

REDD+: An Analysis of Initiatives in East Africa Amidst Increasing Deforestation

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Abstract:

The study reviewed and examined reducing emissions from deforestation and forest degradation (REDD+) in East Africa. At the helm of Deforestation at its biting implication by the early 2000s, REDD+ was first suggested as a prospective climate change moderation arrangement in 2005 at the United Nations Convention on Climate Change (UNCCC) at the CoP11 in Canada. The basic idea herein was to reduce the increasing loss of forests due to deforestation as well as mitigate climate change as signs were vivid at the time. REDD+ would introduce initiatives to sustain carbon distribution, biodiversity, and stakeholder livelihoods. Developed countries lead in the support of these efforts. Using Literature review and content analysis approaches, the study investigates REDD+ projects in East Africa; Uganda, Rwanda, Kenya, and Tanzania. A considerable level of work has been done as per the findings. However, a lot needs to be put in place since East Africa solely depends on wood biomass for household fuel which is a major cause of deforestation and forest degradation.

Keywords: afforestation, alternatives, climate change, deforestation, East Africa, emission control, re-afforestation, REED+, wood fuel

1. Introduction

East African countries still hugely depend on charcoal and firewood for the household fuel for cooking and factory heating, and timber for commercial use (Namaalwa et al. 2013, Streck, 2012, Wehkamp et al. 2015, Bamwesigye et al. 2017, Bamwesigye and Hlavackova 2018, Bamwesigye et al. 2019). Reducing emissions from deforestation and forest degradation (REDD+) initiative is considered a solution for deforestation and forest degradation. This is because of the various activities that are implemented by this global initiative.

REDD+ referred to as *REDDplus*, is among the internationally commended approaches developing countries have adopted to curb deforestation (Leblois et al. 2017, Namaalwa et al. 2013, Streck, 2012, Wehkamp et al. 2015, Mwangi et al. 2018). Following pleas from forest-rich countries, REDD+ was first proposed as a potential climate change moderation scheme in 2005 at the United Nations Convention on Climate Change (UNCCC) at the CoP11 in Canada (Olsen & Bishop, 2009). Nzunda & Mahuve (2011) further revealed that in 2006, more intense negotiations on REDD+ were held at CoP12 hosted in Nairobi, Kenya. In 2007, it was held in Bali, at the CoP13, and a mutual consensus was reached allowing for demonstration of REDD+ activities.

In 2008 at the CoP14 summit in Poland, proceeding discussion on REDD+ continued to issue out any operational errors from demonstrations. Accordingly, it was at the CoP16

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inferences in context to presented data. The underlying aim of this concept is the drive for availing knowledge and fresh perceptions, through the objective representation of facts collaborated with holistic courses of action. This transparency in approach presents content analysis with the ability to formally summarize content within written content coupled with competence for comprehending the author's perceptions of that material. As earlier stated, content analysis's flexibility guarantees application for the study of both qualitative and quantitative data. Elo & Kyngas (2007) further stated that it can similarly be used for inductive or deductive means depending on the purpose of the study.

Similarly, Macnamara (2005) affirmed the use of content analysis for qualitative and quantitative analysis for media content analysis. In the quantitative content analysis, data collected should be on media content commonly on topics or issues, the bulk of mentions, communications verified by keywords in context, media distribution, and frequency. However, careful consideration must be taken when using the size and frequency of media thus researchers must not directly translate into the impact of the media. Thus, therefore, the study deems it bias for researchers to imply that the core drivers of media impact only be limited to these given quantitative factors. The study demands to advocate for quantitative approaches given the high reliability from reliance on scientific approaches.

The qualitative content analysis, therefore, aims at exploring the relationship between text and its translation to the primary audiences. More so, this approach highly factors for the probability of presenting different information to different people, and this draws primary understanding contextualized from the audience.

The study equally used the strength, weaknesses, opportunities, and threats (SWOT) analysis (Tab. I) to study the REDD+ initiative and some of its projects in Uganda, Rwanda, Kenya, and Tanzania.

