that are malleable, optimistic and all-encompassing, promising a win-win scenario for all parties [20–23]. Conversely, implementation of REDD+ has proceeded precisely through various forms of trade-off and exclusion of certain actors, interests, knowledges, practices, forest uses, and claims to resources [24–30]. We note that both the ostensibly inclusionary vision of REDD+ design and the failure of this vision to translate into reality must be understood partly in terms of the neoliberal provenance of this scheme [31–33]. Scholars of neoliberal environmental governance have analysed the participatory and perpetually optimistic framings of neoliberal conservation projects, and their repeated failure to realise such visions [34–38].

Yet, exclusion in REDD+ implementation is not merely an unintended failure or ineffectiveness of the participatory vision, as Špirić and co-authors [39] seem to suggest in the case of Mexico. Rather, we argue that it is also a deliberate strategy, a political tool for pragmatically rendering socio-ecological complexities governable and for furthering certain interests. For instance, the technicality and complexity of REDD+, which foreclose autonomous local and national actions have been linked precisely to the "approach taken by government officials, consultants, forestry, and development experts to operationalise the idea of REDD+" [24,27,37,40,41]. Both discursive inclusion at the level of policy design and exclusion at the level of implementation are also partly inherent to the REDD+ policy itself. On the one hand, REDD+ platforms such as the Forest Carbon Partnership Facility and the United Nations-Reducing Emissions from Deforestation and Degradation (UN-REDD) dispatch guidelines and socio-environmental safeguards (such as the Free Prior and Informed Consent) to, among other things, foster a participatory approach, even as they carefully review REDD+ proposals to ensure adherence to a participatory ethos [42–44]. On the other hand, the various processes entailed in rendering forests visible as carbon, applying certain kinds of expertise, securing REDD+ forests, and even selecting pilot case studies always entail various forms of exclusion. For instance, the REDD+ requirement to guarantee property rights and ensure the permanence of carbon forests has seen the use of promised incentives and/or force to exclude other forest uses and resource claims—notwithstanding co-benefit

claims [28–30,45]. Clearly, since these processes of inclusion and exclusion do not occur in vacuums, they are also necessarily shaped by contextual histories, geographies and socio-politics [21,25]. To be clear, while some studies have emphasised low participation and inclusion in REDD+ design and discourses, see [39,41], we are more interested in juxtaposing tendencies of inclusion/exclusion between design and implementation processes.

Through this combination of inclusion and exclusion, proponents of REDD+ in Nigeria and Ghana emphasise three foci of action: building institutional capacity, rendering carbon visible and clarifying property rights. While these programmatic goals of building institutional capacity, rendering carbon visible and clarifying property rights align with expected REDD+ activities common to most REDD+ projects globally, the actual implementation of these goals is shaped by a variety of factors. We thus suggest that to fully understand how and why REDD+ design and implementation proceed the way they do in the West African context, one must pay attention to (1) the politics of inclusion and exclusion at play in the design and implementation of REDD+; (2) the historically and geographically contingent nature of REDD+ design and implementation; and (3) the contested relations of interest that constitute the specific context within which global guidelines are being adapted. In so doing, we contribute to the burgeoning body of critical work on REDD+ and carbon forestry in Africa [3,25,28–30,32,46,47].

We have structured the paper as follows: we begin by describing the methods adopted for the research. This is followed by an analysis of the politics of REDD+ design in the two countries. We then describe efforts to implement these programme designs under three major headings: capacity building, visualising carbon, and defining property rights. In the last section, we draw some conclusions and highlight the general implications of our findings for understanding the design and implementation of REDD+ broadly.

2. Materials and Methods

The data for this article was obtained over 9 months of fieldwork in both Nigeria and Ghana between 2013 and 2014. We adopted a qualitative research method. We conducted several semi-structured interviews with a diverse set of actors who are directly or indirectly involved or affected in the design and implementation of REDD+ at both national and sub-national levels. In Ghana, the second author led the data collection. Here, 27 national-level stakeholders from government institutions, national and international non-governmental organisations (NGOs), development partners, research organisations and the private sector were interviewed. These respondents were selected purposively based on their involvement and interests in the REDD+ process. Purposive sampling is one of the non-probability sampling techniques involving deliberate target of specific units of interest from usually a small population to form a representative sample [48,49]. Similarly, 58 REDD+ stakeholders were purposively selected and interviewed in Nigeria. The first and the third authors carried out the interviews. The respondents include state officials, local NGOs, international REDD+ consultants, and community leaders. The difference in sample size between the two case study countries is a reflection of their distinctive political-administrative structures and institutional arrangements for REDD+ with that of Nigeria being more expansive. Some stakeholders such as the international NGOs operate in both countries as technical partners under the UN-REDD program. All interviews (except one on Ghana conducted via Skype) were conducted face-to-face using a conversational approach to allow for deeper probing of issues. The interviews generally lasted for an average of 40 min or more depending on the participants' willingness to articulate their views. All the interviews were tape-recorded and stored according to the dates and locations they were conducted. The Skype interview was carried out in a similar fashion. Interview questions consist of relevant thematic issues that relate to politics, power relations, multi-level governance arrangement, tenure and other information linked to design and implementation of REDD+ in both countries.

The qualitative interviews were complemented with a detailed review of relevant reports on REDD+ in both countries. These include the REDD+ Project Idea Note (R-PIN) and the REDD+ Readiness Programme Proposal (R-PP) in the case of Ghana; and the National Programme Documents

(NPD), the (REDD+ Readiness Programme Proposal) R-PP and the (Preliminary Assessment Report) PAR in the case of Nigeria. Other documents reviewed include REDD+ progress reports for both countries, Terms of Reference for consultants, consultancy reports, REDD+ project documents and the National REDD+ Strategy document of Ghana. Additionally, we drew on observation of selected REDD+ meetings and events, and extensive documentation of REDD+ events. These policy events include environmental summits, workshops, round-table discussions and project meetings. We also obtained data at REDD+ sites through participant observation of everyday activities of communities. In Nigeria, further data was obtained from Ekuri, Iko-Esai, Katabang, and Ikang communities which were purposively sampled from each of the three REDD+ pilot clusters. These communities were selected based on the relative significance attached to them by the project proponents. The collected data sets were analysed using qualitative methods of content analysis, grounded theory, and discourse analysis [50,51]. First, the interviews were transcribed verbatim and coded. Second, drawing on the suggestions of Strauss and Corbin, and Saldana [52,53], coding was done manually using pen and highlighters to assign descriptive and attribute information to sections of the transcripts and secondary documents. This is followed by the axial coding process of re-organising and categorising similar or related codes into themes that constitute the structure of our findings. This process was repeated until a saturation point was reached where no new themes emerge from the data. Discourse analysis involves the use of a critical narrative approach for the interpretation of meanings emerging from the data in relation to our written memos of observations during the data gathering processes.

3. Results

In what follows, we discuss the results of our study under two broad headings: Politics of REDD+ Design and Politics of Implementation. The latter is further divided into three subsections.

