Chapter 6

Low Carbon Economy and Developing Countries: A Case of Nepalese Forest

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ABSTRACT

In forest, reduction of emission from deforestation and forest degradation (REDD) is considered as low carbon instrument. Financial Incentive scheme of this new climate change mitigation approach generates query about REDD’s economic implication in developing country. This study is to examine empirically low carbon potential from avoided deforestation in Nepal. The case study is the Kafle community forest of Nepal. We used 10 meter radius circle sample plot for carbon inventory data collection. In addition, we conducted household survey through 48 households for data set collection.

This study finds that community forest contributes 45 percent livelihood income (fire wood, leaf litter, grass, water) to the forest dependent stakeholder’s total income. This labor incentive based on labor contribution in forest management is distributed among the member households. This study further finds huge carbon income potentials. Annually, KCF can earn carbon income Rs. 39, 81,196, if KCF enters in REDD. It is 41 times higher than the present mean income Rs 24, 549.55 from the forest product sale. In mixed familiarity about REDD, the study finds only 44 percent households expecting that REDD will be a better livelihood alternative to the poor. 63 percent responds need and use of carbon income for livelihood objectives. From estimation, household stakeholders who have good asset holdings (land and livestock) think that REDD will be not a better livelihood alternative to the poor. However, the household stakeholders who have literacy, different food sufficiency level, land holding (>1), different earning per day, Rsex, per day earning and age think that REDD will be a better alternative. Thus, the poor households expects livelihood role from REDD in Nepal. Therefore, REDD should be more beneficial to the poor household stakeholders and their livelihoods.

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INTRODUCTION

Context

It is now well evident that climate change is a major global threat. If climate change is not mitigated, there will be a huge damage cost as GDP loss of developing countries higher than developed countries (Stern, 2006). Eliasch (2008) estimates 5-20 percent loss of the global GDP. Further, a large size of the population in developing countries particularly in African and Asian countries will suffer from malnutrition, food deficit, water scarcity, deaths and diseases in future.

The climate change depends on past and present emissions of greenhouse gases (IPCC, 2007 and Royal Haskoning, 2007). Uniformly increasing GHG stocks are outcomes of population growth and human activities such as industrial activities, deforestation etc. Among these drivers, deforestation is major driver of GHG growth with 18-25 percent GHG emission in recent studies (Fry, 2008, Pagiola & Bosquet, 2009, Ramankutty et al. 2007, Stern’s Review, 2007, and Sohngen & Beach, 2006). Fry (2008) argues carbon dioxide dominant (i.e. 70 percent) in GHG emission. This context makes low carbon economy relevancy.

Basic idea of low carbon economy is less carbon emission activities. Stern (2006), IPCC (2007) and UNFCCC (2007) explain this idea as climate change mitigation and prospective new service economy. Developed countries (US, EU etc) have implemented carbon emission output compliance policy and carbon intensity input substitution policy in polluted manufacturing industries. Clean Development Mechanism (CDM) as supplementary has been implemented for carbon emission compliance, carbon input substitution and developing carbon market. In addition, there are new economic activities such as development of efficient technology, alternative energy (wind energy, solar energy etc.) and service sector. UK and EU have given top policy preference on wind energy production as clean energy. In transport, Norway has tested hydrogen energy public bus. These countries have focused on service economy such as education, it etc. There is a claim a huge big market of efficient technology, alternative energy and service industry. In addition, there is a potentiality of carbon market in which carbon emission reduction activities appear as a big service trading in the world. The present carbon market is more than $ 59 billion including CDM carbon trade. The carbon market will extend after the implementation of REDD in the post 2012. This will change life style and consumption pattern if low carbon economy appears effective. In some developed countries, we can see it solar vehicle transportation of household and solar energy cooking stoves and household energy. Besides it, we can find shifting into energy efficient household electric appliances (Refrigerator, Television, Electric heaters, Rice cookers and Bulb). Thus, the low carbon economy is seen as lower carbon intensity production and consumption behavior and also as the market pattern for sustainable economy and climate change mitigation.

Developing countries such as Asia, Africa and South America have entertained that economy as new prospective for economic development. Simultaneously, these countries are curious about its relevancy, situation and prospects. Carbon intensity of consumption and production in these countries are higher than developed countries. In rural areas, still large rural population depends on primitive energy means i.e. agricultural residual and fuel wood. African and Asian countries consume more than 70 percent fuel wood energy. This energy dependency and consumption behavior leads to deforestation and then to carbon emission. Stern (2006) considers deforestation as major driver of carbon emission growth and then climate change. In this context, REDD as climate change mitigation is relevant to developing countries. Some developing countries (Brazil, Bolivia, Indonesia etc) have already implemented it. Nepal is in the readiness. This chapter addresses what will its implication in Nepal.