

# A Reflective Commentary on the Economics of Climate Change Mitigation

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## Introduction

This commentary is a reflection of the outcome of an online conference organized by the Food and Agricultural Organisation [FAO] on the 13<sup>th</sup> February 2015, and for which pertinent questions about on-going issues relating to the economics of climate change mitigation were addressed (Appendix 1). A very interesting session that captured scholarly debates around issues dealing with the 'cost and benefits' of ongoing steps to avoid future catastrophe in biodiversity existence and the natural ecosystem.

Appendix 1: This was held on Friday 13th February 2015

As a young man growing up in a rural community in Sierra Leone (Goderich Village), I could remember vividly the benefits of the local forest to livelihood of residents. To some, it was livelihood sustenance considered necessary as a means to an end, whilst to others, it was merely the main source of energy for household cooking and also, getting about with essential household chores, like fire-coal used in the traditional 'coal goose'

The extent of the destruction caused to the local forest as early as pre and post independence (up to early 90s) was infinitesimal compared to what I saw on my two weeks' vacation at my home town in 2012. It was very good to witness developments in housing construction work to modernize the community to an urban built environment standard. The repercussion of the civil war experienced in the country between 1991 - 2001 witnessed a large scale destruction in infrastructure, and abuse of the country's forest reserve, which eventually resulted in a rise in rural population, and for which the Goderich Village community, a part of the Freetown Western Area Peninsula, felt the brunt of the pressure through large scale 'land grabbing' (Appendix 2) program to meet demands in housing needs [1].

Appendix 2: Bangura, K (4/1/2015) Land Grabbing in the Western Area Forests: All ministers must do something, Standard Times Press Newspaper Online [2].

Land grabbing is quite a topical issue in the country and is constantly dealt with by institutions like the Environmental Protection Agency and now, the establishment of the 'National Protection Area Authority and Trust Fund 2012' to deal with the large scale abuse and degradation of land. All of these institutions works with the Ministry of Agriculture, Forestry and Food Security (MAFFS) to address on going global call for mitigation in the climate change which in countries like Sierra Leone is largely perpetrated by deforestation.

## Costs and Benefits Interpretation of Deforestation Versus Development!!

The increase rate in population is exacerbating the need for land acquisition, particularly in Western Area Peninsula Forest Reserve [WAPFoR] towns like Goderich, and hence resulting in land degradation for the construction of housing projects. Reflection on Figure 1 below, this can be used to explain the anticipated costs and benefits of urbanization development [for, example, housing construction projects] over the need to retain forest cover, particularly

in the current situation experienced in the WAPFoR area (Figure 1) (Appendix 3).

Appendix 3: Hosonuma, et al. [3].

This can be pictured in Phases 2 and 3 on the forest transition model, which depicts present benefits attached to huge housing construction projects to cater for growth in population, particularly in WAPFoR locations. On reflection, the situation as seen in Phase 1 [Pre Transition] is one that is typical of the early period of the Portuguese voyager [Pedro Da Sintra] in 1462 [4], along the coast of what is now called the WAPFoR, and even up to independence in 1961. Despite the fact people were encroaching in forest locations to meet their daily livelihood needs, and also backed by the high demand for fire wood from the local fish industry at Goderich Village, the problem of environmental impact was not as scary when compared to the what it is now with the forest land being taken over by housing development projects. Forest cover is gone and taken over by beautiful houses, a perceived benefit to new residents and most probably officials within the government establishments.