3.1. Politics of Design

In Nigeria, REDD+ emerged partly in response to the recent economic drawback of Cross River State (one of Nigeria's 37 federating units) due to fast-declining oil revenues and growing public debt (see Figure 1 for a map of Cross River). It was also partly a culmination of efforts especially among civil society actors and state bureaucrats to address what they considered a "catastrophic" level of deforestation in Cross River State which is an important global biodiversity hotspot and a historically significant socio-ecological area [5,6,54]. These were considerable efforts to supposedly preserve what is now widely regarded as "Nigeria's last remaining rainforest" in Cross River State, building on decades of conservation and development interventions that peaked with the decentralised conservation of the late 1980s [55–57]. Similar motivations underlie the REDD+ process in Ghana as well (see Figure 2 for a map of REDD+ pilots in Ghana). Here, REDD+ policy proceeded on two main premises. The first is that the country's forests were fast disappearing (estimated at approximately 2% annually) and needed a transformational change from how forests have been managed in the past. REDD+ presented this opportunity to "get things right" (Interview with Senior Forestry Official). The second premise was the government's expectation to mobilise significant financial resources through the performance-based payments promise of REDD+ as well as the proliferating multilateral REDD+ finance arrangements. As a senior official at the Ghana Forestry Commission described: "because [lack of] funding has affected implementation of some of our beautiful policies, we strategically positioned ourselves to tap into the opportunities of funding that REDD+ promised to offer … [including] the various funding mechanisms promoted by the global community to support country-level efforts". By 2014, Ghana had developed an Emission Reduction Project Idea Note (ER-PIN) under the Carbon Fund of the World Bank, which was expected to lead to full-scale implementation of REDD+ (see Figure 3 for progress and key timelines on REDD+ in both countries). Under the carbon fund, the World Bank guarantees to purchase the full magnitude of emissions reductions produced by participating countries. As such, early REDD+ ideas began to emerge within this alignment of the aspirations of the financially-stressed government (and especially forestry) departments in both countries and the emergent conservation

interests to protect the forest through creative carbon finance which is based not on cutting the forest (e.g., timber extraction) but on a seemingly compelling idea of "doing nothing" [58,59].

　　For Nigeria, this early alignment of interests found full expression in an environment summit convened in June 2008 which brought together stakeholders, including state bureaucrats, local and international conservation NGOs, environmental entrepreneurs and expert, forest communities, and businesses including bankers, even if the interest of two major coalitions—one for carbon forestry and the other for biodiversity conservation—dominated the summit. The communiqué of this crucial summit recommended that the state government "halt revenue target based on timber exploitation and focus on forest conservation and regeneration for possible carbon finance", "declare a two-year moratorium on logging" and "initiate action to take advantage of the carbon credit market" [60]. These measures found favour with a government that was keen to attract international finance. The Cross River State government, thus, declared a total logging ban, halted revenue generation from timber and initiated early REDD+ consultations. Following a series of reconnaissance surveys, preliminary assessments, and interactions with international REDD+ partners at regional and international events such as Conference of the Parties to the Kyoto Protocol in Copenhagen, the country's first REDD+ proposal, the National Programme Document was approved by the UN-REDD. The UN-REDD is the United Nations platform for REDD+ implementation support, jointly led by the United Nations Development Programme (UNDP), United Nations Environment Programme (UNEP) and the Food and Agricultural Organisation (FAO). An essential pre-condition for such approval is a demonstration by Nigeria's programme proponents of broad-based stakeholder consultation and consensus over the largely expert-written proposals. As such, the circumstances within which REDD+ emerged in Nigeria are those that mobilised a variety of interests in ways that are partly contingent and partly strategic in meeting international requirements for approval.

Figure 1. Map of Cross River State, Nigeria.

Figure 2. Map of REDD+ pilot areas in Ghana (2014). Note: The project in Ankasaho Amuni is an extension of the pilot in Bedum operated by the Portal Limited. REDD+: Reducing Emissions from Deforestation and forest Degradation plus sustainable forest management, conservation and carbon stock enhancement.
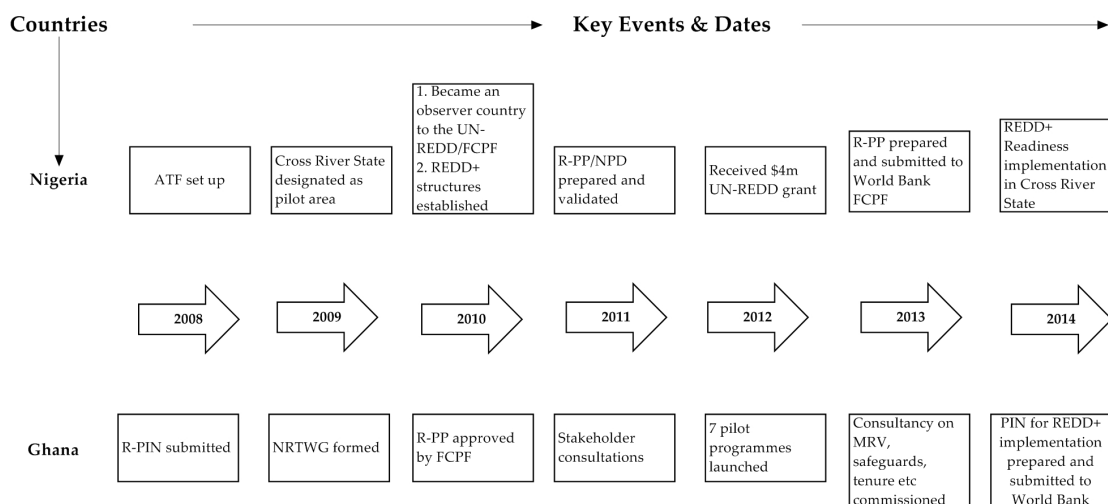
Figure 3. Key timelines for REDD+ in Nigeria and Ghana. ATF: Anti-Deforestation Task Force; UN-REDD: United Nations-Reducing Emission from Deforestation and Degradation; FCPF: Forest Carbon Partnership Facility; R-PP: REDD+ Readiness Programme Proposal; NPD: National Programme Document; R-PIN: REDD+ Project Idea Note; NRTWG: National REDD+ Technical Working Group; MRV: Measurement, Reporting and Verification.

Similarly, in Ghana, the origin of REDD+ is traced to the country's response to the World Bank's call for proposal from interested tropical countries to participate in the then newly-launched Forest Carbon Partnership Facilities (FCPF). Under the FCPF, countries were required to prepare a REDD Project Idea Note (R-PIN), after which they received a grant for the preparation of a detailed Readiness Preparation Proposal (R-PP). Although the development of the R-PIN was almost exclusively carried out by the Ghana Forest Commission, the development of the R-PP drew on the experiences and participation of a wide range of actors from government ministries, the private sector, NGOs, community structures and international development partners. Using existing stakeholder participation structures, the Forestry Commission invited representatives from the National House of Chiefs, Ghana Timber and Milling Organisations, Civil Society Coalition of Forest Watch. These representatives formed the core National REDD+ Technical Working Group, which drafted the R-PP.

The inclusionary politics underlying the design of REDD+ is evidenced in at least three areas. One is in the adoption of a nested approach to REDD+ in Nigeria and Ghana. The nested approach with its growing popularity entails simultaneous national and sub-national (or pilot) level implementation [5,61]. In Nigeria, the nested approach was partly a programmatic imperative, since REDD+ required a national level carbon accounting, whereas, the project had been championed at the sub-national (Cross River) level. This approach was also partly necessitated by an important contextual factor: the federal government in Nigeria has no direct claim to land and forests. Nigeria's regionalisation in 1954 under the British colonial administration brought about a complete transfer of all forest-related powers from the central government to the regions, and later, to the states into which the regions split from the 1960s onwards. The post-independent Land Use Decree (later Land Use Act, LUA under the civilian rule) promulgated in 1978, only entrenched this colonial legacy, by vesting authority over all land in the governor of each state, who holds it in trust for the people [62]. Even the National Forest Policy (NFP) passed in 2006 only deferred to the LUA in specifying forest ownership: "the 1978 Land Use Act gives the lead on questions of land ownership and tenure. All land is owned, including trees growing on it either by the government or private owners." [5].

