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STATE POLICIES AND LAND USE IN THE CHITTAGONG HILL TRACTS OF BANGLADESH

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EXECUTIVE SUMMARY

Degradation of land and forests by short rotation slash and burn agriculture, known locally as *jhum*, has become a serious concern in the Chittagong Hill Tracts (CHT) of Bangladesh. Polices and programmes to promote alternative land use practices have largely failed. Conventionally, indigenous people are blamed for the problem, which is attributed to their conservatism and unwillingness to adopt alternative land use systems. However, this explanation overlooks the constraints inherent in adopting alternative land use practices.

This paper offers an alternative explanation by examining the impact of state policies on land use in the CHT over the past two centuries. It reveals that the process of degradation started during the British colonial period with the nationalisation of land and forests and the initiation of large-scale commercial logging. It was accelerated by the establishment of reserve forests which abolished tribal people's customary rights and forced them to reduce fallow periods in their farming. The construction of a hydroelectric dam and encouragement of lowland people to migrate to the CHT have increased pressure on the land still further. This has forced farmers to cultivate more marginal lands for growing food and annual cash crops, and to increase cultivation frequency. The author concludes that the persistence of extensive land use practices is not because of indigenous people's adherence to traditional land use practices but because of the lack of a conducive policy environment.

Where suitable policies and programmes exist (such as secure land title and appropriate support services), the author has found evidence that these can support a more sustainable mix of horticulture, agroforestry and tree farming. He concludes by outlining a range of policies that would promote economically and environmentally viable land use practices. These include:

- providing tenurial rights to land users
- understanding farmers' livelihood needs
- removing formal and informal levies and taxes which increase marketing costs, ultimately reducing farmers' profit margins and constraining incentives for locally-suitable land use systems
- replacing the transit rules with alternative policies which ease the harvesting and marketing of timber grown on private farmland
- promoting competition in trade and transportation
- reforming credit policy so that credit can be accessible to farmers without land certificates
- involving local people in decision-making processes.

STATE POLICIES AND LAND USE IN THE CHITTAGONG HILL TRACTS OF BANGLADESH

Golam Rasul[1]

INTRODUCTION

Like other mountainous and hilly regions in Asia, Bangladesh's Chittagong Hill Tracts (CHT) are becoming deforested and degraded. Shifting cultivation, locally known as *jhum*[2], is the dominant land use in the CHT. This involves farmers clearing a patch of vegetation by slash and burn, growing a variety of annual crops in the cleared land for one or two seasons and then moving to another plot. These practices, and especially the shortening of fallows, have adversely affected forests, soils and the environment. Shifting cultivation and its associated fires have destroyed some two-thirds of forest in the CHT (Farid and Hossain, 1988). However, shifting cultivators are not solely responsible for deforestation, which is caused by many actors and factors. The shortening of fallows can be attributed to steady population growth and other socio-economic and political factors (eg., Knudsen and Khan, 2002). Traditional shifting cultivation with long fallows and short cropping periods was practised by tribal communities in the early 19th century. It did not affect the land and soil as the long fallow periods enabled soil and vegetation to regenerate. Thus soil erosion remained minimal and the hydrological balance was maintained (Tripura, 2000). However, shifting cultivation with short fallows has accelerated deforestation and soil erosion, and continuous soil loss has reduced soil fertility through nutrient leaching (Gafur, 2001). Deforestation and land degradation have adversely affected the livelihoods of indigenous people in the CHT, most of whom depend solely on agriculture.

One might ask why traditional extensive land use is still dominant in the CHT in spite of the great population pressure. Land use generally intensifies as population pressure increases, in order to meet greater food requirements (Boserup, 1965).

1. I am grateful to Prof. Gopal B. Thapa, Asian Institute of Technology, Thailand for his valuable contribution in developing the ideas in this paper.

2. The practice of shifting cultivation is called *jhuming*, the farmer who practises shifting cultivation is called *jjhumia* and the plot of land where crops are grown is called *jhum* (Khan and Khisha, 1970).

