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# New Challenges Facing Asian Agriculture under Globalisation

Volume II



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## Globalisation and Food Security among Indigenous People in Asia

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### Introduction

About 70 per cent of the world's more than 250 million indigenous people live in Asia. They are known by different names: 'hill tribes' in Thailand, 'ethnic minorities' in Vietnam, 'minority nationalities' in China, 'scheduled tribes' in India, and 'cultural communities' in the Philippines. They largely inhabit the upland, mountains and hill-forest regions. Those in the hill-forest regions practise forms of economic production that vary from swidden agriculture, wet rice cultivation in terraces, and collection of various forest products. Using the evocative term introduced by Kunstadter (1978), they can be called 'farmers in the forest'. A second group of these people comprises the highlanders or mountain dwellers of the Himalaya-Hindukush and surrounding ranges, a group that relies even more on gathering and animal husbandry.

Indigenous people are generally marginal to the growing national and global networks in a number of ways politically, culturally (as minorities who don't count even in electoral politics and with supposedly outmoded world-views), and economically. They have a small role to play in "labour markets (as workers), capital markets (as investors), commodity markets (as consumers) or even debt markets (as tax payers paying for bonds)" (Lutz and Nonini, 1999). Even in Southeast and East Asia, they were largely bypassed by the rapid growth and poverty reduction of the 1980s and the first half of the 1990s. They participated in this rapid growth only at the level of the lowest rungs, as the migrant working class, often as 'illegal' immigrants, 'last to be hired and first to be fired'. With the onset of the Asian crisis, even these meagre earnings were depleted as jobs disappeared and wages fell. Overall, the indigenous people across Asia are one social group among whom poverty has the highest concentration in the various countries.<sup>1</sup>

In this paper, we deal with the effects of globalisation on the food security situation of indigenous people in the mountains and hill forest regions.

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<sup>1</sup> For an extended analysis of the poverty situation and development questions of indigenous peoples in Asia, see IFAD, 2002.

With underdeveloped infrastructure, upland and mountainous areas of Asia suffer from social deprivation mainly because of political neglect and remoteness. Until recently, what little development assistance the upland populations have received has been guided by the primary concerns of the lowlands and mainstream societies. Indeed, the conventional industrial and agrarian sectors rarely flourish in the hills and mountains because of strong comparative disadvantages, for example in terms of production costs. While the uplands have attractive assets, past efforts to exploit these comparative advantages have tended to dispossess the local populations. The current process of globalisation increases the risk of further marginalisation, disempowerment – and desperation – unless it is specially adapted for these areas.

## Processes of Globalisation

The unique features of mountain areas - limited accessibility, fragility, marginality and diversity- generally require diversification of resource use and production. But globalisation, guided by short-term profitability and external demand, promotes narrow specialisation in a few specific products. It encourages indiscriminate resource-use intensification and over-extraction of niche opportunities, with little concern for their environmental and socio-economic consequences (Jodha, 2001). In many cases, this has led to over-extraction of timber, minerals, hydropower and herbs, with the inevitable negative effects on the environment. Also, the process of globalisation is so rapid that the mountain communities do not have sufficient lead-time and capacity to adapt.

The upland and mountainous areas of Asia possess enormous potential for niche products and services such as high-value agricultural products (off-season vegetables, seeds, and fruits), timber, non-timber forest products (NTFPs), minerals and ecotourism. They also provide hydrological services (watershed functions, hydropower), environmental services (carbon sequestration) and biodiversity protection. However, several processes are in operation through which globalisation is eroding the mountain areas' niche of comparative advantages (Jodha, 2001):

- In response to high external demand and profitability, globalisation introduces new incentives, technologies, infrastructure and support systems. As a result, man-made facilities are created for production in the plains, undermining the comparative advantages held earlier by mountain areas. In India, for example, products such as off-season vegetables, crop seeds, honey, mushrooms, flowers and herbs can now be produced more cost effectively, and in large quantities, in greenhouses in the plains of Punjab, substituting the production of such commodities in the mountain areas of Himachal Pradesh.
- Trade liberalisation and the opening up of imports will further erode the comparative advantages of mountain areas in the production of high-value commodities, as they will not be able to compete with cheap imports on domestic markets. For example, it is difficult for apples from the mountain areas of India to compete, in the domestic market, with imports of apples from developed countries.
- Lack of resources and skills prevent mountain people from participating in, and gaining from, opportunities offered by globalisation, which is leading to their exclusion from the global economy.

- Mountain people are also being exposed to resource-based exclusion, as huge areas of land are leased out or auctioned to outsiders for mining or tourism development or cultivation of NTFPs in many countries of the region.
- The provisions of global conventions and treaties related to biodiversity conservation, desertification, forest policies, and climate change - all of which focus on the protection of “global commons” - tend to restrict mountain people from harnessing their niche opportunities. Adequate concern for, or understanding, either of fragile areas or of their inhabitants who depend on such “global commons”, is lacking.

Globalisation comes down to local communities largely through the market. New goods may be seen on the TV or come to be known through other ways. But it is through the market that they become available to be consumed or used by people. It is also through the market that producers come to know what they can sell. Often they may not know the uses to which their products are put. For instance, only recently, after the logging ban imposed by the Indian Supreme Court, indigenous women in the North-eastern state of Meghalaya were selling the bark of some trees, but had no idea at all of the uses of that bark. The indigenous people of Andhra Pradesh, India had for decades been collecting and selling *gum karaya* without any idea of its use in making dentures. These are not isolated instances and sellers are often totally unaware of the uses of the products they sell, particularly when these products do not have local uses.