In Ghana, the nested approach proceeded slightly differently. Early inclusionary approaches were concretised in the devolution of piloting activities to various local constituencies and non-state actors. While the Ghana Forestry Commission took responsibility for policy actions and overall

coordination, early REDD+ proposals sought actual piloting and demonstration activities among NGOs, communities and private forestry enterprises. This early form of nesting was cross-sectional, allowing for the participation of different non-state actor groups. As such, early design of REDD+ laid out plans to support and reward these largely independent demonstration activities—seven in all (See Figure 2). However, in late 2015, proponents, made a change to this model in the recently finalised national strategy. A decision was reached to ditch individual-based pilots in favour of a landscape approach. This was justified on the basis that, first, all the seven devolved pilot projects were located in the High-Forest (HFZ) and transitional ecological zones, which make up the southernmost third of the country. The recent change was to allow REDD+ programmes to be implemented in the Northern Savannah zone as well. Secondly, each of the three ecological zones in Ghana has historically experienced distinct drivers of deforestation (i.e., agricultural activities in the HFZ and charcoal production in the others). The landscape approach was thought to be more inclusive in terms of the scale of operations and regarding its focus on landscape-specific drivers of deforestation rather than at project levels. Thus, substantive nesting in Ghana is ecologically based, unlike Nigeria's political-administrative nesting. As such, the nested approach is clearly specified and encoded in programme documents of both countries as an "innovative" approach which is fitting for the contextual complexities of both countries [63,64]. Nesting thus represents a critical moment in the inclusive politics that underpins REDD+ design in Nigeria and Ghana.

The second aspect of REDD+ design where an inclusionary politics is apparent is in the aims and visions of REDD+ as expounded in project documents and in proponents' discourses. The programmatic aims are multiple and cross-sectoral, foregrounding co-benefits in both countries. In Nigeria, the REDD+ National Programme Document specified the overall goal of REDD+ as follows: "to contribute to climate change mitigation through improved forest conservation and enhancing sustainable community livelihoods." [63] (p. 11). The objectives of the project are unpacked into 14 outputs, which are then refined into "core and indicative activities, all structured into a coherent and detailed results framework" [63] (p. 11). Similarly, the declared vision of the REDD+ processes in Ghana is: "to significantly reduce emissions from deforestation and forest degradation over the next twenty years, while at the same time addressing threats that undermine ecosystem services and environmental integrity so as to maximise the co-benefits of the forests. By so doing, REDD+ will become a pillar of action for the national climate change agenda and a leading pathway towards sustainable, low emissions development" [64] (p. 17).

Furthermore, visions held by experts and other key proponents are often far more grandiose and ambitious than documented aims. In Nigeria, proponents not only seek an intersectoral basis for REDD+, they also maintain that REDD+ has "something in it for everyone" (Int. Cross River State REDD+ Coordinator). Moreover, so great are the potentials in REDD+ that one of the proponents declares: "currently, there is no alternative to REDD+" (Int. 1, UK-based REDD+ Consultant; also Int. 42, International NGO Executive). In Ghana, the recent National REDD+ Strategy captures those ambitious and cross-sectoral visions and aims of proponents to (i) reduce emissions from deforestation and forest degradation over the next twenty years; (ii) preserve Ghana's forests in order to sustain their ecosystem services, conserve biological diversity, and maintain a cultural heritage for generations to come; (iii) transform Ghana's major agricultural commodities and Non-Timber Forest Products (NTFPs) into climate-smart production systems and landscapes; (iv) expand platforms for cross-sector and public–private collaboration and sustainable economic development; and (v) generate substantial and sustainable economic and non-economic incentives and benefits to improve livelihoods across all regions. These visions are deliberately ambitious, broad, and all-inclusive, seeking to summon different actor groups: different state jurisdictions and departments, different forest users, NGOs, investors, academics, the military, among others. Thus, these declared visions of REDD+ also instantiate the inclusive politics that underpins REDD+ in Nigeria and Ghana. While these optimistic, and inclusionary tendencies are partly neoliberal in origin [34,36], they also reflect a rhetorical commitment

to delivering REDD+ "co-benefits" and a universal inclusivity which Nuesiri [65] shows is a key attribute of UN-REDD policy in general and in Nigeria specifically.

The third and perhaps the most vivid representation of the inclusionary politics underpinning REDD+ is evidenced by the proposed institutional framework for REDD+ in both countries as presented in Figures 4 and 5 below. These institutional frameworks portray the interactions among the various stakeholders (including government departments, civil society, international organisations, forest communities, and the academia, among others). World Bank assessors considered Nigeria's framework "far too complex", despite their affinity for complex bureaucratic systems [66]. The frameworks were so inclusionary that, in the case of Nigeria, proponents listed multinational oil companies operating in Nigeria (such as Shell and Chevron) as partners and potential buyers of Nigeria's REDD+ carbon offset [5]. Driven by this inclusionary strategy, Nigeria's REDD+ has proceeded so that by the end of 2013, Nigeria's National Programme Document (NPD) had been accepted by the UNREDD with a US$4.2 million readiness fund. The World Bank's FCPF supported the country's Readiness Preparation Proposal (R-PP) with US$3.6 million, and the California-led Governors' Climate and Forests Task Force (GCF) provided additional support. In Ghana, following the approval of the R-PP, about $3.4 million were provided by the World Bank. As of 2016, about $100 million has been mobilised in commitment from multilateral, bilateral and other philanthropic sources although just about $25 million has been disbursed from the respective donors to the Ghanaian authorities [67].
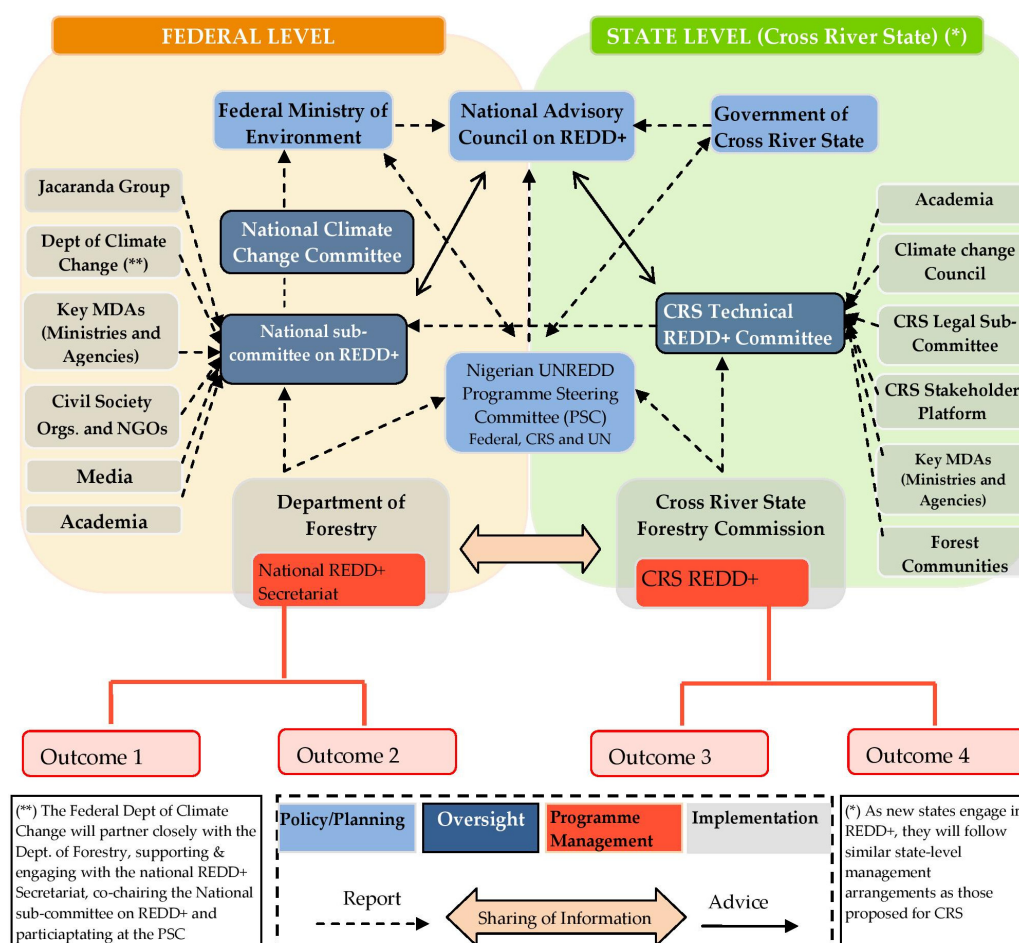