Conventional explanations have blamed indigenous peoples for being conservative and strongly inclined towards traditional land use practices which constrain the promotion of alternative land uses (eg., Forestal, 1966; Sfeir-Younis, 1993). Such simplistic explanations are not satisfactory, however, as evidence from countries as varied as Kenya (Tiffen and Mortimore, 1994), Nepal (Thapa, 1998), Java in Indonesia (Angelsen, 1995), and Thailand (Turkelboom et al., 1996) suggests that indigenous people do adopt sustainable land use practices when the necessary policy and institutional supports are available. The movement from extensive to intensive land use is often conditioned and sometimes constrained by national policies and laws. Geertz (1963) showed that when a policy environment is unfavourable, population pressure may lead to 'involution,' where existing systems are continued through internal readjustments instead of moving to the next hierarchical level of intensification.

It is now increasingly realised that policies and programmes to promote sustainable land use should be based on a firm understanding of the past and of how past policies and courses of action have conditioned existing land use practices (Bryant, 1997). In this paper I make an attempt to do this by analysing past policies and laws on land use and management in the CHT that have evolved over the last two centuries.

POLICY SHIFTS AND ASSOCIATED LAND USE CHANGES UNDER DIFFERENT REGIMES

Bangladesh evolved through a long process of political and administrative change over several centuries. As part of greater India, Bangladesh was colonised by Britain from 1760 until 1947. Following independence from colonial rule, Bangladesh became a part of Pakistan and remained so until its emergence as an independent nation in 1971. Land policies during these different politico-administrative periods have had a direct bearing on land use in the CHT. In this section I analyse how changes in policies and laws have influenced land use in the CHT. I begin by analysing the British colonial period, followed by the Pakistan period and finally the post-independence period.

State policies and land use during the British colonial period (1760-1947)

Before the colonial era, the CHT was almost entirely covered with dense forest (Lewin, 1869). Shifting cultivation was the only type of agriculture practised by tribal people to meet subsistence requirements. In 1760, the CHT came under

British colonial rule and from 1760 to 1860, like other parts of colonised India, it was ruled by the East India Company (the 'Company'), as the representative of the British Government. The Company administration did not directly intervene in policy and administrative matters in the CHT (Serajuddin, 1971) and largely followed a policy of exclusion and isolation (Barua, 2001). In 1857, the British Government took over the direct administration of the Indian colonies from the East India Company, and in 1860 the hills of Chittagong district were designated as the Chittagong Hill Tracts (Mohsin, 1997). Between 1867 and 1900, various policy measures were initiated to control shifting cultivation and promote sedentary agriculture. Land leases were provided with inheritable rights for plough cultivation and establishment of villages along with provision of a small advance, repayable within five years at an interest rate of five percent. As a punitive measure, a tax was imposed on shifting cultivation at a flat rate of four rupees per household. Despite these measures, the expansion of plough cultivation was slow until the end of the nineteenth century for several reasons (Khan and Khisha, 1970:25). However, it began to gain acceptance among the tribal people during the early 1880s when a vast area—about a quarter of the land area of the CHT region (1,345 sq. miles)—was declared reserved forest and shifting cultivation restricted. This reduced the availability of land for *jhuming*, and combined with increased interaction between tribal communities and lowland people practising plough cultivation, paved the way for the expansion of sedentary agriculture. Tribal communities such as the Chakma and Marma increasingly started practising such farming and gradually took on livestock, particularly cattle, for draught power (Khan and Khisha, 1970). Some cash crops such as cotton and India rubber began to be grown along with subsistence crops. Cotton growing gained so much prominence in the CHT that it became known as *kapas mahal*, or the cotton region.

Policy changes were also taking place in forestry. Immediately after taking over the administration of the CHT from the Company, the colonial government made attempts to increase revenue from forests. In 1871, it established state control over forests by declaring almost all forests in the CHT to be government property and eventually opening them to commercial exploitation. Annual average revenue from forest products increased substantially after 1871 as a result of such aggressive forest exploitation policies. The process of deforestation was further intensified by the expansion of the rail network, which required a huge number of sleepers made from hardwood (Lewin, 1869). Indiscriminate exploitation of forests, combined with shifting cultivation and lack of proper

management, severely affected forest resources (Schilich, 1875 in BDGCHT, 1971).