The market, of course, is not new to indigenous peoples. But with globalisation there is a great increase in the scope of the market. Virtually any product can be traded on the market. And, unlike with production for self-consumption, which is necessarily limited by the extent of local consumption, production for sale on the market is not similarly locally limited.

With globalisation there is a shift in the locus of food security from direct provisioning at the family and community/village level to a link with income-generating activities. This affects all those engaged in any form of trade, since changes in average productivity anywhere in the world, by reducing the price of a commodity, say, rice can lead to a fall in real income, even without any local change in production conditions.

Along with an increased role of trade, globalisation often brings with it opportunities for earning incomes in new sectors of the economy, tourism being a prime example. Whether through sale of local products to tourists or through employment in tourism-related enterprises, new avenues of income generation may be locally created.

A third effect of globalisation, one which, however, like many other effects predates but is intensified by current globalisation as such, is the possibility of migration to urban or other employment centres in the plains.

Consequently, food security in the uplands is now affected by four factors: local production of staples, trade, local income opportunities, and migrant income. As incomes grow, direct provisioning, through local production of staples, is a smaller part of total income. In food security too, the role of tradables, even if only locally traded, increases. Income and

employment-generating activities get a greater weight in the food basket than own production of staples.

Indigenous people's areas in remote mountains and also relatively inaccessible hill-forest regions have a higher proportion of poor, high levels of morbidity and mortality among women, and vulnerability to market and natural shocks (Gaiha, 2002), thus they deserve special attention for food security and livelihood problems.

Yet, own production of staples still plays a critical role not just in food security but also in the overall livelihood situation. Of course, in referring to food security in the upland context it is not just food grains but the whole food chain (a range of seasonally and spatially variable consumption, generated by diversified and inter-linked activities, Jodha, 1996) that must be kept in mind.

### **Food Security and the Terms of Exchange**

The indigenous people trade many of their products, e.g. NTFP, with the rest of the world. They also supply wage labour, both locally and as migrants. One factor that is noticed in many projects among indigenous peoples is that, when they get the ability to invest in livelihood options, in additional crops and so on, they tend to concentrate on increasing their production of food staples. "Among the Scheduled Tribes [in India], the food-insecure perceived that their 'subjective' strategy of food self-sufficiency was a better bet than the largely theoretical prospect of selling perennials and buying food" (Martin Greeley, 1991). Is this an irrational, subjective fear of the market or is there a good basis for the insistence on first increasing food security before increasing their involvement in other markets?

A farm family that does not have sufficient food to meet its annual/seasonal needs will be forced onto the market to secure needed food. It will have to sell either labour power or products that it collects. Food deficit families often enter into advance contracts for sale of labour power. For instance, in the hills of Chattisgarh, agents of traders and landlords come up during the height of the lean season (i.e. the period between sowing and harvest of upland rice) and contract the sale of labour in the period after the harvest. Advancing some grains for the ongoing lean period, they would fix the rates at which the labourers would work in the post-harvest period. Such advance contracting is only done by the food insecure. Those families who are food secure, but do not have the irrigated land for a second crop, also migrate to the lowlands for work after the rice harvest. But they do not contract their labour in advance; instead they acquire work at the then-current wage rates.

In this case the food insecure get credit, in real not financial means, and the price of this credit is advance sale of labour at prices lower than would prevail at the time of performing the labour. Those who are food secure are able to avoid this inter-linking of credit and labour markets. When watershed management activities increased and stabilised the productivity of the monsoon crop, one immediate effect was the fall in advance contracting of labour.

Where there are forest resources available, the response to the lean season food deficit is to collect forest products for sale. Some are valuable nuts, like *chironji*. But in the market for such nuts, as for labour, there are two prices simultaneously on the market. The food insecure trade it with the local shop-keeper, who gives them various food stuffs, including grain, lentils, cooking oil and salt, in exchange. The collector does not sell the nuts and buy the household requirements. Rather, the operation is simultaneous in both product and consumption markets. In this inter-linked market transaction, the forest product collector does not even know the price she is getting for her product.

Those who are food secure do not sell in the above inter-linked fashion. They sell their product at a given price and then buy what they need. Food security allows them to operate separately in product and consumption markets; while food insecurity leads to inter-linked markets.

One might say that if there were well-functioning credit (needed in the first case) and product markets (second case) then there would not be the observed inter-linked transactions and the sellers would get a better return. But, one should turn the analysis around and point out that food insecurity plays a critical role in there not being well-functioning markets. With enhanced food security, households would not be forced into inter-linked transactions and better functioning markets would become the norm. But depending on the level of food insecurity, markets would continue to be inter-linked to the detriment of the producers of forest products and the sellers of wage labour.

Globalisation increases the options of using markets to secure income. Global markets for medicinal plants, for instance, are increasing at the rate of 10-15 per cent a year. But the extent to which various sections of indigenous peoples benefit from the expanding markets depends on the level of food security. This is the first proposition that we would like to make about globalisation and food security in the uplands: the extent to which households benefit from globalisation depends on their level of food security.

## Globalisation and Specialisation of Agricultural Systems

As mentioned earlier, agricultural production among the indigenous peoples is often centred on the swidden system, whether of longer “forest fallows” or shorter “bush fallows”, to use the terms introduced by Boserup. For individual shifting cultivators to be able to change their fallow system in the direction of more intensive land and labour use, a surplus over current consumption demands is needed. Those shifting cultivators who do not have such a surplus are unable to change their production system.

