

# Managing Marginalisation in Shifting Cultivation Areas of North-east India : Community Innovations and Initiatives

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## Introduction

For the majority of the upland communities of north-east India, shifting cultivation (popularly known as 'jhum') is the primary – and often, the only – agricultural practice and means of livelihood. Until a few decades ago, 'jhumming' afforded food security for upland farmers without raising serious concerns about the associated environmental damage. Today, this is more the exception than the norm.

Although reducing shifting cultivation has been central to development planning for north-east India for over two decades, numerous programmes under successive five-year plans have not been able to eradicate this practice in spite of their best efforts and the infusion of substantial funds. In most areas, with no assured and satisfactory returns from settled agricultural activities, the jhumiyas became more vulnerable over time, and their socioeconomic conditions worsened, forcing them to revert to shifting cultivation. Shifting cultivation still exists as a primary agricultural practice in the uplands of the region, with no viable alternative that is acceptable to the jhumiyas.

Examples of community initiatives and innovations to solve the problems of progressive marginalisation and increased vulnerability have started to emerge all over the region. This paper highlights two examples from the uplands of the region – one from the Mokokchung district of the state of Nagaland, and the second from the Garo Hills district of Meghalaya.

## Methodology

Field observations and surveys; interactions with community elders, government officials, and individual jhumiyas; and assessment of agricultural statistical data at the district and block levels formed the basis of the study at Khar village, Nagaland. In the Garo Hills study, statistical information was gathered from the district and block level offices, and joined with personal observations made in the study area over a period of approximately a decade.

## Results

### *Increasing cycle lengths: innovations within the traditional land practices*

#### Khar village, Mokokchung (Nagaland)

Khar is an Ao village of approximately 400 households in the Mokokchung district of Nagaland. For these villages, declining productivity from the jhum systems and the lack of avenues for income generation had become a growing cause for concern by the early 1990s. With jhum cycle lengths declining to nine years (from 15) and reduction in

productivity, the villagers were compelled to address the situation. The villagers recognised that to ensure food security, the cycle lengths in the jhum had to be increased and non-perishables with high returns had to be cultivated. They also realised that the answers to their plight could not be found in exogenous systems; solutions to the twin issues of food security and cash flow had to be sought within the traditional system.

Jhum lands are a common property resource, owned and managed by the community through the traditional institution of the village council. Each year, the village selects a patch for jhumming, termed 'bokh'. Within each bokh, clan patches, or 'kitong bokhs', are selected by the clans, the choice of patch being governed by the status of the clan in the village hierarchy.

After selecting the kitong bokhs, the clan distributes individual plots to each of its members. The distribution of individual plots, known as 'among', again follows a set custom. The choice of the best plot within the kitong bokh goes to the eldest member of the clan followed by others in hierarchy of age. 'Among' size is determined not by family size, but by the number of family members residing in the village. Families that do not have an 'among' in a bokh are accommodated and allowed access to plots which otherwise would be uncultivated by their tenants due to temporary migration, or are given access to plots which arise due to reductions in plot size. This flexibility is possible only because of community ownership and is not possible where land ownership is individual or private.

Increasing, rural-urban migration has reduced the labour force per family. A related consequence was the reduction in the number and size of 'among's'. Khar villagers saw an opportunity in this situation and decided to consolidate 'among' sizes and numbers. By consolidating the surplus 'among's' from several bokhs and realigning the bokh sizes, Khar villagers generated new bokhs or jhum patches that permitted an increase in their jhum cycles from 9 to 12 years – a step towards improved productivity and food security.

Through plot consolidation, surplus land was generated and then merged with 'among's' that were unused because their tenants resided outside the village. The resultant plot has been put under forestry with high-value timber species. This strategy ensured tree farming and an avenue for income generation on maturity. The innovation in Khar lies in the fact that the villagers used their traditional land use practices to find innovations that would ensure food and economic security without depending on external sources.