State policies and land use during the Pakistan period (1947-1970)

After independence in 1947 the Pakistan Government prioritised industrial development over agriculture. In the early 1960s, the government constructed a hydroelectric power plant at Kaptai on the Karnafuli River to meet the increased demand from industry and urban areas for electricity. The reservoir inundated about 40% of the CHT's best arable land (some 22,000 ha) and displaced about 100,000 people, 55% of whom were plough cultivators. Some of the displaced people, those with permanent land title, were resettled in reserve forests. However, the rehabilitation programme was inadequate and compensation insufficient (Roy, 2002). The majority of evacuees, who had no land title, were neither resettled nor paid any compensation and moved to the upper slopes where they resumed *jhum*, despite the fragile, marginal lands.

The pressure on land was further reinforced by the government policy of encouraging lowland people to migrate to the CHT. The government abolished the special status of the CHT during the 1960s, which facilitated the in-migration of lowland people. As a result, between 1951 and 1961 the CHT's lowland population increased about five times, from 26,000 to 119,000. Moreover, the declaration of some forests as 'protected forest', where shifting cultivation and collection of forest products were prohibited, increased pressure on agricultural land.

Increased population and decreased area for *jhum* cultivation forced shifting cultivators to drastically reduce the length of fallows, adversely affecting soil fertility and crop yields. This again compelled farmers to expand the area under *jhum* to offset the food shortages caused by dwindling crop yields (Barua, 2001; Khan and Khisha, 1970).

In the forests, the Pakistan Government continued the British policy of commercial extraction and started using forest products for industrial raw materials. Road networks were developed to connect the main trade centres of the district to Chittagong and Cox's Bazar, two regional trade centres. As a result, the harvest of bamboo and softwood, not previously extracted due to their low economic value, increased significantly.

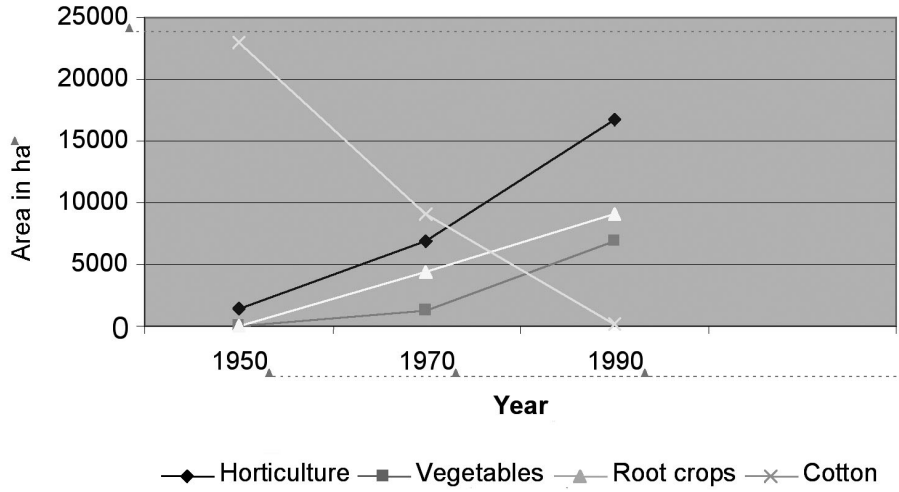
In the late 1960s, in recognition of the adverse impact of shifting cultivation and the need to rehabilitate degraded land, the government made attempts to promote a horticulture-based farming system. About 3,000 households evicted by the construction of a reservoir were each given about two hectares of hill-slope land, with inheritable rights, for mixed horticulture. Some people successfully grew banana, papaya, pineapple and other horticultural crops as cash crops, while others failed due to a lack of knowledge, marketing and credit facilities (Roy, 1995). In some areas government agencies established rubber plantations on a trial basis, but without suitable expertise and marketing facilities this practice was not adopted by private entrepreneurs and did not catch on.