The cutting of terraces and the introduction of agro-forestry both require material inputs, which would mean a diversion from current consumption. At the level of the individual farm family this would require that “... the consumption value of the amount intended for production appears in the eyes of the family to be less than its value for production” (Chayanov, 1966: 11). But we would further add that below a minimum level of consumption the family would not assess the production value for even a substantially more productive asset like terraces to be more than its present consumption value.

Thus, an individual family would require some non-shifting cultivation source of income/product to be able to undertake investments in terrace cutting or agro-forestry. The elite within these communities can use their political positions and/or external connections to gather these resources for intensification. Those who have to depend only on shifting cultivation are unable to gather such resources. Among such families, however, larger families would be in position to gather such resources. Where polygamy exists, the same elite men may have more than one wife, to be able to bring more land under shifting cultivation and thus acquire resources for investing in other productive assets.<sup>2</sup>

Globalisation enhances two possibilities for increased income needed for transformation of swidden systems. First, it allows the introduction of higher value plants into the swidden system or increases the value of existing plants and trees, allowing for a higher value of output. These are the niche products of the mountain and hill areas (Jodha, 2001 and 2002). Second, it creates new opportunities for wage employment, whether locally or in the plains, thereby increasing the number of families that can utilise these external incomes to invest in the transformation of their swidden system, compared to the earlier situation where only few with existing surpluses from rice terraces or monopolising the few external contacts, could carry out such transformation.

Many examples of the above transformation in parts of China, Lao PDR, Thailand and India are noted in a paper on this topic by UNOPS (1997). Here we mention just a couple of such examples. The indigenous people of Andhra Pradesh were able to substantially increase their income from the sale of *gum karaya* in international markets. With an improvement in quality the price realised went up from Rs 5 per kilo to as much as Rs 40 or 50 per kilo, a ten-fold increase. This transformed the way the farmers looked at the *gum karaya* trees – from earlier having been left to rot, now they are carefully preserved; some even initiated plantations of these trees.

In Yunnan, China, many valuable medicinal plants have been introduced into the swidden system. The rapid growth in the global demand for Chinese medicines has enabled farmers in Yunnan to earn higher incomes and transform their fallow systems. The Ilam district of Nepal has been transformed by the development of tea, ginger and other export crops.

But it is a seemingly inevitable feature of such intensification that it leads to a specialisation in production and thus reduces the range of local production. In the Himalaya-Hindukush region, it is reported that families that used to produce and consume over 20 varieties of food items, as a result of commercialisation now, consume only five (Nagpal, 1999).

Such commercialisation of products has often, even usually, been accompanied by monoculture of the products. Tea, rubber, potatoes and a host of other upland crops are often

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<sup>2</sup> For a detailed analysis of the nature of transformation of swidden cultivation systems see UNOPS, 1997.

grown in plantation monocultures. But the traditional upland cultivation system, both of swidden agriculture and the home gardens, is based on multi-species, multi-storey cultivation. Dedicated monocultures would destroy an important part of the value of the uplands, both to the mountain communities themselves, and to the world at large, as biodiversity is an important global public good produced in the uplands.

## Privatisation and Decline of Community-based Food Security

The growth of the market has led to a process of privatisation of formerly communal land, of devolution of ownership, at least *de facto* if not also *de jure*, from supra-village and community or clan to the family. The market for timber and NTFP grew in the colonial or immediate post-colonial periods. To that extent they certainly predate the 1990s, which is generally regarded as the era of globalisation, with the growth of global financial markets. But the process of privatisation through market-induced transformation is a feature that becomes even stronger in the current era. Consequently, an analysis of the privatisation process, even if it pre-dates the 1990s, can tell us a lot about the effects of the growth of global markets on what were formerly relatively self-contained, subsistence-based economies.

A detailed case study of this process in North-east India (Nathan, 2002) looks at this process of privatisation through pressures emanating from the development of the market, timber and NTFP, where, unlike in most of the rest of India, the communities retained ownership of the forests in the colonial and post-colonial periods. While the analysis is concentrated on the Khasi of Meghalaya, a state which is better connected than other Northeast Indian states with the rest of India and thus with the markets for timber and NTFP, it also uses material, mainly from other communities and countries of the Hindukush-Himalayan region.

The main conclusion of this case study is that the growth of the market led to a process of privatisation of formerly communal land, of devolution of ownership, at least *de facto* if not also *de jure*, from supra-village and community or clan to the family. The following are the features of this process:

- The rise of big men or big families and their links to the external world.
- The decline of earlier forms of reciprocity that inhibited accumulation.
- The separation of the objective conditions of labour (chiefly, land) from labour itself, leading to the creation of what Marx termed 'not-land-ownership' (1973, 498).
- The growing domination of men in economic matters.
- The breakdown of norms of collecting forest products only for self-consumption and in regulating collection for sale.
- The gradual or rapid decline of NTFP in the unregulated commons and the domestication and shift of valuable NTFP species into the home gardens or privately owned fields.

Social norms or sanctions that inhibited accumulation or kept it within narrow limits are of different kinds. One of them is the feasting undertaken by big men or chiefs, for instance, among the various Naga communities. This feasting redistributed any surplus and prevented accumulation. With the advent of Christianity such feasting was denounced as being 'pagan' and its decline opened the way for accumulation. Simultaneously, norms of reciprocity also

changed and step-by-step generalised reciprocity gave way to annual cash contributions of a portion of income.