Table 1: SWOT Analysis

Strength	<ul style="list-style-type: none"> - What are the strong points about the REDD+? - What has REDD+ done better than some similar projects if any? - What unique characteristics does the REDD+ possess? - How do people understand the REDD+ project?
Weaknesses	<ul style="list-style-type: none"> - What are the weaknesses of the REDD+ project? - What do similar projects do better? - What could the REDD+ project do better at this point? - What do studies, others, and the study perceive as the weaknesses of the REDD+ project?
Opportunities	<ul style="list-style-type: none"> - What opportunities are there for the REDD+ project? - What conditions/issues may improve REDD+ project?

Threats	<ul style="list-style-type: none"> - What weaknesses that may negatively impact the REDD+ project? - Does the REDD+ project have solid finance? - What are some of the conditions that may impact negatively on the REDD+ project?
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Source: Authors' Analysis

3. Literature Review on REDD+ In East Africa

Angelsen, (2009) stated that one of the underlying concepts mandated for by REDD+ is the solicitation of performance-based payments for reduced emissions and increased carbon removals. These payments were to be rewarded to forest-related stakeholders as one of the primary promoters of REDD+. Entirely, dividends of such nature are termed as payment for environmental services, and with it comes several benefits. One is that it is a form of an incentive system that directly rewards forest owners and users to ensure sustainable forest management while curbing deforestation as well. Practically, payment for environmental services was designed to ensure total reimbursement for carbon rights holders that adhered to forest conservation as a lucrative financial source. In this case, such individuals would give up on most alternative forms of livelihood and purposely aim at fully exploiting the lucrative nature of rewards from forest conservation. Ultimately, such individuals would engage in more trade of forest carbon credits while dealing less in cattle, coffee, cocoa, or charcoal. (Angelsen, 2009).

Namaalwa et al. (2013), further revealed that the organizational implementation of REDD+ would be executed in three phases. Similarly, the first two phases were to include the readiness stage to prepare nations for REDD+ activities. Furthermore, these two phases are paramount and included steps like the formulation of national REDD+ strategies, legal procedures, and control measures. More so, this continued into the capacity building which comprised of national policy implementation with a continued assessment of control measures and national strategies. As a result, following the readiness initiatives, the foundational and final phase of REDD+ would be realized, that is measurement, reporting, and verification of actions based on analyses of results from the preceding two phases. CoP16 also suggested failsafe measures that guaranteed environmental and social security concerns of the developing countries that participated in the REDD+ initiative (Namaalwa et al., 2013).

REDD+ has had many success stories like the Yaeda Valley project in Northern Tanzania. However, there exists still a variety of issues that further limit the intensive global implementation of REDD+ initiatives. To elaborate, Angelsen, (2009) stated that even though PES systems for forest conservation have been in practice for a long while there are still issues. In truth, it is a popular trend for deforestation hotspots to be plagued with unclear and contested land rights. REDD+ is critically hampered by poorly or undefined land tenure and carbon rights must be clearly defined, any discrepancy limits REDD+ projects. Also, another issue stems from the fact that regular monitoring of forest carbon is ineffectively met for most developing nations thus, therefore, the payment scale and

structure becomes infeasible. Also, the lack of transparency and corruption among the institutional and government bodies mandated with management of REDD+ for several tropical nations has seriously implicated the progress of REDD+ initiatives. Resultantly, the mismanagement of project finances impedes success for local PES systems. Nzunda & Mahuve (2011), similarly noted that corruption, income inequality, incompetence in policy enforcement has promoted deforestation and degradation thus limiting REDD+. Also, the inability of REDD+ to account for spatial leakages is another issue that many critics have raised against REDD+. Nonetheless, REDD+ still presents itself as a very practical initiative to control the ever-threatening issue of climate change.

Tanzania Natural Resources Forum, (2012) identified several critical forestry initiatives under REDD+ that the country had to be very critical of. First, the Forest Justice in Tanzania ultimately aims at the promotion of transparency and accountability in Tanzania's forestry sector through good governance. This was a community-based REDD+ approach merging the Community Forest Conservation Network of Tanzania and the Tanzania Forest Conservation Group (TFCG). Secondly, the newsletter also identified the Mama Misitu Campaign, one of the earlier launched REDD+ projects in Tanzania. Actually, with support from Finland and Norway, the project goal was an improvement of Tanzania's forestry management through curbing illegal forest harvesting thus ensuring sustainable forest management. Third and final, Forestry Governance Learning Group Tanzania (FGLG) was an internationally managed initiative by IIED. On REDD+, the project addressed accountability issues related to both largescale and smaller REDD+ projects, pilots, and voluntary carbon projects. Entirely, the project identified the effects of illegal timber trade for REDD+ followed by the formulation of presentations that briefed stakeholders.