### ***Ensuring food and economic security under intense land pressure***

#### ***West Garo Hills, Meghalaya***

In the Rongram Block of West Garo Hills, shifting cultivation was the primary agricultural practice until the late 1980s. Efforts by different central and state government departments (e.g., Agriculture, Horticulture, Soil Conservation and Forest) to replace jhum practices were initiated in the 1980s to promote and expand permanent plantations of horticultural and cash crops. These efforts met with limited success primarily because of the failure of the agencies to ensure storage, processing, and effective market linkages.

While villagers accepted the initiatives in the early phase, the poor returns brought disillusionment, and plantations were rapidly abandoned. This is clearly reflected in the land use figures for the district for the periods 1981-82 and 1986-87. While nearly 10% of the area was under permanent plantations by 1981-82 (mainly under coffee, cashew nut, rubber, areca nut, and orange), by 1986-87 only 3% of the district remained under such plantations.

The area under forests increased by approximately 8% in 1987-88 with the establishment of Nokrek Biosphere Reserve, and the Balphakram and Siju Sanctuaries. The result was that jhum cycles reduced drastically, with corresponding declines in productivity. For the jhumiyas, this meant marginalisation and increased vulnerability. The villagers responded by taking initiatives to improve their conditions in the face of intensifying land pressure and declining productivity from jhum fields. Their first response was to ensure food security; this they did by shifting their staple production from jhum fields to terraces.

In its initiative to replace jhum, the Soil Conservation Department had tried to convert suitable land to terraces in the late 1980s. The villagers accepted this alternative as productivity declined in the jhum, and by the mid-1990s the increase in terraces started showing in the uplands; by the end of the 1990s, 290 hectares of wet terraces had been established in the uplands (Table 1). The values in Table 1 suggest a reduction in area under jhum paddy, but not the total area under jhum, as terraces met the requirement for growing paddy. The area vacated by paddy in the jhum fields has been replaced by commodity or high value cash crops. This is clearly evident on a temporal comparison of crops grown in jhum fields in the 1970s and now (Table 2).

<b>Table 1: Land use dynamics in the west Garo hills: increase in terraced land</b>								
Rice varieties	1989/90		1992/93		1995/96		1998/99	
	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
Jhum paddy	3126	-	2905 (- 221)	(-) 7.07	2880 (- 246)	(-) 7.9	2871 (- 255)	(-) 8.2
Early (aus)	149	18.2	152	18.3	291	29.8	290	28.9
Late (sali)	681	83.1	678	81.7	687	70.3	715	71.1
Total	830		830 (+ 10)	1.2	978 (+ 158)	19.3	1005 (+ 185)	22.6

aus – terraces in the uplands; sali – wet rice in low lying areas; figures in brackets show the changes in area for the period compared to 1989-90; percentage figures for wet rice correspond to the total area under wet rice.  
Source: District Agriculture Office, West Garo Hills, Tura

Table 2 also depicts the changing patterns of the crops grown in response to changing conditions. Earlier, staples such as cereals constituted the principal crops. Today, cereals have been relegated to intermediate crop status. Overall, while 10 of 21 crops were (staple) food crops in earlier jhum systems, at present out of 19 crops grown, only two are (staple) food crops the remainder are cash (commodity) crops.

Besides commodification of jhum systems, Garo Hills villagers have also taken advantage of opportunities to promote plantation crops such as areca nut and cash crops like tea as