Norms and actions inhibited accumulation and actively promoted the redistribution of surpluses. Whether through denunciation as 'pagan' rites or through the growing scope for such persons to escape redistributive measures through urban migration<sup>3</sup>, these measures of redistribution have lost their earlier force. Along with them day-to-day measures of reciprocity, like the substantial provision of village or clan labour to maintain families in need (those without adults or with adults who are unable to work), have been replaced, for instance among the Nagas, by annual cash subscriptions of a percentage of family income.<sup>4</sup> This contribution is more like a tax, and since the proportion is fixed for all families, rich or poor alike, it is in fact regressive, i.e. its burden is more on poorer families. Such a tax, unlike the earlier potentially unlimited contribution of labour and grain, does not inhibit accumulation.

The shift from a concern with social stability to accumulation has substantial implications for food security. Access to key productive resources, chiefly land, is no longer guaranteed by being a member of the community. Though, as we see below, in times of major shocks (like the Asian crisis) kinship networks and village institutions, for instance, the Buddhist temple (Thailand) or Christian church (Northeast India), might play a role in providing some minimal food security in a crisis. At the same time, redistribution no longer works to assure regular food security.

In sum, what we are witnessing is a historical change from a social system that produced sustenance for its members and the community to one that produces value or is dominated by the commodity form, from one mainly concerned about maintaining its social continuity to a system driven by the logic of accumulation and wealth creation. The social security systems had a high cost in terms of "dynamic efficiency, because of their disincentive effects on work and investment efforts" (Platteau, 1991: 161). Of course, incentive effects on work and investment were not concerns on which those economic systems were fashioned. But they are now becoming concerns of indigenous people and this leads to changes in their economic systems.

## Depletion of Resources, Domestication and Exclusion

Unlike production for self-consumption, which is necessarily limited by the extent of local consumption, production for sale on the market is not similarly locally limited. Consequently, the growth of external markets for various mountain products, e.g. NTFPs, has often been accompanied by the rapid depletion, even disappearance, of these products.

There are two factors at work here. The first is the over-extraction of the TFP. This occurs even if tradition actually forbids the collection of NTFP for sale. But in the absence of other

<sup>3</sup> The role of urban migration in escaping from the social sanctions meted out to supposed *thlen* worshippers was pointed out by Tiplut Nongbri; personal communication.

<sup>4</sup> For details see Nathan, 2002.

avenues for earning income, extraction and sale of NTFP are a viable source of income. Thus, the rules prohibiting the extraction of NTFP for sale break down in the face of the double pressure of the external market and the internal need for cash income.

The rule that does remain largely in effect is that restricting access to those who are members of the relevant community, clan or village. But since there is no effective regulation of rates of harvesting, the effect of competitive over-harvesting easily comes into play.

The second factor is that if the harvesting of NTFP is to be sustainable, some measures of investment of labour and other resources are needed. A study of NTFP harvesting in the Amazon and Borneo points out, "... almost any form of resource harvest produces an impact on the structure and functions of tropical plant populations. If nothing is done to mitigate these impacts, continued harvesting will deplete the resource" (Peters, 1994: 45). This is so irrespective of the rate of harvesting, though the process is accelerated by destructive harvesting, of the type brought about by competitive harvesting.

The author goes on to point out, "There are ways to exploit the non-timber resources produced by tropical plant populations with a minimum of ecological damage. Doing so, however, requires management.... Although quite a bit more involved than simply picking up fruit or tapping rubber trees, these management procedures will produce a sustainable form of resource utilization" (Peters, 1994: 45).

Is it likely that the investment in labour and other resources will be forthcoming in the existing systems of NTFP access and collection? Where the investment of labour and other resources will result in an income that does not necessarily accrue to the person or group undertaking the investment, is such investment likely? Here, the logic of individual decision making comes into play. The income will be shared among all members of the community, while the investment in labour and other resources is undertaken by one person or family. This will inevitably restrict the possibility of investment to maintain sustainability.

Thus, we have two processes leading to the depletion of NTFP in common properties, even if access to the resource is controlled. The first is competitive over harvesting and the second is the paucity of investment in sustaining the productivity of the resource.

The usual response of families and communities to the above problems has been to bring the trees into the home garden or privately owned orchards. A study of Meghalaya (Northeast India) showed that most NTFP sold in the market come from gardens and not from the forests as such (Tiwari, 2000). With the disappearance or very restricted availability of medicinal herbs, in Bastar (MP, India) too most of what is sold as NTFP is actually produced in the home garden or swiddens, and not in the forest as such. Valuable trees, such as tamarind and mahua, are in the swiddens, home gardens or otherwise within the settlements.

The process of privatising and domesticating NTFP depends on the return from the NTFP. As one would expect, those NTFP which yield a higher return are domesticated, while

those with lower, including uncertain returns, are not domesticated. In this process, there is a difference between regions depending on the trading system, which affects the return from a particular product.

We should revert to the main point being made here – the failure of traditional management systems of NTFP to cope with problems of regeneration and of maintaining the sustainability of the output. A change in the rules governing rates of harvesting is clearly needed, as also a system of incentives to allow for investment in enrichment planting and other forms of management to improve regeneration. The first can be done by marking trees to be harvested (or, not harvested as the case may be), or by specifying the block within which harvesting will be carried out in any period. These are the rules, as suggested in Peters (1994: 42). But more important than rules is the type of institution that can implement them.

The spontaneous solution of privatisation, which would be more sustainable than what now exists, is the *laissez faire* trend that is at work. But privatisation works against those who do not have any land or have less land. Access to common forests is important for the poorest, particularly for single women, i.e. widows or divorced women. Privatisation is inevitably inequitable and leads to food security problems for those who do not have land.