Similarly, Kweka et al. (2015) stated that REDD+ offers Tanzania remedial solutions to deforestation and degradation in many ways. To elaborate, the Kilimo Kwanza initiative, a REDD+ project was specifically coined to improve agriculture and reduce over-dependence on forest resources by suggesting participatory forest management. Participatory forest management purposely realizes conditions for REDD+ through tenure rights, stakeholder engagement in forest management, and formulation of working institutional frameworks. Furthermore, the same report stated that REDD is supporting reforms such as the National Forest Policy and the Forest Act of 2002 present REDD initiatives with functional working authority. Also, the Forest and Bee Keeping initiative that is internationally funded by UNEP provides data on the correlation between carbon distribution, biodiversity, and stakeholder livelihoods. Ultimately, this further supports REDD by soliciting relevant data essential for determining carbon-priced payments for reduced emissions.

Equally important, Mwangi et al. (2018) observed that as far as REDD+ is concerned in Uganda, the Ugandan Ministry of Water and Environment is mandated with its coordination and implementation. Similarly, the same report reveals that at the policy level, the National Climate Change Advisory Committee (NCCAC) acts as a REDD+ steering committee. The Ministry of Water and Environment (2016), stated that in 2008, Uganda became a participant in the Forest Carbon Partnership Facility (FCPF). Consequently, in 2009, the same report reveals that Uganda received the first monetary fund from the World Bank to prepare a REDD+ readiness preparation proposal (r-PP). Accordingly, as of May

2012, Uganda's r-PP was approved this, therefore, initiating the realization of the REDD+ preparation phase in July 2013 with projected completion for 2020. Uganda's national REDD+ strategy as presented by Mwangi et al. (2018) commenced at the COP23 in Bonn. Consequently, this was stiffly proceeded by devising a World Bank Forest Investment Program investment plan devised to kick off progress implementation of REDD+ strategies in Uganda.

Furthermore, Namaalwa et al. (2013) similarly presented many various implemented REDD+ initiatives in different forest ecosystems of Uganda. Subsequently, in the Ongo community forest situated in the Budongo–Bugoma community forest corridor was engaged in community forest management with continued reimbursement of carbon mitigating activities. In 2010, ECOTRUST initiated the idea of implementing a REDD+ project for Ongo community forest (Nabanoga et al. 2015). Entirely, the underlying goal of the project was the resulting improvement of forest protection entirely through the elimination of pressures resulting from illegal activities and fires. Nabanoga et al. 2015, further stressed that through enrichment planting of seriously degraded zones, forest rehabilitation would be actuated with the proposed provision of alternative livelihood plans. These included the adoption of sustainable forest-based initiatives such as the promotion of ecotourism, apiary, and crafts, funded by the micro-loan system established purposely for this project. The same REDD+ initiative was expected to encourage other energy sources rather than fuelwood to lower the high harvesting pressure on the natural forests. Ultimately, this was actuated through the establishment of woodlots and various agroforestry systems on private lands (Nabanoga et al. 2015). Finally, private forest owners in the same corridor were remunerated for services to the environment such as forest restoration or opting out from deforestation their plots (Namaalwa et al. 2013).

Also, for Mabira forest, a central forest reserve, benefit-sharing was implemented purposely through community forest management by soliciting agreements between stakeholders and the National Forestry Authority. Similarly, in Gulu district, the customary land was subjected to serious agroforestry projects to help reduce pressures on forests resulting from agriculture. For Mountain Elgon National Park, several REDD+ initiatives were set in play to cover for the vast expanse of the protected area. First, Namaalwa et al. (2013) observed that benefit-sharing between the park authority and the local government was set up. Second, formal agreements between UWA and local communities followed promoting the adherence to collaborative resource management. Finally, benefit-sharing and livelihood enhancing interventions were set in play in conjunction with the Mount Elgon Regional Ecosystem Conservation Programme (Namaalwa et al. 2013).

