

## **Deforestation Analysis in Eastern and Western Myanmar**

### **1. Introduction**

FAO (1996) suggests that 60% to 70% of tropical forest conversion is to permanent or short-fallow agriculture, rather than to land covers suggestive of long-fallow, slash-and-burn agriculture. Moreover, some slash-and-burn agriculture is oriented to export rather than subsistence crops. Many uses of the terms deforestation exist in the literature and it is sometimes defined as a radical removal of vegetation, to less than 10 % tree cover. This definition meaning is a very narrow one, focusing on land cover conversion to other land use (Wunder 2001).<sup>1</sup> Due to the expansion of agricultural cash crop, forests are converted to other land use. The importance of the export of crops as a driving force behind deforestation is difficult to generalize. Large landowners have traditionally controlled most of the farming land and in a manner which is more economically feasible. The small landowners often enter the forest frontier to cultivate again (Roper, 1999).<sup>2</sup> It is estimated that small farming accounts for nearly 2/3 of all deforestation (Rowetal, 1992). Expansion of the agricultural frontier has lead to deforestation and increased social tension (Wood, 1992, Becker, 1997 and D Alves, 2001).<sup>3</sup> A Mexico-wide study using municipal-level data (Deininger and Minten 1996) provides evidence that poverty is more closely associated with forest cover than with deforestation – that is, the poorest live in areas too remote to suffer from much deforestation.<sup>4</sup> Myanmar is one of the Asian countries endowed with rich natural resources. It is especially famous for its teak production. Its economic growth was stable before 1962. The government applied a centralized economic policy from 1962 to 1988. Myanmar faced policy failures that were related to its socialist economic policy. Then it changed its economic policy from a socialist to a market economy system. This study advances beyond previous empirical analyses by instigating empirical work which encompasses the investigation of satellite data on vegetation changes.

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<sup>1</sup> Wunder, S., 2001, Deforestation and economics in Ecuador: A Synthesis p2

<sup>2</sup> Roper, J., 1999, Deforestation: Tropical forest in decline CIDA forestry advisers Network

<sup>3</sup> Alves, 2001, Deforestation and frontier expansion in the Brazilian Amazon

<sup>4</sup> Chomitz, K .M., 2001, Environment-poverty connections in tropical deforestation WDR on poverty and development 2000/01 Stiglitz Summer Research Workshop on Poverty, Washington D.C

### 1.1 Statement of the Forest Decline Problem

From 1975 to 1989, the forest resources depletion rate in Myanmar was 0.64 percent, according to the assessment of the Forest Department (Myanmar Forestry Journal, 1999). During that period, only government-owned timber corporations harvested and processed timber and other hard wood species and exported them to other countries. The deforestation rate was comparatively low in that period. After the change in economic policy, the rate of forest degradation increased. Forest cover declines annually by 390,000 ha and the annual rate of loss is 1.6 % (FAO, 1997).

The Forest Department is handicapped by poor pay, inadequate staffing and a lack of staff. The departments have been ineffective in adequately putting forward the pro-forestry argument to political decision-makers and to the public at large (Roper, 1999). Lack of proper management can be attributed to the absence of effective control, biases in forest policy, or the lack of confidence in the legal system (Andaluzetal, 1996, Sloze and Quevedo, 1992, Szwagrzak, 1994 Pacheco, 2001).<sup>5</sup> Common resources like state-owned forests are not viewed as opportunities for collective management of valuable resources. Due to the weak common pool resource arrangement, forests become 'open-access resources' and tend to be exploited and degraded. This is classical 'common-property dilemma', which contributes substantially to the depletion of the tropical forests. When the land is legally allocated to the communities, the situation would be preserved. If community forestry initiative is expedient, forest denudation could be thwarted and the typical case of 'tragedy of the common' could be avoided (Tint, 1996).<sup>6</sup> Often, developing countries also face serious problems of environmental degradation (Strong, 1991).

Poverty is one of the greatest threats to the environment. In poor countries, poverty causes deforestation and this environmental damage reinforces poverty. Many choices that degrade the environment are made in developing countries because of the imperative of the immediate survival, not because of a lack of concern for the future. Any plan of action for environmental improvement must therefore include programs to reduce poverty in the developing world (Jepma, 1995).<sup>7</sup>

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<sup>5</sup> Pacheco, P., 2001, Deforestation and forest degradation in low land Boliva. C Wood and R. Porro eds Land use and deforestation

<sup>6</sup> Tint, K., 1996, National progress report – Myanmar Asia-Pacific Forestry commission 6<sup>th</sup> session, p 5

<sup>7</sup> Jepma, C.J., 1995, Tropical Deforestation: A Socio-Economic Approach

Land use changes associated with deforestation are often more comprehensively explained in terms of economic and institutional variables (Olive, 1998).<sup>8</sup> As deforestation proceeds, the remaining forests are increasingly being transformed into clear slopes, where permanent and seasonal flooding occur, which makes it unsuitable for agriculture and other land uses.