## Market and Policy Shocks

While globalisation has brought with it new possibilities in earning income and employment, it has also made the indigenous people vulnerable to sudden downturns, even collapses, of these income and employment opportunities. The Asian crisis from 1997 onwards, the downturn in tourism after the September 11 attacks on New York and the abrupt “logging bans” in China and India in 1998, are all examples of the new kind of shocks to which indigenous people’s livelihoods are now subject, leading to food security crises due to global economic factors.

We look at the effects of these global crises on the indigenous people of Asia, starting with the Asian crisis.

The Asian crisis started out as a financial crisis, affecting the urban investors and other rich investors. But as the financial crisis hit the real economic sector, the adverse effects of the economic downturn were transmitted to the poor. The sharp economic downturn led to a drastic drop in employment and real wage decreases. Official figures indicated that nearly 10 million people lost jobs in Indonesia by early 1999, although many of them moved to low-paying jobs in urban areas and rural informal sector. Likewise, it is estimated that 1.5 million people in Thailand, one million in the Philippines and 2 million in the Republic of Korea lost their jobs following the crisis. More importantly, increased underemployment and falling wages may be more widespread and higher than unemployment figures.

While many urban unemployed workers elected to remain in the towns rather than return to their villages, others were forced to do so. IFAD-sponsored field studies showed that: (1) many rural migrants, especially from the construction industry, returned to the village; (2)

many who did not return reduced or stopped their remittances home; and (3) seasonal migrants no longer went to the cities due to unavailability of jobs.

Thus, a large part of the burden of the national financial and economic crisis was transferred to rural areas through the mechanism of return migration. In the case of Thailand, a recent study showed that 10-15 per cent of all rural incomes come from remittances of urban employment or “transfer payments” (Siamwalla and Orapin, 1998).

Rural areas were also drawn into the crisis by their close integration with urban areas through the informal sector. This integration takes place through backward and forward production and consumption links, whereby raw materials and finished goods produced in rural areas are consumed in urban areas and vice versa. Thus, reduced purchasing power and demand in urban areas has, through consumption links, affected the markets of many informal sector micro-enterprises in rural areas. For example, many of the P4K groups (SHGs of poor financed by micro-credit) had to close down operations because of reduced demand for their processed food and snacks in rural towns and urban centres. These links forged through the informal sector have ensured transmission of the urban crisis into employment and income losses in rural areas.

The results of this transference of poverty to rural areas have been confirmed in recent studies. In Thailand, although the crisis has had an adverse impact on unemployment in the urban, semi-urban and rural areas, the greatest impact was felt in the rural areas (Kakwani, 1998). Thus, the unemployment rate was higher in the villages (4.4%) than in semi-urban (3.0%) or municipal areas (2.7%), as also seen from the decrease in real incomes. Although the magnitude of the income loss was the highest in urban areas immediately following the crisis, the loss was much higher in semi-urban and rural areas. Given the substantially lower income levels in rural areas, the welfare effect of the loss of income was much greater in the villages. Even before the crisis, the incidence of poverty in rural areas was much greater (at 21.2%), than in the semi-urban (9.6%) and urban areas (2.4%). As a result of the crisis, rural areas are not only poorer than urban areas but have also suffered a greater fall in their average real income and employment rates.

In coping with the loss of livelihoods, a number of strategies were followed.

- Reduced consumption
- Shift from purchased to self-prepared foods
- Sales of assets, e.g. livestock
- Increase in land brought under cultivation
- Increase in collecting forest produce

An IFAD-sponsored study of Thailand (Nathan, Kelkar, Nongluck, 1998 and Nathan, Kelkar, 1999) showed that women in the households bore the brunt of the burden of coping with the crisis. Mothers even pointed out that it was easier to persuade young women to enter the sex trade in order to provide for the family than it was to persuade young men to take up productive activities. Older men, fathers, however, tended to share some part of the burden of coping with the crisis, clearing land for agriculture, collecting forest products, fishing, or taking up low-paying jobs.

IFAD-organized groups (the PK4 credit and savings groups in Indonesia) were able to initially provide some credit to their members for food purchases (Thapa, 1998). But this could not be sustained for very long, as the co-variance of the Asian crisis meant that virtually all members of the groups were affected by the fall in urban incomes or urban markets and needed credit. Further, the prolonged nature of the crisis meant that there was no quick renewal, affecting the ability of the group members to repay credit taken for food purchases.

At the same time, while families were left to bear the main brunt of the crisis, the extended families and kinship ties and even village collectivities, played a role in helping those who were made destitute by the crisis. Kin relatives took in some returning migrants. Buddhist temples in Northeast and North Thailand helped the destitute individuals who had no relatives to turn to. What this shows is that even with growing privatisation and individualism, there was still some scope for forms of community organisation to play a role in coping with the crisis.

## Natural Disasters

The uplands (mountains and hill-forest regions) are also subject to various kinds of natural disasters, from landslides to flash-floods. The relatively young Himalayan Mountains also have high levels of seismic activity. In such natural disasters, creating large-scale humanitarian crises, the already difficult communications situation turns into a crisis. But along with accessing food stocks there is also the difficult livelihood situation, as livelihoods of whole communities/villages can be wiped out. For both of these reasons, the ability of local communities to themselves respond to such food crises is limited. Food aid with rapidly re-established communications is the only way to respond to such crises due to natural disasters in the uplands.