Far as Kenya is concerned Stiebert et al. (2012) stated that some of the applied strategies by the nation's REDD+ initiatives included protecting forests, identifying and supporting alternative livelihood opportunities. Further policies adopted included the formulation of incentive initiatives to reimburse participatory communities and adopting sustainable forest use strategies. Not forgetting improved cooking pots, sustainable charcoal production and promotion of community agroforestry routines to solicit timber and fuelwood. Stiebert et al. (2012) stressed that the latter three measures were pioneer low-carbon development schemes REDD+ proposed for the agriculture, energy, and industrial sectors. Similarly, Entenmann et al. (2014) stated that REDD+ interventions in Kenya included publicity of nature-based micro-enterprises, improved fire management regimes,

and incentives for sustainable forest management. The report also stressed supportive afforestation and reforestation as a remedial initiative to curb the critical national timber crisis in Kenya. Finally, the other key REDD+ intervention was stringent on water catchment protection for forests of Mt. Elgon, Cherangany, Aberdare, Mt. Kenya, and Mau Complex (Entenmann et al., 2014).

Wamichwe (2014) also noted that Kenya with funding from FCPF embarked on processing they're preparing a readiness package following multi-stakeholder and institutional review procedures. Ultimately, this was purposed at improving stakeholder livelihoods through availing alternative benefits of forests thus, therefore, reducing the ever so high pressures on Kenyan forests. Wamichwe (2014) further revealed that many climate change initiatives under REDD+ had been proposed including the community-based reforestation project of over 1,800 ha on Mt. Kenya and close ecosystems. Similarly, farmers along with Mt. Kenya and Laikipia Districts implemented a carbon-driven reforestation programme on their farms. Furthermore, other afforestation and reforestation REDD+ initiatives include the community-based forest management in Kikuyu escarpment spanning over 300 ha. Wamichwe (2014), stated that a REDD+ project was in development for the Rukinga Wildlife sanctuary along the coast province covering accounting for over 30,000 ha of forest cover. Finally, the study revealed that the Kenya forest service was involved in a community afforestation programme working with stakeholders to sustain over 500 ha of Kakamega forest for carbon offset REDD+ project. Also, the wildlife works in the Kasigau Corridor is another REDD+ Project that purposely engaged in selling carbon credits represent some of the foundational initiatives in the country (Gichu & Chapman, 2014). Furthermore, the Ministry of Environment and Natural Resources (MENR) is the UNFCCC focal point for Kenya while similarly acting as a climate change directorate coordinating and reporting activities to UNFCCC (Mwangi et al. 2018). Ultimately, it exists as a REDD policy guiding committee, initiative implementer on the national level. Also, a technical group within the MENR is mandated with soliciting technical support that is essential for coordinating readiness activities for the REDD+ task forces. However, Kenya is still a bit in the back when it comes to the formulation and implementation of a national REDD+ strategy and action plan (Mwangi et al. 2018). In fact, of the East African countries, Kenya seamlessly represents itself as a slow implementer of REDD+ initiatives.

Nonetheless, the country goes to great lengths to ensure that they apply REDD+ initiatives successfully as Gichu & Chapman (2014), stated that the forestry policy of 2014 was purposely relevant for the implementation of REDD+. Entirely, the document contextualized a new framework calling for policy consistency regarding forestry management, with followed implementation in the forests act. Truly, this policy demands strict adherence to community participation in forestry management, while stressing the value of state and non-state organs in forest management for Kenya. Ultimately, the final underlying value of the forestry policy for REDD+ was to elucidate the role of the forest sector as a key economic growth tool and poverty alleviation mechanism (Gichu & Chapman, (2014). Similarly, Bluffstone et al. (2013) stated that the forests act in a way informed local forest groups on co-management of forests with the national management institution, the Kenyan Forest Service. Resultantly, the Kenyan Forest Service has since 2006 been engaged in aiding local communities to form community forest associations

(CFAs) for joint forest management. Hence, to assess the effectiveness of this for REDD+, various pilot schemes were set up in several forest systems in Kenya particularly in Arabuko Sokoke, Kakamega, and Shimba Hills (Bluffstone et al. 2013).

