Chapter 25
Improving Sustainability of the Environment in a Changing Climate:
Can REDD+ Rise to the Challenge?

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ABSTRACT

The mechanism of Reducing Emissions from Deforestation and Degradation plus conservation, sustainable forest management and enhancement of carbon stocks is emerging as one of the current efforts and actions being developed by the international climate change community to mitigate climate change. This chapter highlights the potentials as well as the challenges of this mechanism to reduce forest loss and improve the health and sustainability of the environment. Main potentials include its resolve to make trees worth more standing than cut, the transfer of funds to support conservation efforts and a focus on delivering social benefits. The main challenges include the less attention on unclear tenure and benefit-sharing framework; weak institutions and the complex historical, political and structural interests which have allowed powerful groups to expropriate the forest resources and trade-offs that may arise during implementation. It then outlines four broad areas where researchers can make contributions in national and local level policy-making and interventions related to REDD+.

INTRODUCTION AND BACKGROUND

There is now widespread recognition that the earth is warming at an unprecedented rate, primarily due to human activities and changes in landuse patterns (Stern, 2007; World Bank, 2009). Scientists have shown that, the health of the environment and general sustainability of planet earth remains very threatened (Rockstrom et al, 2009; Lenton, 2013). Human actions are said to be rapidly approaching global thresholds of the series of nine planetary boundaries that define a safe operating space for humanity (Rockstrom et al, 2009). The assertion that the climate is changing is now almost unequivocal. Floods,

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high temperatures, ice melting, wars, spread of strange diseases, droughts, cyclones, famine, biodiversity loss, economic losses, environmental refugees are few of the well documented consequences of catastrophic climate change (IPCC, 2007). This has spurred international actions and responses to improve the health and sustainability of the environment usually through two means: adaptation strategies to reduce the impacts of climate change and mitigation efforts to reduce greenhouse gas emissions.

One of the current efforts and actions being discussed by the international climate community to mitigate climate change is through the mechanism of reducing emissions from deforestation and degradation plus conservation, sustainable forest management and enhancement of carbon stocks (REDD+). REDD+ was borne out of the recognition that deforestation and degradation contribute about 10-20% of global CO2 emissions (IPCC, 2007; Santilli et al., 2005; Busch and Seymour, 2014), which brings to light the important contribution that the forestry sector can make towards climate change mitigation. As carbon forms a large component of greenhouse gas emissions (GHGs), REDD+ aims to create economic values for carbon stored in trees and provide financial incentives/compensation for countries to reduce emissions from deforestation and degradation and to support conservation and other efforts that improve the health and sustainability of the environment. Individuals, communities, organisations and countries that take practical steps to halt, slow and reduce the rate of deforestation are thus expected to be rewarded through REDD+. For many, REDD+ has exciting potentials and remains an effective and cost-efficient option for mitigating climate change (Angelsen, 2008; Angelsen, Brockhaus, Sunderlin, & Verchot, 2012; Stern, 2007) but like any other public policy, it also has a number of challenges standing in its way to achieve its mission (Angelsen et al., 2012; Arhin, 2014; Hansen, Lund, & Treue, 2009; Parrotta, Wildburger, & Mansourian, 2012). Whether REDD+ will succeed or not therefore remains a question that continuously engage the attention of policy-makers, researchers, businesses and civil society organisations (Visseren-Hamakers, Gupta, Herold, Peña-Claros, & Vijge, 2012) .

The aim of this chapter is to contribute to the debate on REDD+ by sketching out some of its potentials related to slowing the rate of deforestation and improving sustainability of the environment, bringing to the fore a number of challenges that REDD+ faces and highlighting few areas where researchers can make contributions in national and local level efforts. The paper is structured as follows. First, it provides the context and background through which REDD+ became an important policy strategy in climate change discourse before moving on to discuss the potentials of REDD+ to contribute to climate change mitigation. This is followed by a critical look at some of the challenges that could undermine the potentials of REDD+ to improve sustainability of the environment. The next section outlines some broad areas that researchers can focus to make contribution towards REDD+ policies and interventions at national policy formulation and local projects implementation levels. The last section ties the study together through a conclusion.

CLIMATE CHANGE, FORESTS AND REDD+

Climate change is now regarded as the most significant long term development risk of the 21st century (World Bank, 2009). Available scientific evidence has shown that over the last century, as a result of human activities, the global temperatures have risen by close to 0.7°C; sea levels are gradually rising almost at three millimetres a year and consequently contributing to the warming of the Earth (IPCC, 2007). These climatic changes are largely caused by an excess of heat-trapping gases, first and foremost