Figure 4. REDD+ Institutional Framework for Nigeria. MDA: Ministries, Departments and Agencies; NGOs: Non-governmental Organisations; CRS: Cross River State; UN: the United States. Source: Adapted from Nigeria R-PP, 2013, p. 11 [66].

This section has, so far, analysed the design of REDD+ in Nigeria and Ghana, and how a certain inclusionary drive underpinned design processes in the two countries—to varying extent. Details of some key design elements, however, differ between the two countries as partly evident in the discussion so far, and as shown in the summary of comparative characteristics of REDD+ in Ghana and Nigeria in Table 1. Nevertheless, in both cases, it is an interplay of nationally-adapted global REDD+ guidelines, interactions with international REDD+ partners (such as the World Bank and the UN-REDD), specific histories, and the negotiation of actors' interests that underpin the design of REDD+. These elements interact to forge a tentative inclusionary approach both as a contingent and a strategic dimension of the design process. An inclusionary approach, among other things, serves to lend the projects some legitimacy, minimise opposition in its early stages, and guarantee the technical and financial support of international partners. Yet, this is not to suggest that REDD+ design was totally and always effectively inclusive; it is to emphasise the ways in which inclusion was partly a deliberate strategy which contrasts with the exclusionary politics through which implementation was pursued. The following section examines the implementation of these proposals, focusing on three major themes that emerged as common areas of emphasis in both countries, i.e., capacity building, visualising carbon, and defining property.
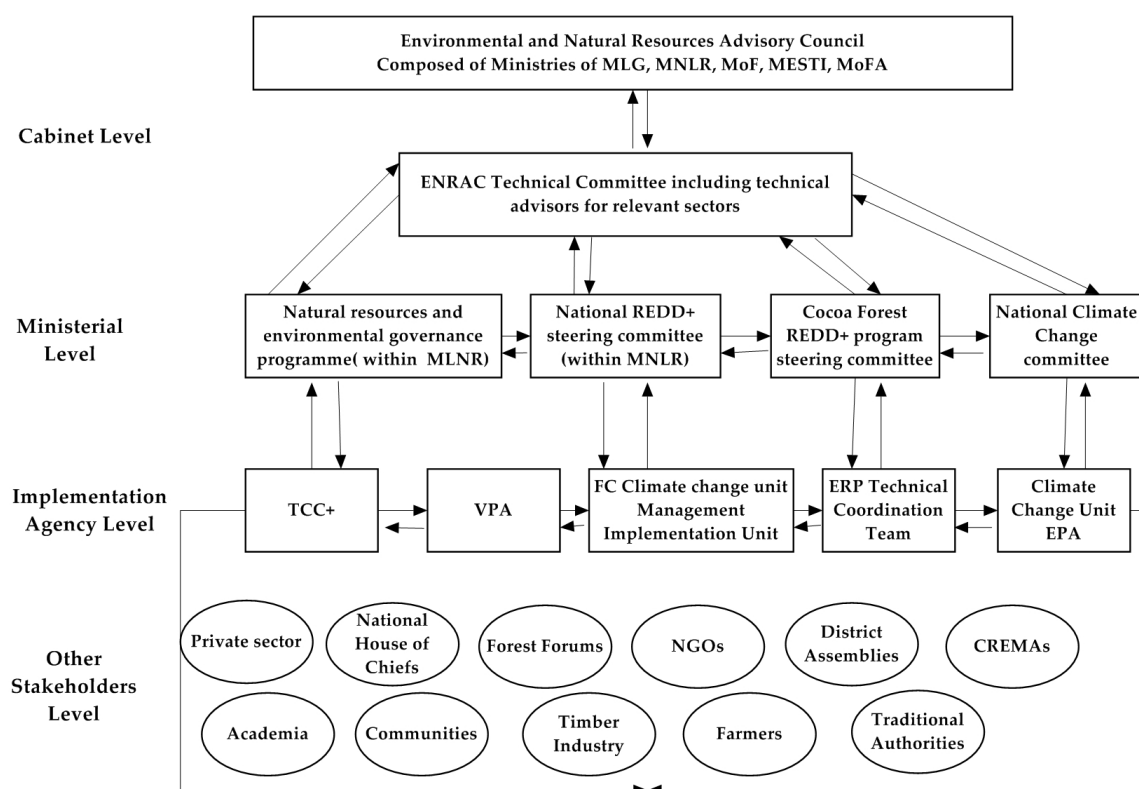

Figure 5. REDD+ Institutional Framework for Ghana. MLG: Ministry of Local Government; MLNR: Ministry of Lands and Natural Resource Management; MoF: Ministry of Finance; MESTI: Ministry of Environment, Science, Technology and Innovation; MoFA: Ministry of Food and Agriculture; TCC+: Technical Coordination Committee; VPA, Voluntary Partnership Agreements; FC: Forestry Commission; ERP: Emission Reduction Programme; EPA: Environmental Protection Agency; NGOs: Non-Governmental Organisations; CREMAs: Community Resource Management Areas. Source: Adapted from Forestry Commission, 2015 [64].

Table 1. Characteristics of REDD+ in Ghana and Nigeria.

Design/Implementation Elements	Ghana	Nigeria
Scale of REDD+ planning	National accounting with an ecological landscape approach to implementation	National and sub-national (state) implementation
Basis for nesting	Ecologically driven, based on zoning of the landscape and unique drivers of deforestation	Politically driven, based on pre-existing federal structure and the power differentials between federal and state control of land and forests
Total area	8 million hectares spread across five administrative regions.	14.4 million hectares in Cross River State
Institutional arrangement	Design based on a multi-stakeholder principle that situates actors across national, operational and local levels	Design based on the "all-affected"/multi-stakeholder principle
Land, forest and carbon tenure	Forest is owned by communities, but the National Forestry Commission holds the rights to manage forests. Dtermination of carbon tenure ongoing	The state governor in each state holds land in trust for the people. Therefore, there is a formal state trusteeship over land and an overlapping customary ownership. Carbon ownership claims are still indeterminate, but there are indications of state control over how carbon rights might be distributed
Implementing agency	National—The Ghana Forestry Commission	National—National REDD+ Secretariat Sub-national—Cross River State REDD+ Unit in the State Forestry Commission
Landscapes/ecosystems under focus	Rainforest, Agricultural land (Cocoa farm)	Rainforest; Mangrove
Securing forest property for REDD+	Through negotiations with cocoa farmers (in agricultural lands) and through protection of existing state Protected Areas	Through state-wide forest protection (a logging moratorium)
Funding Allocation	Approximately $100 million committed between 2009 and 2014 although actual disbursement stands at about $30 million	A sum of US$4.2 million from UN-REDD; $3.6 million from FCPF; and $132,000 from Green Climate Fund; $466,000 from Small Grants Programme
Expansion	To be expanded into transition and northern savannah zones	To be expanded to other Nigerian states
Stated drivers of Deforestation	Agricultural expansion, illegal logging, fuelwood harvesting, mining, infrastructure development	Agriculture, state timber policies, mining, and infrastructural development

REDD+: Reducing Emissions from Deforestation and forest Degradation plus sustainable forest management, conservation and carbon stock enhancement; UN-REDD: United Nations-Reducing Emission from Deforestation and Degradation; FCPF: Forest Carbon Partnership Facility.