Also, the Republic of Rwanda, Ministry of Environment, (2013) stated in its brief about such commitment through promoting REDD+ activities. Similarly, the Republic of Rwanda adhered to promoting conservation, sustainable management, and enhancement of carbon stocks in forests as underlying objectives towards the realization of their REDD+ goals. Ultimately, therefore, the Republic of Rwanda thus, therefore, implemented a National Forest Monitoring System that purposely oversaw national REDD+ initiatives. This was achieved through assessing national REDD+ requirements by Monitoring and Measurement, Reporting, and Verification (M&MRV) of Rwanda's forest cover. In a way, the underlying responsibility of the M&MRV system was a progress reporter to the UNCCC of the achievements of REDD+ initiatives with an evaluation of anthropogenic greenhouse gas emissions and their respective absorption by forest carbon sinks.

4. REDD+ SWOT Analysis

As the ever-persistent issue of climate change continues to impede environmental stability, Reducing Emissions from Deforestation and forest Degradation (REDD+) has been presented as a potential remedial solution in over 30 countries. Ultimately, the underlying goal of this initiative is the realization of mitigation of climate change and its resulting impacts. As such, it is a fundamental prerequisite to understand the strengths, weaknesses, opportunities, and threats about the Reducing Emissions from Deforestation and forest Degradation (REDD) initiative.

Firstly, some of the core strengths REDD propagates include community collaboration, ecological value, and funding. Secondly, no operation exists without flaws, and thus REDD similarly is hampered by weakness such as conflicting policies impeding implementation, inadequate knowledge, spatial and sectoral leakages. Thirdly, there are opportunities to better improve the service delivery of REDD+ initiative, and this depends on the willingness of countries to participate, improve community livelihood, and learn from past projects. Finally, the REDD+ initiative faces threats to its success, and these include poor governance, political instability, and unsustainable harvesting of forest products.

4.1 Strengths

Assessing Tanzania's REDD+ project by Dulal et al. (2012), they provided useful insight that the goal of the project was purposed at poverty alleviation, improving livelihoods, and ensuring ecosystem stability. This was actuated through the conservation of three key environmental factors that is forest biodiversity, water catchments, and soil fertility. Ultimately, community participation resounds as the core strength of this project through stakeholder participation in the form of partnerships with local communities. Hence, this involvement of the local folk keeps them updated and well-informed of all critical resolutions aimed at biodiversity conservation. As such, resulting from stakeholder participation, the resulting benefits of the project stem positivity resulting from this

collaborative forest management. Consequently, Dulal et al. (2012), affirms that there was reported progress in the improvement of forest condition, together with improved water flow and reduced illegal use of forest resources.

This also stresses another strength of REDD+ as stressed by Nzunda & Mahuve (2011), which is the indirect benefit of REDD+ initiatives through ecological value. The study stresses that reducing forest deforestation and degradation ultimately results in enhanced habitat for animals through improved plant diversity. Consequently, the resulting ecological value is increased animal diversity thus presenting a better self-sustaining ecological forest system (Nzunda & Mahuve, 2011). Also, one of the limiting issues impeding successful forest management for a multiplicity of countries purposes from the limitation of available funds to work with. Nzunda & Mahuve (2011), therefore state that one of the strengths REDD+ presents is the role of a funding proxy, resources that can, therefore, be used for sustainable forest management. The popular shortage of funds in developing countries further results in impeded forest management by eliciting a domino effect starting with understaffing.

4.2 Weakness

Dulal et al. (2012) found one of the weaknesses of REDD+ initiative stemming from the fact that policy impedes the proper implementation of strategies. To elaborate, for Tanzania, complex legislative requirements might elicit conflicting cross-sector legalities and policies; thus, adversely impeding the success of REDD+. These such policies could result from land rights, national land-use planning and equitable payment modalities to mention but a few present vague information on ownership rights of large areas of forestland (Dulal et al., 2012). Furthermore, another weakness of REDD+ is insufficient knowledge which among many issues' limits comprehension on the costs of critical decisive activities thus perpetuating inadequate funding. As such, the formulated budgets to run project activities thus become unsatisfactory and, in many cases, resulting in the threatening continuation of afflicted projects. Similarly, this knowledge deficit causes an information vacuum impeding proper correlation of suggested REDD+ projects and existing conservation approaches which could be problematic.