## State Policy

Yet another kind of shock to the upland, forest communities is often provided by their exclusion from use of forest resources on which they have depended for their livelihoods. As pointed out earlier, the provisions of global conventions and treaties related to biodiversity conservation, desertification, forest policies, and climate change – all of which focus on the protection of “global commons” – tend to restrict mountain people from harnessing their niche opportunities. Adequate concern for, or understanding, either of fragile areas or of their inhabitants who depend for their livelihoods on such “global commons”, is lacking.

Two countries not affected by the Asian crisis were China and India. In 1998, both countries instituted bans on logging in their upland areas, ostensibly to protect the lowlands from floods and other negative effects of the growing environmental crisis. In areas where the state owned the forests, as in large parts of peninsular India and large areas of China, the loss to the local people was that of wages. But in areas where the communities or households owned the forests (as was the case in much of Northeast India and in much of China after the household reform) there was a substantial recessionary effect of the logging ban. Households and village collectivities could not use the timber they had nurtured for income. Households lost income and local governments suffered revenue losses.

IFAD-sponsored studies of Yunnan, China (Nathan and Yu Xiaogang, 1998) and North-east India (Nathan, 1998; Nongbri, 2001) showed that in coping with the shock of exclusion from their resources, the upland communities responded in a number of ways:

- Reduced consumption.
- Sale of assets, especially livestock.
- Increased procurement of forest products, mushrooms, etc., for sale.
- Conversion of high-value timber into lower-value uses that were not subject to the ban, e.g. sale of trees as fuel wood or for charcoal making.
- Conversion of forest land into swidden fields.
- Withdrawal of children, especially girls from school.
- Migration of young persons to urban centres to seek jobs.

In these cases, too, the burden of the crisis fell to a large extent on women and girls, whether in consuming less, leaving school or going out to earn a living and sending back some remittances. Even among young people, both in Northeast India and Yunnan, China, it was observed that young women who went out to urban centres, invariably sent money back home. Young men who went out rarely sent back any money; rather they kept demanding money from home (Nathan and Yu Xiaogang, 1998).

The role of women in providing food is reinforced in their bearing the main burden of coping with the food security problems of financial and environmental crisis policies. Only in the most extreme situations do men, particularly younger men, take up responsibilities in coping with the food security crisis. The upland communities of Asia are not alone in showing such gendered responses to food security crises. "Times may be getting hard in the Gola Forest [Bwisha people in Africa], but this has not resulted in men taking on any responsibilities for household food provisioning. Men do recognise some personal responsibility but only when 'hunger bites'. Not surprisingly, women and men now argue about how hard times 'really' have become" (Johan Pottier, 1999: 38).

The IFPRI briefing paper for the Beijing Conference of Women (1995) concluded that the positive impact of women's contribution to household (and national) food security, along with women's struggles to absorb shocks to household welfare, still goes formally unrecognised (quoted in Pottier, 1999: 39).

It is not just formal recognition, but formulation of policies and projects on that basis that is needed.

## Conclusion

In the concluding sections, we discuss a few measures that have been or could be taken to deal with the increasing food security problems of the uplands as they drawn into global processes. These measures are broadly of two types, those that contribute to food security by higher incomes, and those that increase entitlements. Some, like the transformation of gender relations, combine elements of both higher incomes and changes in entitlements.

## Financial Markets

Poorly developed financial markets are a feature of the uplands. This forces households to rely on own stocks (or community/village level stocks) for food security. This also leads to larger investment being made in, say, livestock, which are used as assets that can be liquidated in a household food crisis. In one way or the other, the absence of financial markets, for credit and insurance, means that upland peoples are forced to carry larger stocks of food and/or livestock than needed for current consumption or income requirements.

Commercial banks find the indigenous people to be largely unbankable; rather, they can make deposits but do not receive credits, leading to low credit-deposit ratios and the drain of financial resources towards the plains and industrial centres. But micro-finance institutions, pioneered by IFAD in many upland areas, have been quite successful in developing group-based savings and credit systems. Such micro-finance institutions are particularly useful in meeting the food security needs of those who have temporary shortfalls of food/income. In the large-scale Indian micro-finance programme (known as Rashtriya Mahila Kosh or national women's fund) purchase of food was the single largest use to which credit was used.<sup>5</sup> Thus, adequate development of financial markets, even micro-credit, can play a substantial role in providing food security in the face of fluctuations in livelihood conditions.

But the group-based micro-finance system has a limitation in dealing with covariant income shocks. When all the members of a group and even more so, all the members of all groups, are affected, as occurred during the Asian crisis, micro-credit groups in Indonesia, after a while, are not able to continue their credit rotation in the absence of an urban revival, in product and employment markets (Ganesh Thapa, 1998).

## Payments for Provision of Environmental Services

The marginal role of upland communities in national politics means that little attention is paid to the livelihood impacts of environmental policies of 'set asides'. But the globalisation of some of these policies provides new avenues for combining environmental concerns with improved livelihoods for the uplands. While national governments feel that they 'own' the upland forest and other resources and need not pay for the environmental services provided by the uplands, at the global level there is a growing provision to pay for some services, like carbon sequestration. At the national level too, in China and Nepal, there are measures to compensate the uplands for the livelihood impacts of environmental measures, and to pay for various environmental services provided. Water is an environmental product from the upland communities that is beginning to be paid for in water supply projects to urban centres in China (Xian) and Nepal (Dhulikhel and Kathmandu valley). Such payments for environmental services will not transform the livelihood conditions and thus food security, but they will increase the management and livelihood options in the uplands.

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<sup>5</sup> Nira Ramachandran, 2001.

## Promoting Multi-cropping

One negative effect of market growth consequent upon globalisation is the specialisation of the agrarian system. The number of crops cultivated is reduced and there is a concentration on those crops that have a good market or get forms of government support. This reduces biodiversity, which means a loss of resilience in the production system in dealing with natural variations in rainfall, frost, etc.