3.2. Politics of Implementation (UNREDD, United Nations-REDD Project; FCPF, Forest Carbon Partnership Facility)

Having discussed the politics of REDD+ design, this section highlights how elements of project design codified in key project documents are pursued, contested and even transformed as they enter the realm of everyday politics of implementation. We show that not only did the earlier inclusionary approach change in implementation, but various forms of exclusion and narrowing were also strategically wielded to render social and ecological complexities governable. This section proceeds along three major areas of common implementation focus in Nigeria and Ghana. These are capacity building, carbon visibility, and property rights.

3.2.1. Capacity Building

Capacity building has come to be identified as a central aspect of REDD+ readiness in many countries [37]. Weak institutional and technical capacities to implement REDD+ and specifically to

monitor forest carbon have been a raging concern among global proponents of REDD+. For instance, in one extensive review of the capacity of 99 countries to engage in REDD+, [68] found that "very large capacity gaps were observed in forty-nine countries, mostly in Africa". This and many other studies have called for institutional and technical capacity for countries as a key focus of implementation of REDD+ [69,70]. In line with this global emphasis, both Nigeria and Ghana have pursued the goal of improving institutional and technical capacity at the national and state levels. Yet, the implementation of this goal was more than a mere technical intervention. Rather it entailed evaluating, discounting, and re-working existing institutional arrangements as well as authorising and legitimising new institutional arrangements, actors, knowledge, and practices which are claimed to be REDD+ enabling [71,72]. In both countries, the processes of institutional restructuring involved blending of old and new institutional units; overhaul of forestry law and forestry policy; and everyday efforts to impart technical know-how in expertise areas (such as remote sensing, participatory governance) that are considered critical for REDD+.

In Nigeria, capacity building was pursued through complex cross–scalar efforts to rework institutions (specifically forest laws and institutional structures). One aspect through which this was to be achieved involved translating the proposed complex institutional structure (depicted in Figures 4 and 5 above) into reality through the creation of a whole REDD+ institutional network, composed of old and new state and non-state institutions. At the national level, new departments and units were created, for instance, the national REDD+ Secretariat, the National Advisory Council on REDD+, and the National sub-committee on REDD+. This is an addition to efforts to restructure existing departments such as the Federal Forestry Department and the Federal Climate Change Department (Formerly Special Climate Change Unit). Restructuring efforts were most intense at the state level in Cross River since it is at this level that the practical REDD+ demonstration would take place—in line with the nested approach—and it is at this level that forestry laws have significant bearings on landscapes and people, as earlier noted. Similarly, the REDD+ processes in Ghana focused on creating a new institutional network, comprising of old and new public institutions. Here, the Forestry Commission set up the Climate Change Unit to be the secretariat of the REDD+ processes and created a four-tier system of institutional arrangement. At the cabinet level, the Natural Resources Advisory Council (ENRAC), headed by the Vice President, was set up to provide high-level backing to the REDD+ processes. At the ministerial level, an existing inter-sectoral Technical Coordinating Committee-Plus (TCC+) was enrolled into the institutional architecture of REDD+ while a completely new multi-stakeholder National REDD+ Working Group (NRWG) was created. The Climate Change Unit, which serves as a secretariat to REDD+ Secretariat was also created at the operational/implementation levels. However, unlike Nigeria where much implementation continues at the state level, Ghana's implementation focus was more on the national level.

A starting point for proponents pursuing restructuring in both countries was to review the old forestry law and existing institutional framework for forest policy. In Nigeria, the 1956 Eastern Nigerian forest law (which governed forests in Cross River State) was reviewed and approved by the legislature and the executive in 2010. This was followed by the reworking of the Cross River State Forestry Commission to grant more powers to non-state actors (notably NGOs), while orienting the goals of the Commission, its missions, reporting systems and administrative frameworks towards a new vision of carbon forestry [73,74]. In Ghana, the existing 1994 Forest and Wildlife Policy was also revised and replaced with a 2011 Forest and Wildlife Policy [75]. In both countries, this wave of restructuring was rationalised partly through the problematisation of "the long-standing system of viewing the forest as a source of revenue for government [which] is an outdated, colonial and pre-oil mentality . . . and civil servants charged with forest management responsibilities who are involved in illegal logging activities" [76] (pp. 3–4). While REDD+ proponents, both in Ghana and in the Cross River State of Nigeria, claimed to replace timber forestry with carbon forestry, on the one hand, they also grappled with the reality that a carbon regime could not be built ex nihilo. Consequently, restructuring in both

countries progressed through the selective exclusion of certain timber forestry practices, knowledge, actors, and interests.

In Nigeria for instance, such restructuring entailed the disciplining of timber forestry actors, partly by steering everyday forestry practice and knowledge away from those required for timber forestry to those most useful for carbon forestry. A major aim was to equip foresters and other REDD+ proponents with the tools and capacity to render forests visible in new ways. Recognising the lack of such knowledge and the need for it in the emergent dispensation, the Cross River State Forestry Board intervened. The Chair of the Board recounts: "to monitor the forest you must have the capacity. When we came in here, most people had not seen a GPS, not to talk of knowing the relevance of Geographic information system (GIS). So we had to purchase GPS units . . . and trained them" (Chairman Forestry Board and State REDD+ Coordinator). Forestry staff members in the various outposts were henceforth required to report monthly GPS readings of their activities to the Commission headquarters. This intervention failed to achieve the desired results as no forestry outpost reported any GIS reading. Nevertheless, MRV laboratories (one at the national REDD+ Secretariat in Abuja and one at the Forestry Commission in Calabar, Cross River) have been established. Experts and international consultants have been deployed to foster these new forms of knowledge and practices. Specifically, a FAO MRV expert was seconded to the Forestry Commission in Cross River State, while several other consultants from the FAO, UNDP and UNEP continued ad-hoc consultancies. Failing efforts to integrate remote sensing into the total forestry structure, REDD+ proponents began narrowing their focus on select units (e.g., the cartographic unit), and individuals who were strategic to the carbon forestry regime became the targets of REDD+ capacity building. In Ghana, a technology transfer initiative was instituted where more preference was given to foreign consultants partnering local firms and staff of the Commission to work on deliverables such as MRV and Reference Emission Level (REL). The Commission also initiated "various capacity building activities . . . to sharpen the skills of these bodies to make them more effective at their roles" [61]. These include various training programmes on designing REDD+ projects, carbon stocks assessments, MRV and REL establishment, etc. Thus, a path dependency manifests in Ghana's REDD+ design where the continuous capacity building is emphasised in the implementation of REDD+.