As illustrated in Figure 1 for Phase 4, the process of reforestation is something that is unlikely to happen in the WAPFOR locations given the scale of deforestation that has taken place, leading to large-scale investments to urbanise the area. The only possible remedy, given the

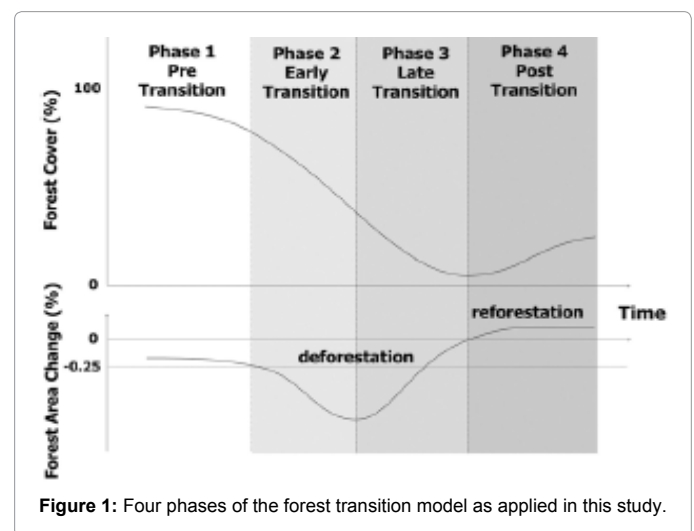


Figure 1: Four phases of the forest transition model as applied in this study.

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present state of degradation, is to demarcate protected reserves around WAPFoR locations, and in addition ensuring legislative measures are properly enforced so as to curtail future environmental disaster taking place.

The present crisis of deforestation in areas like WAPFoR in Sierra Leone is greatly attributed to growth in population, which can be explained in terms of population migration from areas greatly affected by the civil crisis in the period 1991 - 2001 (Osterreichische Bundesforste AG Consulting, 2012). The increase in housing development is proving beneficial to the landscape around WAPFoR areas, with obvious prospects for increased price attached to land and also house value. On the other hand, this is making it impossible for poor indigenes in forest community areas around WAPFoR to find it very unaffordable to live in their own community as a result of associated costs attributed to the urbanization initiatives like the levy of high taxes rates to keep the area protected.

The cost of such urban development has impacted immensely on the environment through deforestation of valuable forest land needed to protect biodiversity and, the natural ecosystem from environmental calamity like erosion and land degradation. An environment which was once used as a means for cultural activities (hunters) and similarly medicinal base (herbal leaves for curing illnesses) is no longer in existence, due to the high demand for forest land to construct houses to meet the high population growth in the area.

Forest communities in Sierra Leone, particularly small town like Goderich in the WAPFoR area, is high dependent on forest resources for reason such as wood and charcoal used in cooking, income low income earners, and in addition, high dependency rate by the local fishing industry for the supply of fuel wood to smoke / preserve fishes caught by fishermen on a daily basis. Most crucial of all, is the rise in housing development which has exacerbated the massive rate of forest degradation and hence, making it very difficult to cater for the needs of local residents whose livelihood depends on forest resources for their daily survival.

On reflection, it is obvious that the high rate of deforestation would also impact on the cultural life of local forest dependants; despite considered unimportant, the situation is certainly ruining community life, for example, reliance on forest leaves as a means of curative for illnesses, and also bush-meat hunted by local hunters in celebration of their traditional performances. These values are now at the point of being eroded as the urbanisation initiative of the community means that people are now turning their minds away from what used to be a cultural way of doing things at the expense of 'western' (Appendix 4) way of life. In short, cost of land degradation cannot only be viewed in terms of monetary valuation, but as already mentioned, but also in terms of the demise of traditional values, particularly for rural community residents whose children and future generation are likely to be deprived of traditional value, and in general environmental impact to the country as a whole.

Appendix 4: The word Western as used in this context refers to the European and Northern American way of life that dictates a form of capitalist approach to life. In most cases, people view it as being more superior to the African traditional way of life and hence making it difficult for people cherish their inherited cultures.

## Mitigation Approaches

In 2006, Sierra Leone together with various countries signed up to

the 'Kyoto Protocol' (Appendix 5) aimed at tackling adverse climatic change across the world, and for which forest degradation seemed to have played a part in the Sierra Leone [The Red Desk, 2015] (Appendix 6).