There are many reasons for deforestation in Myanmar. One main cause of the deforestation is shifting cultivation. Most of the farmers did not receive economic gains from the centralized government policy (ADB, 1996). Those who are poor often destroy natural resources in order to survive: they cut down forests, overgraze lands or overuse marginal lands (Myrdal, 1957, Brundtland 1998: 28 Wunder, 2001). The poor are not ignorant of the process of deforestation or blind to its effects (Eckholm *et.al*, 1984).

Although Myanmar is an agriculturally based country, agricultural production and exports have not progressed in the past due to a lack of technology and the problems of the farmers in producing export-oriented agricultural products. Some of the farmers did not own enough land to grow rice. Farmers could not use fertilizer and modern agricultural technology to improve their crop production. The use of fertilizers has declined, due to the fact that the subsidy element has been reduced. Since paddy production is more profitable than before, richer farmers were able to use more fertilizers. Productivity has also been adversely affected by a decreased supply in pesticides, farm machinery, implements and fuel. However, the small size of the holdings and the swamp conditions of paddy lands had largely frustrated earlier efforts to increase productivity by means of mechanised farming. Tractors tended to be used for non-agricultural purposes, such as pumping water and transporting passengers (ADB, 1996). Shifting cultivators have no cash to purchase basic food sold in villages, even at subsidized rate. Some did not have adequate land to cultivate their crops. Therefore, they cut trees, burn, encroach and grow crops in forested areas (S.M Wint, 1997). Indigenous people have the rights to utilize forest for cultivation. Due to population expansion, the natural resources - especially forests - have been depleted. Shifting cultivators, poor people who reside near natural forests, have damaged the natural resource to grow their crops.

Shifting cultivators not only use and depend on the forest for the success of their agricultural methods but also for a wide range of technological materials, a large proportion of their food and products that have cash value. With an increasing population and a relative

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<sup>8</sup> Olive, C.A., 1998, Land use change and sustainability, Department of Geography publication series No. 51 p 25

decrease in the total amount of land available, fallow periods have become shorter. The fallow forest becomes a bush, or a very short fallow period results in a decline in yield, erosion and soil degradation. This situation is associated with a decrease in the quality of life and poverty (Chin, 1987).

The shifting cultivators have not been able to participate in development. Approximately ten million shifting cultivators are landless and live in absolute poverty in Myanmar (Tint, 1999). The survival of the forests depends on the type of policy interventions implemented to meet the basic needs of local people. The taungya system, a reforestation technique which originated in Myanmar (Burma), is a suitable method with which the living standards of the people in the forested regions can be improved. It is a Burmese term for temporally cultivation on hill land. Shifting cultivators were allowed to grow crops and also plant other variable species in taungya (Takeda, 1992). This system creates activities to enhance efficient agricultural and agrarian reform, and a variety of rural infrastructure measures, such as extension services, networks and credit facilities. Tropical forests contribute to several key sectors of development. This insight should engender a basic change in our perception of the forests and their contribution to human welfare. One of the policy reappraisals is to promote an focused view of what is influencing the degradation of forests, and what possible solutions provide for their survival of the most appropriate means (Kingsbury, 1992).<sup>9</sup>

This can be achieved by laying down a sound foundation of collective resource management that is based on the collective sharing of both rights and responsibilities. While people have to manage resources as a common property, they will also need to share a common responsibility in order to derive these common benefits. Collective forest management is thus a process that ensures continuity in resource generation, stability in physical and social environments, and sustainability in the production of goods and services. Deforestation is related to political, economic and socio-economic circumstances at the international, national and local levels. Policy-making bodies at the local, national and international levels re-examine the role and response in determining the future welfare of forest resources and the people who depend on them. Domestic price intervention, especially with reference to the price for support for products grown on converted land have contributed to the loss of primary forest (National Resource Council).<sup>10</sup>

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<sup>9</sup> Hurrell, A., and Kingsbury, 1992, *The international politics of the environment*, pp 430-440

<sup>10</sup> National Resource Council, 1993, *Sustainable agricultural and the environment in the humid tropic*