Work done at a number of upland research institutes, like the Institute of Botany and the Institute of Environment both at Yunnan, however, has developed models of human-made communities of trees and vegetation that could mimic the diversity of the home gardens. Choosing the combination of trees and crops, with an eye both on their commercial possibilities and their use value for the farmers, could yield an overall value that is higher than that of single stand plantations.

New developments in the market also promote such diverse stands even with commercialisation. For instance, there is now a growing market for 'shade grown coffee' as against the traditional 'sun coffee', which involved the cutting of huge areas of forests to turn them into coffee plantations. Similarly, in the Himalayan uplands, too, different tree and annual crops and grass are being simultaneously cultivated in farmers' plots. In the Ilam District of Nepal and in Sikkim, large cardamom is grown in the shade of forests, thus yielding many products other than cardamom and also enhancing forest cover. In Meghalaya, farmers plant bay leaf trees and broom grass in the same plots. In other areas, cardamom is grown in the forest. In Kunming, there are experiments to grow vanilla, a high value aromatic crop, in the natural shade of forests, rather than in greenhouses, as is currently done in the Caribbean islands.

What this shows is that commercialisation and intensification of production need not necessarily lead to monoculture plantations. Under what conditions will one or the other occur? This needs further investigation and analysis. But a few preliminary points can be made. Where there is a known synergy between different components of the agro-ecosystem, for instance bay leaf trees and hill broom grass, and both or all components have commercial value, then farmers are likely to take up the simultaneous cultivation of more than one plant/tree.

Further, where the farmers undertaking the commercial production are locally resident farmers and not distant corporations, then the farmers are also likely to respond to the use values of other components of the agro-ecosystem that do not have commercial value, but can be of various uses to the farmers. On the other hand, distant corporations, concerned with their commercial profits will see these other plants or trees as weeds and seek the single-minded maximisation of production of the commercial crop in which they are interested. Thus, the value of shade trees in tea plantations is zero to the tea corporations. But where farmers grow tea, they seek to fulfil the shade requirements with plants/trees that might also have commercial or use value. Even if this might reduce the output of tea alone from its possible maximum, the combination of the reduced value of the tea along with the

new value of the other tree/plant (e.g. arhar pulse grown for shade by tea farmers in Meghalaya, or combinations of tea, rubber, spices, vegetables, etc. by farmers in Yunnan) might yield an overall higher income. While farmers would have a multi-valued function, including even use values in their assessment, corporations have a single-valued function, based on the maximisation of the commercial income from what they sell.

Measures to support multiple cropping that would use the synergies of various components of the agro-economic system have to be carefully formulated. In particular, they should not be the general price or production support measures that attract WTO restrictions. Rather, they should be formulated as WTO-approved 'Green Box' measures, in the way that USA and Europe now package their support measures. 'Green Box' measures include general services to agriculture such as research and extension, and pest and disease control; public stocking for food security purposes; structural adjustment programmes; environmental programmes; crop and insurance schemes; and direct payments and income supports that are not linked to agricultural production (Narasmiha Reddy, 2001).

What this means is that, for instance, research and extension need to be focused on the development of multiple cropping systems in the uplands. Right now, with the marginalisation of upland peoples, their crops and cropping systems are also neglected in national research systems.

### Grain Banks

Further, in the development of 'Grain Bank' schemes for local food security, attention should be given to stocking not just one or two staples, but to the variety of crops and other forest foods that the upland peoples consume.<sup>6</sup> Local procurement of such crops and other foods will stimulate the continuance of multiple cropping systems. This is a support measure of the 'Green Box' type allowed by WTO rules.

In order to make the Grain Banks sustainable, repayment of borrowed grain may be allowed in a number of ways – as grain, in cash or through performance of labour.<sup>7</sup> Consequently, for the performance of labour to be production enhancing and not of the 'digging holes' type, this labour has to be part of a rural works programme to improve infrastructure and enhance production.

### Access and Information

A problem in the functioning of markets and the distribution of benefits from trade is the asymmetry of information. The further the location from the market the more of a problem becomes the Asymmetry of information. Mountains are especially distant from the markets

<sup>6</sup> This proposal has been put forward for grain bank schemes in the upland areas of Chattisgarh, Binayak Sen; personal communication.

<sup>7</sup> This is the proposal from the WFP-sponsored workshop, reported in Asthana and Medrano, 2001.

for the goods they produce. Poor transport networks are reinforced by poor communication systems. But if the development of mountain communities is accepted as an international public good, then there is a good case for subsidising the construction of the needed infrastructure.

One factor of technological development, the new computer and telecommunications based, Information and Communication Technology (ICT) can both reduce the costs of connectivity and increase its benefits. But the reduction of costs, for instance by using wireless rather than wired, land-based systems, may not be enough to remove the need for subsidies in wiring the mountain communities.

The benefits of being wired to the Internet and other forms of international communication can be substantial for the mountain communities. They will be able to check on prices in different markets and decide where to sell their products. They can set up Internet websites to promote community-based tourism (as has been done by some communities in the hills around Mae Hong Son in Northern Thailand and is being carried out for Dayak villages in Kalimantan). They can check on possible markets for their handicrafts. Overall, the problems of accessibility due to transport difficulties could be overcome, in the area of market information, through being wired.

For the vast majority of mountain farmers, the benefits of Internet connectivity would largely be those of improved market information, something that can be quite important in improving price realisation.