Appendix 5: The Kyoto Protocol was established in 1992 at the United Nations Earth Summit which took place in Brazil. This was then developed into a treaty, with negotiation taking place in December 1997 at Kyoto City in Japan and with full ratification held on the 16th February 2005. The emphasis of this was to ensure that developed and highly industrialized countries in the EU, Japan, Canada, Russia, Australia and the USA reduced their greenhouse gas by 5% between the period 2008-2012. Developing countries in places like Latin America and also Africa were not bound by the treaty, but were also signatories to the process and as time went on, there were also required to find ways of demonstrating their efforts in reducing carbon emission, and most importantly, tackling climate change [as in the case with deforestation in most countries like Sierra Leone] [5].

Appendix 6: The REDD desk

'REDD/REDD+' (Appendix 7) initiative in Sierra Leone commenced in 2013 to help combat issues around climate. Appendix 7: REDD initiative is defined as Reducing Emissions from Deforestation and Forest Degradation, and with the extended REDD+ emerging out of failed partnership talks at Copenhagen, emphasizing the need for sustainable forest management, conservation of forest and enhancement of carbon sinks. REDD+ provides financial compensation to governments and communities affected by high risk of climate change conditions which is mostly perpetrated by deforestation (Global Witness, 2010) [6,7].

The initiative is essential in cushioning high rate of deforestation experienced across the country by ensuring officials in the forest division at MAFFS work closely with communities to provide the right level of support and financial incentives to combat destructive actions on the environment. Financial dispensation to forest community residents is not necessarily the solution to mitigating risks to climate change. Hence, a robust forest management strategy is needed to make sure adequate support is available to assist people in curtailing their destructive actions on the environment. Such approach may incorporate activities like agroforestry and community forestry to help minimise future economic loss to livelihood. Legislative policies will need to be tightened and monitored by forest officials and associated agencies, like the EPA to help address current and future deforestation of protected lands.

Active engagement with forest communities will also serve as a step towards decentralizing the management of forests to community groups. It will also make it impossible for those considering moving far afield with the intention of exploiting other forest reserves to reconsider their actions, as their engagement in local community initiatives will allow them to cooperate with authorities so as to protect depleted forests [8].

Mandate accorded to the EPA can be viewed as one of the most effective mitigating approach to address the wider aspect of environmental issue(s) affecting the mass rate of climatic hazard in the Sierra Leone economy. Organizations such as EPA and the forest division at MAFFS should embark on education programs to raise awareness about the environmental hazards to deforestation so as to help change people's minds about their deliberate intents in destroying the environment. Current initiatives by the EPA in Sierra Leone to

engage in activities like quizzes and the organisation of national conferences on topical issues around climate change are, but essential steps to increase awareness about the importance and need to keep citizens abreast about global climatic issues.

The introduction of environmental science curriculum in schools, particularly at secondary level will make it possible to increase awareness on climate change issues at an early stage for majority of the populace. This is much more of a prescriptive measure, with the aim of raising awareness about reducing future costs in environmental disaster. It will also be a good idea for the forest division at MAFS to establish collaborative working partnership with organisations like the EPA, the Sierra Leone Conservation Society and National Protection Area Authority (NPAA) to address ongoing issues around adverse risk to the environment and where necessary, the establishment of a risk assessment committee to continuously review potential risks to human actions that may serve as potential threat to the country's environments condition.

## References

1. Munro PG (2009) Deforestation: constructing problems and solutions on Sierra Leone's Freetown Peninsula.
2. Bangura K (4/1/2015) Land Grabbing in the Western Area Forests: All ministers must do something, *Standard Times Press Newspaper*.
3. Hosonuma N, Herold M, De Sy V, De Fries RS, Brockhaus M, et al. (2012) An assessment of deforestation and forest degradation drivers in developing countries.
4. UK Parliamentary Office of Science and Technology (2002) Postnote: Ratifying Kyoto [No. 176].
5. The REDD Desk (2015) Sierra Leone [Online].
6. Global Witness (2010) Understanding REDD+ (Online).
7. The World Law Guide (2010) Legislation Sierra Leone [Online].
8. Osterreichische Bundesforste AG Consulting (2012) REDD+ Scoping Study for the Western Area Peninsula Forest Reserve [2015].