Important in this wave of institutional re-organisation aimed at building capacity are the assumptions underpinning it and how these serve to legitimise the exclusion of traditional forestry actors. In Nigeria for instance, existing forestry institutions have consistently been described as lacking technical capabilities, old-fashioned, corrupt and aiding illegal logging. For instance, the bulky preliminary assessment report which formed the basis for the project proposals had noted: "In most states, management capacity of the state forestry departments and local organisations is low, with poor funding, low staff morale, limited technical training and often high levels of government corruption" [5]. However, these evaluations often ignore the longer history of declining state support for forestry, increasing state forestry revenue target, and recent spread of industrial timber and agricultural concessions—factors which serving and retired foresters blamed for widespread corruption and decline of Cross River forests. Nevertheless, these assumptions of deficiency have served to justify the selective exclusion of forestry bureaucrats in the REDD+ processes. As a consequence, NGO actors and international consultants dominate the emergent institutional structures for REDD+ [29,33]. This dominance should also be understood within the historical context of the post-1989 decentralisation efforts which began with the constitution of the Cross River National Park in 1991 and fostered the rise of an NGO sector and the growth of socio-environmental entrepreneurs some of whom are now prominent in REDD+ design and implementation [11,43]. Though this allowed the implementation of REDD+ to progress since these NGO actors claim know-how in carbon forestry, it has also stoked a tension between traditional state foresters who increasingly feel professionally marginalised and excluded and the members of the NGO-led REDD+ coalition who lead REDD+ processes, having been appointed to state positions.

Also remarkable is the nature of the emergent institutional arrangement under REDD+, presented in Figures 4 and 5 above. If the representation of the arrangement is complex, translating the representation into reality was even more complex, thereby limiting the extent to which implementers could achieve smooth national/state nesting. First, the ambitiously inclusive institutional architecture proposed in design documents in both countries quickly gave in to highly selective coalitions, with actors in the state forestry institutions and in the NGO sector decrying the lack of participation and transparency in the implementation process (Interview Forestry Director; Interview local NGO; Interview International NGO). Second, as implementation progressed, it became clear that many of the old and new state agencies overlap and even compete. As such, on the ground, institutional arrangements are complex and far less inclusive than design documents suggest. Indeed, the constant clash and negotiation of interests among actors in the state and beyond the state reflect a condition marked by "micro-politics, in which actors pursue various overt and covert negotiating strategies to achieve personal ends" [29]. In Nigeria for instance, conservation NGOs leading state anti-deforestation efforts continue to appropriate the logging moratorium for the protection of primates and other wildlife. Also, some members of the Anti-Deforestation Task Force often strike illegal deals with loggers and timber merchants. Some foresters also withdrew support for REDD+ to defend their professional interests and public rights to forest products. In Ghana, although the Forestry Commission began the REDD+ processes through the FCPF, organised the consultations and led the development of the REDD+ Strategy, the Ministry of Lands (which is its parent institution) also led almost parallel processes of consultations, piloting and other processes under the Forest Investment Project (FIP) of the World Bank. A key aim of capacity building is to enable a socio-technical institutional formation that can render forest carbon visible and amenable to accounting. This visualisation of carbon is the focus of the next section.

3.2.2. Visualising Carbon

In line with increasing emphasis at the global level for tropical countries to make carbon visible and tractable through credible measurement, reporting and verification (MRV) processes, a second major focus of implementation in both countries has been to render the forest visible as carbon [27] . This also reflects ongoing effort to grapple with the requirements and capacity for MRV in both countries.

The foundation for this aspect of REDD+ implementation was laid by REDD+ experts who determine the overall biomass carbon potential in both Nigeria and Ghana. For example, a network of international experts from the United Nations Environment Programme's (UNEP) World Conservation Monitoring Centre (WCMC) conducted a carbon survey in 2010 using remote sensing and global soil charts to estimate Nigeria's biomass carbon as 7.5 gigatons and demonstrating the national spread of carbon The survey also suggested focus areas for optimum REDD+ co-benefits by overlaying the carbon map with biodiversity areas of interest. Similarly, through a collaboration between the Ghana Forestry Commission and Forest Trends, Nature Conservation Research Centre (NCRC) and some researchers from the University of Oxford and the National Aeronautics and Space Administration (NASA), a biomass map was produced for Ghana. The map estimated total above ground national carbon stocks to be 1.75 gigaton of carbon (Gt.). Rendering carbon visible in this way requires excluding a range of other things from view. Excluded from view are areas of local importance to communities—fertile farmlands, areas rich in non-timber forest products, sacred forests, and community settlements. Such carbon visibility exercises which were championed by local and international consultants in Nigeria and Ghana, as elsewhere [37,77] have not emphasised local knowledge and capacity for measuring carbon. This is in spite of a growing literature showing the importance and effectiveness of locally trained forest communities in accurately monitoring carbon in ways that safeguard local rights [78–81]. Though implementers in both countries have organised series of workshops on remote sensing, including at least one on-the-ground carbon estimation exercise at the community level in Nigeria, these exercises were rather symbolic as they were not significant enough to help communities crack open and sustainably engage with the black box of technical carbon estimations procedures.

Closely linked to these are efforts to territorialise these emergent carbon visibilities. Given the lack of capacity in both countries, as in most tropical countries, to monitor the forest nationally and near-real time [66], implementer's narrowed territorialisation of national carbon visibilities to sub-national pilots. Difficulty in monitoring also relates to challenges in establishing a plausible and widely agreeable reference baseline for emissions reduction, which REDD+ implementers and the World Bank review committees jointly agreed was fundamental to the project [5]. Generally, not only is baseline determination a technically challenging endeavour, it is also a political one [55,82]. This means that although carbon is rendered visible at the national level, actual monitoring and capturing of value would proceed at the sub-national level, which does not merely align with the nested approach, but also represents a narrowing of the scope of what ought to be national carbon monitoring.

At the sub-national level in Cross River State and in the project areas in Ghana, pilot areas for REDD+ and the extents of forests are neatly demarcated on maps. However, on the ground, the situation is different: there seem to be no credible information on the definite extent of the forest (loss) and the definite areas marked out for REDD+. A retired senior forester in Nigeria observed: "Obviously since, say Independence, there hasn't been any detailed inventory survey. So, whatever we are even claiming about the boundaries and the sizes of the Cross River forests I think is guess-work" (Interview Retired Forestry Director). An official of the Anti-deforestation Task Force charged with forest protection also observed that "there are no clear boundaries till today. How do you do REDD+ when you do not even have a boundary you can claim to be your own" (Interview Task Force Official). If uncertainties with forest extent and boundaries pose technical challenges for REDD+, this challenge takes on a political form with respect to communities whose forests are also being constituted into REDD+ pilots. For instance, the Project Idea Notes (PINs) for Nigeria's REDD+ pilots had noted: "the project is viable and attractive to carbon finance only if the project area includes the multiple community forests and forest reserves. A project considering only one of these areas would not be viable on its own" [5]. Thus, to make Nigeria's carbon forests marketable and finance-able, they needed to be rendered visible as "clusters" which are based mainly on forest contiguity. Once carbon forests are rendered as clusters, socio-political jurisdiction must be re-arranged as such: supra-community governance levels that correspond to clustered forests. What is excluded from such a process are the various ways through which local forest governance had been pursued prior to REDD+ and the various patterns of inter-community resource relations that pre-date current interventions. Yet, such imposed institutional arrangements exemplified by clustering, scholars of institutional bricolage warn [83,84], often fail to grasp the ways in which community resource governance institutions are rather more organic, multipurpose and representing layered imbrications of new and pre-existing institutions.