State policies and land use after independence (after 1971)

Following independence in 1971, the Government of Bangladesh implemented a resettlement programme to settle lowland people in the CHT. It is estimated that more than 200,000 lowland people were resettled in the CHT through this policy (Roy, 2002) and by 1991 the population density of the CHT had reached 84 people per km^2. Most migrants were resettled on *khas* land, government-owned fallow land, which was actually community land used by indigenous people for generations (Barua, 2001). The indigenous tribal people considered such land to be their community property, and very few had ever secured their title to this land. Consequently, many indigenous people were evicted from their common land for a second time, following their eviction by the construction of Kaptai reservoir during the Pakistan period. This has cultivated a feeling of insecurity that undermines any investment in land development and management, and tribal people continue practising *jhum*.

Moreover, in 1992 the government declared some 50,000 ha of forest land to be reserve forest, and 4,000 ha were leased out for rubber plantations (Mohsin, 1997). Combined with in-migration by lowland people, this has further reduced the land available for agriculture and forced shifting cultivators to shorten fallows even further. In valley areas where land is suitable for wet rice cultivation, irrigation canals were constructed and chemical fertilisers and pesticides used to increase yields (BBS, 2001). Upland cultivation was also further intensified, particularly near roadsides. Lowland settlers, who had little expertise in upland cultivation, started the commercial cultivation of vegetables such as cucurbits, beans and leafy vegetables, and root crops such as aroid, ginger, turmeric, sweet potato (*Ipomea batatus*) and *simul-alu* (*Manihot esculenta*) (Uddin et al., 2000). The high market value of these crops encouraged people to grow them even on steep slopes.

Figure 1: Area under non-cereal crops in the CHT, 1950 to 1990 (hectares)



Improved road conditions made it easy to transport them to Chittagong and other cities. As a result, the area under these vegetables and root crops has constantly increased (Figure 1). Gradually, some tribal communities such as the Chakma, Marma and Tanchangya also began to grow commercial vegetables. However, although this type of agricultural practice yielded high returns, it has accelerated the pace of soil erosion to more than 100 ton/ha/yr (Uddin et al., 1992), as soils are dug extensively for higher yields.

However, in some areas where farmers have land title and access to market and support services, horticulture, agroforestry and tree farming are increasingly being practised in a sustainable way. Box 1 describes how land titles and institutional support have facilitated a move away from shifting cultivation to horticulture, agroforestry and tree farming in certain parts of the CHT.

Despite the high demand for the products of this locally-suitable farming, its widespread adoption is constrained by current policies and the institutional environment. *The Chittagong Hill Tracts Forest Transit Rules, 1973* and subsequent administrative orders regulate the harvesting and marketing of timber and other forest products available from private land. These rules require farmers to get written permission from government offices before harvesting and transporting forest products, especially timber, for marketing. Due to cumbersome bureaucratic procedures, it is almost impossible for small farmers to obtain a permit to

Box 1: Factors facilitating sustainable land use practices

During the early 1980s the government gave two hectares of sloping land, along with permanent title deeds, to people who had settled near the Bandarban-Chimbuk road. As rice yields were decreasing steadily due to declining soil fertility, these shifting cultivators were looking for alternative crops. In some villages, horticultural development programmes, including training, input support and credit facilities, were initiated by missionaries. Some financial support was also given as wages for land clearing, planting trees and other crops during the establishment period when no harvests could be expected. With a secure land title, newly acquired expertise about new crops, inputs and adequate credit facilities, the farmers were motivated to adopt horticultural crops which were suited to the local biophysical conditions and which also gave good economic returns. An all-weather road and proximity to the district headquarters ensured good market access. These conditions facilitated the transition from a cereal-based extensive land use system to a perennial crop-based intensive system. Shifting cultivation has become almost insignificant. Tree crops are grown in association with annual and perennial crops. Agroforestry is also an important component of the system. The farmers' land management practices also changed considerably. Farmers now use several land management practices, including mulching, strip cropping and rotational cropping, and also use agrochemicals to maintain soil productivity.