### **New Norms for Extraction**

We have noted above that the solution of privatisation of cultivation of various NTFP is inevitably inequitable and leads to food security for the land-poor, who continue to rely on degraded common forestlands for their food and income requirements. In indigenous communities, this particularly affects widows and other single women households who do not have access to land.

The other attempted solution, as in various Joint Forest Management (JFM) experiments in India, is to institute village-level control over access to NTFP. But with varying levels of dependence on forest products, this is difficult to implement and also leads to inequity. The better-off sections and those relying less on forest resources for income, very easily decide to set aside areas of forest for regeneration. As repeatedly pointed out by Sarin (e.g. 1996 and 2001) with regard to women who collect fuel wood for use or sale, such restrictions go against the poorest, usually single women.

A more viable solution to the problem might be to organise at the level of producer or user groups. Given that there are many alternate uses of forest resources, and many different types of users, this would not be easy to implement. But it has been tried out in two types of cases. The first, which is quite frequent in China, is the lease of the land to the highest bidder for developing orchards, with the condition that it cannot be used for agriculture.

With this privatisation of formerly common land, investment and regeneration can follow. But the poor are left out of this process of enclosure of the commons. This solution is also often discussed in India in the context of so-called wasteland development.

Another approach is to lease the degraded forestland, not to the highest bidder, but to the poorest sections of the village, those who depend on common lands more than others in the village do. This has been tried out in at least one case, the IFAD project of "Leasehold Forestry" in Nepal. In this project, as opposed to the usual community forestry project, the (degraded) forestland is leased out to groups of the poor to be developed as their common resource. Such a relatively homogenous group can both set up rules about labour contribution and sharing of income/resources monitor the observance of the rules and impose sanctions for breaking accepted rules. Since the returns from the enrichment planting and other investment measures accrue to the group itself, there is a connection between investment and returns.

Yet another approach could be to combine group access with family labour. While certain tasks, like guarding or 'social fencing', through control of grazing, may be carried out at a group level, the major labour of tending plots and extracting products could be family based. This would have the advantage in that group organisation could be used to establish user rights, while family labour would be the basis of income distribution. Credit could also be group based, with individual liability. The level of social organisation needed to make such a system function may be less than with the full-fledged group or collective system.

The "Extractive Reserves" system implemented in a number of South American countries is just such a combination of collective and family labour. "The extractive reserves are administered communally. Although not allocated in individual plots, families have the right to exploit the resources along their traditional tapping routes (the *colocacoes*) within the reserve" (Antonio Carlos Diegues, 1998: 73). The restriction of families to specific resources for tapping can ensure that the producers take care of regeneration in the course of tapping and invest sufficient labour for regeneration of the trees in their areas.

In the context of developing production of NTFP, what is important is to end the largely prevalent current situation of no link between investment and returns, because of which investment, whether of labour or other resources, is not forthcoming in the development of production and leads to depletion of the resources. Problems of excludability and subtractability are not adequately addressed by the existing management systems, creating what are effectively open access conditions. Further, it is also necessary to address these problems in such a manner that the poorest do not lose access to resources. This can be achieved by combining the elements of common management, as mentioned above in fencing, etc., with family-based direct labour inputs.

### **Public Provision of Health and Educational Services**

The indigenous people suffer from serious under-provision of health and education services. Infrastructure in the uplands is concentrated on extractive purposes. Revenue earned from

the upland is not commensurately spent on social development in the uplands. This affects provision of health and educational services. The inadequate provision of health services reduces the ability of indigenous people to absorb food as nutrition; while the paucity of educational opportunities restricts the livelihood opportunities of migrants from the uplands. Indigenous peoples are certainly over-represented in the lowest rungs of workers and in the commercial sex sector.

The pressures to reduce public sector provision of health and educational services as part of structural adjustment policies have severe implications for indigenous peoples. In the province of Yunnan in China, indigenous children, girls in particular, suffer from the increased need to privately pay fees and meet other educational expenses while the deterioration of public health services has an adverse effect on maternal and child health status.

At the same time, even when there are no substantial private expenses in sending girls to school, among indigenous peoples there is a very low enrolment of girls in school. Between care of siblings and participation in agriculture and gathering activities, the education of girls suffers. In such a situation, even increased public provision of educational service, though necessary, may not be sufficient. Simultaneous measures, like provision of child-care services, and even direct food supply to girls enrolled in schools would be needed. In the district of Jhabua in MP, India, a scheme that provides 10 kg of food per month to each girl attending school, is reported to have positively influenced the attendance of girls in school (Wasim Akhtar, 2001: 530).

### **Transformation of Gender Relations**

We have pointed to the continued critical role of women in coping with food and income shocks and the lack of formal recognition of this role. This needs to be tackled by two sets of measures to affect gender relations. The first set includes two measures. One is the change of land ownership systems to recognise actual though not formal role of women in land management. The other is enabling women to play an effective role in community management councils, from which they are usually excluded, even in matrilineal societies. This will enable them to bring food security perspectives into the management of natural resources (e.g. timber vs. more quick yielding multi-purpose trees in plantations), into valuation of environmental services (Pierre Walter and Gadsaraporn Wannitikul, 2002), and so on.

Along with the above measures for expanding women action in household and community affairs, it is also necessary to act on transforming men's roles and expectations. In particular, men's greater responsibility at household level for providing and preparing food, etc. becomes necessary. This step, of course, is not easily undertaken. But the growth of women involvement in income-earning affairs, which means an increase in the opportunity cost of women's labour, is likely to increase the pressure on men to change their neglect of household food provisioning questions.

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