**Table 2: Changing ratio of food crops and commodity crops in jhum fields**

CROPS GROWN IN JHUM FIELDS								
Relative area occupied	1970s				1998/99			
Principal crops, 70%	Cereals	Tubers	Vegetables		Cereals	Tubers	Veg.	Spices
	Paddy Maize*	Tapioca* Yam*	Pumpkin* Cucurbits*	Sorrel leaves	Maize*	Ginger*	Pumpkin*	Chillies*
	Millet	(3:5)			(0:4)			
Intermediate crops, 20%	Spices	Tubers	Veg.	Other	Cereals	Tubers	Veg.	Other
	Chillies	Ginger Turmeric	Brinjal Tomato	Cotton* Jute* Mesta*	Paddy Millet	Tapioca* Yam*	Cucurbits* Beans* Spring Onions*	Tobacco* Cannabis*
	(5:3)				(2:7)			
(Minor crops, 5%)	Oil seeds	Other	Vegetables		Oil seeds	Vegetables	Other	
	Sesame	Tobacco* Cannabis*	Beans Spring Onions*		Sesame*	Hill Tomatoes* Beans*	Cotton* Mesta* Jute*	
	(2:3)				(0:6)			
Total	(10:11)				(2:17)			

Source: Field study

\*commodity crops; figures in brackets depict ratio of food to commodity/cash crops

a means of increasing their income and ensuring economic security. Transformation in this sector has been gradual, but in the last decade (1989-1999), there has been a significant increase in the area under such plantations – from 1673 hectares in 1989-90 to 2778 hectares in 1998-99, an increase of 66% (Table 3).

Table 3 also reveals the community's choices in spreading risk. The areas under perishable crops such as orange, pineapple, and banana show few significant changes. The area under orange showed increases up to 1995-96, reflecting promotional efforts by different departments rather than villagers' choice. Similarly, cashew nut was promoted by government agencies, but in the absence of processing and market linkages, cashew plantations declined and eventually were confined to pockets with relatively better access to markets. The villagers chose instead to expand areca nut plantations due to the non-perishable nature of the crop and good market linkages. Areca nut plantations constitute the largest proportion consistently in all periods from 1989-90 to 1998-99.

**Table 3: Changes in the area under orchard/permanent crops in the 1990s**

Crops	1989-90		1992-93		1995-96		1998-99	
	Area (ha)	%	Area (ha)	%	Area (ha)	%	Area (ha)	%
Papaya	7	0.4	41	2.1	65	2.5	74	2.7
Pear/Peach	9	0.5	10	0.5	14	0.5	18	0.7
Orange	228	13.6	355	18.3	617	23.6	465	16.7
Pineapple	380	22.7	386	19.9	390	14.9	507	18.3
Banana	145	8.7	168	8.7	166	6.3	178	6.4
Cashew	391	23.4	220	11.4	375	14.3	387	13.9
Areca nut	490	28.7	670	34.6	887	33.9	892	32.1
Tea	23	1.4	89	4.6	106	4.1	257	9.3
TOTAL	1673		1939		2620		2778	
Increase			266	15.9	947	56.6	1105	66.1

Source: District Agriculture Office, West Garo Hills, Tura

Figures depicting increases refer to 1989-90 as base year; percentages are in relation to total area for the period under consideration

In addition, a new transformation witnessed in these areas is the growth of tea plantations. Tea was introduced by the Agriculture Department and later promoted by the Forest Department under its ecodevelopment scheme. Tea has become an acceptable option only because of the availability of processing and an assured market. Currently, with returns from tea assured, more villagers are choosing this option.

## **Conclusions and Future Implications**

These case studies highlight a simple lesson: faced with the challenge of adversity and progressive vulnerability, communities seek their own viable solutions. These answers could be sought through introspection of their empirical experiences and collective traditional wisdom, as in the case of Khar village, or could be adaptations, modifications, and replications of options observed in their surroundings, as in the case of Garo Hills.

A viable option for agricultural development in the uplands of northeast India has yet to emerge. The answer has to be sought within the traditional framework of customary practices (Palni and Choudhury 2000; Ramakrishnan et al. 1994). The two case studies reported here provide examples of possible strategies that could be developed under different sets of stress conditions. These also suggest that solutions can be found that are flexible enough to allow a synthesis of traditional practices and scientific approaches.

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