sell timber without bribing officials (Huq, 2000). As a result, small tree growers are compelled to sell timber to local traders at a price much lower than the market price (Table 1), which has discouraged them from large-scale tree plantations. Besides, farmers and traders have to pay a tax to several local government organisations, including hill district councils, municipalities and union *parishods*, for transporting and marketing agricultural products. These taxes depress local prices and ultimately discourage farmers from adopting locally-suitable cash crops. Despite the great potential for tree production in the CHT (Forestal, 1966), no policy has been effectively pursued to provide incentives for tree planting on private land. During the East Pakistan period the Private Forest Ordinance made provisions for financial support to smallholder tree growers, but as yet no arrangement has been made to translate such policies into reality. As a result, the only land use alternative for poor tribal farmers is to practise *jhum*, which does not need any initial investment or large operating capital, yet provides a return within a few months. Today, the government is still expanding the reserve forest area and diverting shifting cultivation land for other purposes, including establishing *Abhoyarannyo* (animal sanctuaries), leasing out land for rubber plantations, and expanding military camps (Anon, 2005; Gautam Chakma, personal communication). Such policies cultivate a feeling of insecurity which forces shifting cultivators to adopt a short-term perspective, in other words growing annual crops by slash and burn which does not require any investment in land.

Table 1. Price of timber (round wood) at different markets

Timber type	Farmgate price	Price at local market (Bandarban) Taka/cft*	Price at regional market centre (Chittagong) Tk/cft	Local price share of regional market (%)
Segun	170-190	200-250	750-800	29
Mehogani	120-140	150-180	400-450	39
Gamar	80-100	120-140	350-400	35
Chaplish	70-90	100-120	300-350	26
Koroi	120-150	150-200	400-450	41
Simul, kadam & other soft woods	50-60	80-90	300-350	26
Pole	20-30	40-50	150-200	26

Source: Rasul, 2003
* Taka is the Bangladeshi currency: US$ 1 = Taka 57 in 2002; cft = cubic feet

CONCLUSIONS

My research indicates that the degradation of land and forest resources in the CHT is rooted in past and present policies. The nationalisation of land and forests, the creation of reserve forests, denying customary rights of indigenous peoples to land and forest, entrusting the management of land and forest to centralised government agencies, the construction of hydroelectric dams, the frequent displacement of indigenous people, and the resettlement of lowland people into the CHT have all had a severe impact on the use and management of the region's land and forest resources.

Forests have declined significantly and agriculture has expanded into forest areas. In valley lands, where land title is unambiguous, land use has intensified with external inputs, although this comprises only a small proportion of the total land. Horticulture, agroforestry, tree farming and the cultivation of annual cash crops (dominated by root crops such as ginger, aroid and turmeric) occur in various locations. However, *jhum*, the traditional extensive land use system, is still domi-

nant and continues to expand into more marginal and fragile land. Fallows have shortened sharply, and in most places are now as little as two or three years.

My findings support the mounting evidence that tribal farmers are not conservative or reluctant to adopt improved land use practices, as has been conventionally believed. Even in the 19th century, tribal farmers used to travel for nine days to bring India rubber to market when it was profitable to do so (Lewin, 1869). They adopted horticulture, agroforestry, tree farming and other economically and environmentally viable land use systems in different parts of the CHT when they were given tenurial rights and other essential support, including roads and transportation (Rasul, 2003; Rasul et al., 2004). However, most farmers failed to adopt these more sustainable practices because of:

- insecure land tenure
- complicated transit rules
- formal and informal levies on agricultural commodities and
- inadequate marketing facilities and support services.

To promote sustainable land use systems it is, therefore, necessary to remove the existing policy constraints and to develop appropriate policies that provide incentives and support to land users. Priority should be given to the policy issues which I describe below.