Further work on carbon visualisation specific to the Ghana case involved mass mobilisation and education. Dubbed the "REDDeye road show", the format for the procession over the years has involved mobilisation of a cross-section of actors including celebrities, school children, private firms, government agencies and communities into street marches in different locations across multiple regions in Ghana. Per the government, the central objective has been to raise awareness and "open their (i.e., youth, school children) eyes on the importance of the REDD+ as a mechanism to reduce the devastating effects of climate change" (Interview with official of Forestry Commission, April 2014). Accordingly, these street processions interspersed with dancing, drumming and drama promote messages centred on behavioural changes such as changes such as "before you cut a tree, think twice", "save the earth against the removal of trees" and "let's protect the environment together". However, far from the mere raising of awareness, the mass education and processions form part of the larger efforts to visualise carbon as a fictitious product that can be controlled, calculated and managed [58]. At the same time, the exclusionary politics in the REDD+ Roadshow is seen on its key targets (i.e., general public, school children, youth). Here, timber merchants (both legal and illegal) understood to have driven deforestation are given insufficient attention as targets. These carbon visualisation processes are also linked to processes of defining carbon rights and tenure, which is the focus of the next section.

3.2.3. Defining Property Rights

In addition to building capacity and visualising carbon, defining property rights is the third major focus of implementation in our case studies. Questions of tenure are so central to REDD+, as literature in this area has demonstrated, since this relates to the permanence of emission reduction, benefit-sharing, access to forest resources under REDD+, and overall project effectiveness [41,85]. It is also around these aspects of REDD+ in West Africa that the literature on justice in ecosystem governance is recently gaining traction, see [86]. In both Ghana and Nigeria, proponents of REDD+ have sought to define property rights through mutually reinforcing practices of invoking existing legal-institutional framework for forest and land, and through material practices of formulating new rules and controlling access to the carbon forest [5,64,87]. However, determination of property right is even more complex, involving discursive and practical negotiation and contestations between REDD+ proponents, forest communities and other stakeholders. As in other post-colonial tropical countries where formal and customary land claims overlap, there are complexities over land rights in both countries, and project proponents show an awareness of this. For instance, a National Validation Workshop of REDD+ stakeholders in Nigeria called for "due clarification and definition of carbon rights and land tenure matters as they affect REDD+" [64]. In Ghana, the National REDD+ Strategy recognised that tenure rights are ambiguous, contested and "poses major challenges to Ghana's REDD+ process" [75].

Implementers in both countries are trying to respond to this imperative in various ways. In Nigeria, REDD+ proposals have linked carbon rights to forest and land rights by invoking the National Forest Policy, which itself referred to the Land Use Act (LUA). The National Forest Policy (NFP), passed in 2006, only deferred to the LUA in specifying forest ownership: "the 1978 Land Use Act gives the lead on questions of land ownership and tenure. All land is owned, including trees growing on it either by government or private owner." [64]. In Ghana, the government has initiated consultancies about tenure reviews which is expected to lead to legislations that will clarify and secure land tenure, tree tenure, carbon rights and benefit-sharing frameworks for REDD+. At the same time, there are divided opinions among the implementers in both countries. In Nigeria, some maintain that nobody owns carbon and that though there are legislations on the ownership of timber and land, there is currently no document specifying any pattern for carbon ownership (Interview, State REDD+ Coordinator; Interview, REDD+ Consultant). These warn that if current tenure arrangement which puts all land under the state control is strictly translated into carbon rights "that would be a disaster", since it will marginalise communities and other non-state claimants of carbon benefits (Interview, UK-based Nigerian REDD+ Consultant). Furthermore, currently in Ghana, communities own forest but they do not have management rights over the forest. Thus, different tenure and benefit sharing frameworks govern trees and lands on which the trees are located respectively. Here, opinions are divided on whether carbon should be treated as a natural resource such as timber or should be treated as a non-timber forest product, whose extraction is not tied to trees but to the lands, for more on this complexity see [88]. Either way, the existing tenure and benefit-sharing framework sharing framework are recognised by stakeholders as unfair, inequitable and community-marginalising as individual farmers are excluded from benefits from trees. Meanwhile, some respondents in both countries suggest that carbon rights be focused more on sharing rights to benefit from carbon among relevant actors including communities. This aligns with the view of carbon right as a bundle of rights with actors having different rights within the bundle of rights [88]. However, even this still entails a clarification of the "owner" in whom the cumulative rights are vested, including the right to exclude others and protect the resource. Indeed, it is through the exclusion of others that the "owner" can secure property right to the carbon forests and guarantee permanence.

While discussions continue around ownership of forest carbon, the expression of the State's power to exclude other land and forest claimants in Nigeria (i.e., through the total logging ban) indicates who currently wields the important rights. The logging ban is sustained by a government-constituted militarised Anti-deforestation Task Force, led by a conservationist. The moratorium is now considered

an important means of demonstrating "political will" to international REDD+ partners. This is, in turn, ensuring continued technical and financial support from international REDD+ partners. However, local communities have continued to contest these efforts to secure the forest for REDD+ through a total logging ban that threaten long-standing forest management practices, local farming, local livelihood, local resource governance and resource rights. For instance, one petition written by a forest community on the 28 November 2011 was addressed to the State Governor. The community made a desperate plea for rescue from "the untold hardship [which] the Chair of the Anti-deforestation Task Force is impacting on us outside of the law" [89] (p. 1). They petitioned that "after having obtained a valid document from the Forestry Commission to officially evacuate processed chewing stick from Agbokim village, he impounded our vehicle" [89] (p. 1). Failing such petitions, communities have resorted to everyday acts of resistance including defying the repressive ban to access NTFPs—acts that the ATF would regard as "pilfering" and other "forest offences" [90,91]. In other cases, communities are reclaiming land areas long donated to forestry for reforestation purposes. Meanwhile, by contrast, Ghana is integrating tree conservation on farms. Yet, by existing laws, Ghanaian communities could own the trees but would not necessarily have the carbon management rights.

Thus, efforts to implement REDD+ in both countries proceed under conditions of exclusion, tension and contestations, although in different forms. Ultimately, efforts to clarify and define property rights in both Nigeria and Ghana are reinforcing state control over land, forest and carbon at the expense of community rights and public access to timber and non-timber forest products [41]. Under such circumstances, in Nigeria, safeguard tools such as the Free Prior and Informed Consent (FPIC) were largely reduced to another technical subject for NGO training and discussion. The application of FPIC bears no significance in the unilaterally-imposed ban on exploitation of timber and non-timber forest produce (e.g., chewing stick, shepherding staff) in state reserves, community forests and private forests. Meanwhile, these tensions and exclusion are also driving increased deforestation. As data from the Global Forest Watch show in Nigeria, deforestation has increased steadily since 2012, reaching a 14-year peak in 2014—a period when the Anti-deforestation Task Force was most active [92]. Therefore, exclusionary policies (like the moratorium) which undermine local property rights also tend to exacerbate deforestation and degradation Therefore, exclusionary policies (like the moratorium) which undermine local property rights also tend to exacerbate deforestation and degradation [93,94]. While some studies [95] claim that devolution of forest control may not necessarily lead to improved local and regional forest conditions, we argue that devolution also requires that we reframe such questions as: what constitutes forest improvement and who gets to define it?

4. Discussion and Conclusions

So, what shapes the design and implementation of REDD+ in Nigeria and Ghana? While a combination of in-country processes and international negotiations kick-started the project in Nigeria, Ghana initiated its REDD+ processes through early engagement with international REDD+ partners. On one hand, REDD+ design was clearly path-dependent and historically contingent, reflecting, in Nigeria, in the leading role of Cross River State and the subsequent adoption of the nested approach. This is linked to the decentralisation of colonial administration, and the Land Use Act that invests state governors with power over land, the series of conservation and development interventions that began with the constitution of the Cross River National Park and the more recently financial and ecological challenges in Cross River State. This path dependency manifests differently in Ghana's REDD+ design where a strong and relatively well-resourced Forestry Commission took the lead on REDD+ at the national level. Important here are historical factors such as historically distinct drivers of deforestation in the different ecological zones, which favoured an ecologically aligned nesting unlike Nigeria's political-administrative nesting of REDD+. Ultimately, while Nigeria's REDD+ is organised around strict protection of forest, in Ghana, REDD+ is organised around a variety of strategies (including cocoa intensification and on-farm tree planting) suited to the different socio-ecological areas. Design processes in both countries converge around a particular inclusionary ethos which was partly

contingent and partly pragmatic and strategic. Overall, it is the interplay of nationally-adapted global REDD+ guidelines, specific histories, situated geographies and actors' (including state and non-state actors including NGOs and local communities) interests that underpin the design of REDD+ in such an inclusionary manner.