Also, Nzunda & Mahuve (2011) stated that REDD+ cannot wholly account for disputes stemming from spatial leakage and permanence. Thus, therefore, this stems as another major weakness. The stakeholders in the proximity of REDD+ project scope tend to base livelihood resulting from the exploitation of forests through deforestation and forest degradation. As such, as a result of REDD+ initiatives, such people are forced to relocate their base of operation to other surrounding areas consequently increasing deforestation and degradation elsewhere. Entirely, forest-dependent communities would require for their demands to be catered for from elsewhere, and with the impossibility of providing satisfactory alternatives like fuelwood, REDD+ will, therefore, result in spatial leakage.

4.3 Opportunities

Nzunda & Mahuve (2011) noted that several developing and developed countries are openly willing to participate in REDD+ initiatives favorably. Developed nations actively provide funding that enables the implementation of REDD+ initiatives in developing nations, which similarly implement REDD+ willingly. To elaborate, this is true

for over 30 developing countries that were funded formulated their r-PIN strategies by March 2009, and actively participate in the REDD+ (Nzunda & Mahuve, 2011). Dulal et al. (2012) stated that REDD+ was related to an increase in employment and foreign exchange reserves. In truth, the realized sustainable forest consumption and trade were expected to project employment and foreign exchange in the country. More so, the participatory communities were projected to benefit from the expected carbon markets. As such, this resulted in the improvement of the livelihoods of forest-dependent communities will be improved.

Nzunda & Mahuve (2011) also insisted that REDD+ can borrow a leaf from comparable past initiatives and make their operation smoother. There exists a multiplicity of previous conservation initiatives in developing countries that somewhat parallel to REDD+. Therefore, REDD+ country managers can formulate strategic policies while looking at the successes and failures of the many considerably similar projects before them. Dulal et al. (2012) similarly stated that Tanzania had been actively involved in the community and participatory forest management for over ten years. More so, Dulal et al. (2012) list them as community-based forest management (CBFM), joint forest management (JFM), and wildlife management areas (WMAs). As such, there exists an already functioning local institution base that can collaborate with REDD+ to ensure smooth and sustainable project implementation. Hence, REDD+ project managers must ensure no reinvention of the wheel through careful backtracking of previous parallel projects.

4.4 Threats

Nzunda & Mahuve (2011) stated that poor governance is the underlying threat to REDD+ through factoring deforestation and forest degradation and negatively implicating the design, development, and implementation of REDD+ projects. Ultimately, the study implicates the resulting cancers of poor governance including but not limited to corruption, income inequality, incompetence in policy enforcement, and land-use conflicts as promoters of deforestation. Similarly, Dulal et al. (2012) listed land conflicts as a primary inhibitor contradicting the successful implementation of REDD initiatives in Tanzania. Also, Nzunda & Mahuve (2011) vehemently implicate political instability primarily war as a serious threat toward REDD+. Ultimately, war leads to the destruction of forest cover in a bid to expose enemies. Another threat to REDD+ includes shifting cultivation which is a popular form of agriculture in developing nations. Also, Dulal et al. (2012) reveal that unsustainable forest use practices such as uncontrolled timber harvesting and harvesting for charcoal burning further impede any progress for REDD+. Finally, it is a common trend for developing countries to attach lesser value to forested lands with the common ideology being the same plot of land would be more productive if converted in agriculture, and industrial development.

5. Discussion

The study purposely, in an extensive manner, elucidates on the role of the Reducing Emissions from Deforestation and forest Degradation (REDD+) initiative as a climate change mitigation tool for East Africa. Climate change is a critical ongoing issue, whose effects are severely felt in African countries. As such, REDD+ offers remedial

solutions for emissions control through soliciting afforestation and reforestation schemes, with the goal of sustainable forestry use to curb deforestation and degradation. Consequently, REDD+ has been widely accepted by the East African countries, following funding from developed nations. Richard et al. (2011) echoed this by affirming the fact that REDD+ gave East Africa a steppingstone to enhance its general forest cover. This has been achieved through a multiplicity of REDD+ inspired projects that have been established across the region. To elaborate, such a few key projects include Uganda, the Ongo community forest project, the Yaeda Valley project in Northern Tanzania and the Kasigau Corridor project in Kenya (Mwangi et al., 2018).