POLICY RECOMMENDATIONS

- Provide tenurial rights to land users. Most land in the CHT, except the valley bottoms and urban areas, is owned by the state. Although tribal farmers use state land for their traditional *jhuming*, they do not have any permanent or long-term rights to the land. Tenurial insecurity combined with frequent displacement cultivates a feeling of insecurity among the tribal farmers, discouraging investment in good land management, including fallow management. Tenurial insecurity also limits access to formal credit required for initial investments and for procuring the inputs needed to improve land use practices.

- Understand farmers' livelihood needs. Poverty is widespread in the CHT, particularly in rural areas. Many rural families suffer from chronic food shortages (Rasul, 2003). On average, *jhum* cannot support a family for more than six months. For the rest of the year farmers have to harvest bamboo, trees and

non-timber forest products for survival (ADB, 2001). Without alternative livelihood opportunities, the sustainable use of resources is unlikely to occur.

- Remove formal and informal levies and taxes. As already mentioned, several formal and informal taxes (eg. double levies by local government and other agencies, and illegal royalties on timber and other agricultural commodities) have increased marketing costs, ultimately reducing farmers' profit margins and constraining incentives for locally-suitable land use systems such as agroforestry, tree farming and horticulture. If these land use systems are to become more financially attractive to farmers, such constraints must be removed.

- Reform the transit rules. Although the Chittagong Hill Tracts Forest Transit Rules aimed to control illegal felling from government forests, they have failed to do so. Hundreds of illegal trucks carrying timber leave government forests every day. Instead, these rules have constrained tree planting on farmland. Alternative policies are needed which ease the harvesting and marketing of timber grown on private farmland.

- Promote competition in trade and transportation. Changing policies and rules will do little to provide farmers with sufficient incentives if there is no competition in the market. High transport costs, for instance, are caused by bad roads and the existing licensing system, which requires newcomers to get a licence from the local transport association in order to enter into the transport service. Both land and water transport services are controlled by only a few people who restrict entry by newcomers (ADB, 2001). Appropriate policies are needed to ensure fair competition and encourage newcomers, particularly tribal people who are largely absent from these sectors, through financial and administrative support such as easy access to credit, and easing the licensing procedure.

- Reform credit policy. Land uses like timber plantations, agroforestry and horticulture involve substantial initial investment; this is beyond the means of smallholders like most hill tribes. Bangladesh Agricultural Bank, which is mandated to provide agricultural credit, does not provide credit for tree growing. Moreover, the bank requires collateral before giving credit, something which most hill tribes cannot supply without permanent land titles. A new policy is needed which would provide both short-term and long-term credit for all types of agricultural enterprises including agroforestry and tree farming. Such a policy would remove farmers' capital constraints and enable them to afford the initial investments and

the operational costs of crop cultivation or tree growing. In common with the Grameen Bank, credit should be provided to farmers without land certificates on the basis of a group guarantee.

- Involve local people in decision-making processes. Sustainable land use and management require the participation of the people who directly depend on those resources. However, since the British colonial period local people have been kept outside the policy and decision-making process. At present local people have little involvement in policy formulation and decision-making and their needs and views are rarely considered. Drawing on the experience of other countries, policymakers should develop appropriate mechanisms to involve local people in planning and decision-making about the use and management of land and forest resources. Traditional institutions, which have close relationships with local people, should be involved in managing resources and government agencies should work together with those institutions. Moreover, the policy formulation process should be made participatory.

Finally, emphasis should also be given to translating policies into action. There are many good policies in Bangladesh but they are not being implemented. For example, the Private Forest Ordinance developed during the 1950s made provision for financial support for smallholder tree growers, but this has not yet been translated into action. Likewise, the Land Commission established in 2001 to address land issues is not yet functioning. In order to remove the gaps between policies and practice provision should be made for participatory monitoring and evaluation of the policies, along with room for necessary adjustments.

Without such policies, there may be a tendency to switch from one degrading system to another, such as from shifting cultivation to root crops on hill slopes and to mining of resources, eventually leading to a spiral of degradation and poverty.

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