A similarly complex bricolage of heterogeneous factors shaped the implementation of REDD+ in the two contexts. First, the overarching focus on the three domains of capacity building, visualising carbon, and clarifying property rights in both Nigeria and Ghana apparently derives from the international REDD+ dispatches (e.g., United Nations Framework Convention on Climate Change (UNFCCC) and international proponents such as World Bank). The manifestation of these guidelines takes different forms in the two countries, as these guidelines interact with specific histories, institutional formation, interests of different stakeholders, existing property rights, and the various goals being pursued by proponents of these projects. Notably, efforts to build institutional capacity in both cases entailed processes of institutional restructuring involving the blending of old and new institutional units; overhaul of forestry law and forestry policy; and everyday efforts to impart technical know-how in disciplines and expertise areas (such as remote sensing, participatory governance) that are considered critical for REDD+. Reviews of REDD+ cases across several countries have shown capacity building to be a central objective which issues from international guidelines on REDD+ [4]. However, literature also shows that the great deal of financial, technical and administrative resources being devoted to capacity building for REDD+ is not translating to commensurate improvement in local and national capacity, thereby pointing to the motley of factors that shape capacity building processes [33,37,96]. Part of the problem, [37] argue in their analysis of Tanzania, is the inherent and insidiously alienating technicality and complexity of REDD+ which "did not fall from the sky" but has been produced through the self-interested and self-reproducing ways in which actors in the state, civil society and international organisations project REDD+ [24,40,97]. Indeed, the hegemonic carbon measurement approach, notably through remote sensing, does not only exclude other forms of mensuration and valuation, it also represents a regime of power which disciplines bearers of other knowledges [27].

An important goal of institutional capacity development is focused on equipping implementers to engage in processes of mensuration, calculation, representation and transaction of carbon as a resource. This process of rendering carbon visible as a resource and a commodity constitutes a substantive domain of action on its own, given its centrality to demonstrating forest-based emission savings and generating tradable offsets. A fundamental part of this in both Nigeria and Ghana is expert work at rendering carbon visible through maps, figures, charts. Often, these activities render carbon visible by rendering other things invisible, drawing on similar historic, simplifying forestry logic that produced bio-diverse landscapes as timber [98,99]. While these representations are informing mass education and mobilisation in Ghana, in Nigeria carbon representations are being uneasily territorialised through superimposition of significantly simplified images of carbon forests on actual, dynamic forest landscapes. As we have shown, these processes of territorialisation often stoke significant tension, and they are often limited, fractured and transformed through local agency [58,100].

Efforts to clarify property right is another central implementation goal in both Ghana and Nigeria, one which has also been identified in REDD+ literature as crucial for effective and equitable REDD+ [101,102]. In both cases, proponents of REDD+ realise the inadequacy of current legal-institutional frameworks for carbon rights determination. They are also aware of the failure of current land and forest tenure arrangements to guarantee community ownership and access rights, and the need to address these vulnerabilities to an equitable basis for carbon property right. What makes the difference are the ways in which proponents pursue these goals. In Ghana, proponents are pursuing legal and policy reviews to address these weaknesses, even if the history of similar processes to provide secure property rights for communities gives no basis for optimism. In Nigeria, there are a variety of opinions among proponents as to how to link emergent carbon rights to existing land and forest rights, though these mixed opinions still somewhat evade the need to guarantee rights to communities.

Meanwhile, through the moratorium in the Cross River, REDD+ is reinforcing existing land and forest rights regimes that privilege state control [30,71]. Tenure complexities and lack of political will to implement significant tenure reforms has been one of the most widely reported challenge to REDD+ in Africa [94,103–105] and elsewhere [106,107]. In the light of the political cost of tenure reform and the failure of REDD+ to incentivise real reform, there is a growing, if problematic, accommodation of intensified law enforcement, moratorium, and forest militarisation as "alternative policy options" for pursuing REDD+ [108]. These measures, especially when deployed in a totalizing manner, often further complicate resource relations, leading to further deforestation and marginalisation of forest communities and local populations [29,30,109].

As such, our findings make two major contributions to the literature on REDD+ design and implementation in tropical countries. First, we suggest that REDD+ projects progress through creative combination and iteration of inclusionary and exclusionary tendencies, and that project design and project implementation each respectively reflect these contrasting tendencies. REDD+ cannot be inclusive all-through, as REDD+ proponents and some analysts suggest [110], neither can it be all about lack of or inadequate inclusivity [39,41]. Only a combination of inclusion and exclusion better explains how certain claims, knowledges, aims, actors, practices, are centred while others are ignored [21,37]. Indeed, only such would explain the tentative persistence of REDD+ projects even under the most problematic conditions. At the same time, the tendency to include and exclude along the path from design to implementation cannot be reduced to a strategic practice of proponents alone. These tendencies are also path-dependent, they are contingent upon the geographies and histories of particular places, even as they reflect the problematic character of the neoliberal mode of environmental governance. Nevertheless, an analytical approach that is sensitive to power relations and strategic interests proves productive to scrutinise these imbrications of inclusion and exclusion.

Our second contribution, which flows from the first, is that analysis of REDD+ design and implementation will have to grapple, at once, with the globalist, homogenising nature of REDD+ guidelines and the specificities of place and history that condition REDD+ as a contingent process. In their review, Turnhout et al. [111] reflect the sense in which REDD+ manifests differently and generates different impacts in different contexts, thereby suggesting that REDD+ is a "patchwork of projects and practices with different foci". Writing on Indonesia, McGregor and colleagues show REDD+ to be comprised of "a heterogeneous regime of disjointed practices that reflect the existing political ecologies and interest of differently located actors" [21]. Despite the malleability of REDD+ and the differences observed across contexts, the homogenising tendency in a global dispatch such as REDD+ should not be downplayed. This relates partly to its neoliberal provenance on the one hand, and on the other hand, the mode of practice of international development institutions with their will to render REDD+ governable partly through the dispatch of guidelines, blueprints and principles across different context [112–114]. As we have shown above through the three major areas of implementation and similarities in the contradictory inclusion–exclusion politics from design to implementation, homogenisation persists as a direct effect of the application of similar project criteria, centrally dispersed standards, and similar neoliberal ethos. This homogenising tendency is itself political, insofar as these international guidelines either ignore local specificities or they appear amenable to appropriation for various purposes including those that reinforce existing power imbalance. For instance, the default endorsement of national carbon accounting and the use of state power to secure REDD+ forests are reinforcing state control of forests, and to some extent, carbon rights—a situation that poses serious challenges for REDD+ [28,115,116].

Nevertheless, the difference in REDD+ projects between the two countries has been explained in terms of several factors. Our study found that imbrications of different histories, actors' interests, relations of power, and local socio-ecologies explain much of the differences in the unfolding of REDD+ between the two countries. This understanding foregrounds the nature of REDD+ as a global policy but also as a situated project, anchored in locales. Not only is this understanding critical to the scholarly understanding of REDD+ projects across countries, it is also vital for international project proponents

who must increasingly reflect on the potentials and limits of standard guidelines and engage with context-specific complexities.

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