One of the measures for emission control REDD+ offers is trade-in carbon units for receptive communities in East Africa. To elaborate, Dulal et al. (2012) reveal many REDD+ pilot projects in Tanzania such as the Kolo Hills Forests project which initiated a carbon trading initiative for the forest-dependent stakeholders. Related initiatives were set up for communities of Unguja, Pemba, and Zanzibar, where carbon pricing was adhered to as a beneficial strategy for forest-dependent communities. Similar projects in Kenya for the Kasigau Corridor was purposely engaged in selling carbon credits, was seen as a foundational REDD+ initiative in the country (Gichu & Chapman, 2014). Also, the Ministry of Environment (2013), of the Republic of Rwanda, suggested enhanced pricing for carbon stocks as an alternative livelihood source for forest populations thus lowering over-harvesting.

Another particularly popular REDD+ approach in East Africa is community-based forest management (CBFM). This is a form of stakeholder engagement in critical forest conservation decision making and policy formulation to ensure harmonious and acceptable implementation of REDD+ initiatives. More so, it similarly serves as a conflict management tool thus smoothening sustainable forest management and administration procedure. Similarly, Dulal et al. (2012) observed this for Hifadhi ya Misitu ya Asili (HIMA), through promoting equal gender community-based forest management for over 29 poor community forest sites in Tanzania. In the same way, Namaalwa et al. (2013) noted that community forest management had similarly been implemented for Ongo community forest located in the Budongo–Bugoma community forest corridor for Uganda. The same approach was adopted for Mabira forest thus allowing benefit-sharing agreements between stakeholders and the National Forestry Authority. Ultimately, CBFM as a REDD+ driven policy would actuate the elimination of pressures resulting from illegal forest use activities while offering alternatives for local (Hein and Van der Meer, 2012, Nabanoga et al. 2015, Pistorius, 2012).

The afforestation and reforestation REDD+ projects were similar forms of CBFM. Wamichwe (2014), affirmed this for several REDD+ planned projects including the community-based reforestation project of over 1,800 ha on Mt. Kenya and surrounding ecosystems. Similarly, other community-based forest afforestation and reforestation REDD+ initiatives in Kenya included the management in Kikuyu escarpment spanning over 300 ha. The Kenya Forests Act purposely supported for community-based forest management, and resultantly, a few REDD+ projects were set up to exploit this advantage. These community forest associations managed projects that were set up in Arabuko Sokoke, Kakamega, and Shimba Hills (Bluffstone et al., 2013). Thus, therefore, the realization of reduced emissions resulting from deforestation and degradation through

CBFM, agroforestry, and reforestation schemes are vital initiatives implemented by REDD+ in East Africa.

REDD+ is perceived as one of the successful global projects (Corbera, 2012). We agree with the fact based on the finding from the East African countries. However, much needs to be done on issues of governance (Streck, 2012, Wehkamp et al. 2015).

Conclusion

Ultimately, REDD+ in a way is a glimmer of hope for the ever-impending issue of climate change whose effects are adversely felt in Africa, thus East Africa as well. Climate change has several implications for the East African environmental systems, consequences that require remedial approaches. Consequently, one such internationally acclaimed climate change mitigation approach is the REDD+ initiative. In effect, it was first proposed in 2005 at the United Nations Convention on Climate Change and has since been wholesomely accepted by numerous developing countries including the East African region.

There have been several REDD+ initiatives implemented for the East African countries, with the majority of success being felt in Tanzania. Entirely, most of the working REDD+ projects in East Africa have been popularized by community-based forest management among others. Unequivocally, REDD+ initiatives pay homage to the fact that stakeholder participation is critical for successful assimilation of suggested policies, without which, failure is assured. Most of the communities in proximity of REDD+ projects for the East African region are exclusively forest-dependent as such their participation is key.

To sum up, some of such projects include the Ongo Community Forest pilot project in Uganda which reinforced community conservation for the Budongo–Bugoma community forest corridor. Similarly, the Hifadhi ya Misitu ya Asili (HIMA) in Tanzania which supported CBFM for Unguja, Pemba, and Zanzibar communities and the Kasigau Corridor project in Kenya.

However, the implementation of REDD+ in East Africa has been met with its given challenges including corruption, conflicting land-use policies, and sometimes, information deficiencies. These have hampered the smooth assimilation of REDD+ initiatives in East Africa. However, given the continuous adherence and willingness to implement REDD+, there is still a lot of potential for REDD+ in East Africa.

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