



SIANI

Swedish International Agricultural Network Initiative

Farming + Forests = Food security

Integrated landscapes offer hope of sustainability in Asian uplands

Policy Brief

May 2017

Forests have, historically, had a very important role in food security in upland areas of South and Southeast Asia – both as sources of wild food and as sites for grazing, planting food trees and bushes, and various types of shifting agriculture. However, since at least the early 20th century, agricultural development and forest management have been treated as discrete policy areas, with separate institutions. Here we show how natural resource management policies and institutions influence livelihoods and food security for communities in upland areas of Thailand, Vietnam and Nepal.

In Thailand and Vietnam, forest protection and management policies since the 1980s have led to the resettlement of communities living in or close to forests, prohibiting forest-based livelihoods and encouraging a shift to intensive agriculture. In Nepal, in contrast, such forest-based communities have not been resettled, and community forest management is widespread; however, these communities still face multiple restrictions on their access to the forests, e.g. limitations of the traditional practices of grazing in the forest. In all three countries, forest and agricultural land are discrete land-use classifications, and there is no classification for integrated land use or agroforestry. Hence no form of agricultural activity is permitted within areas classified as forest. This is influenced by the dominant international discourse that treats forests only as sources of timber, sites of biodiversity conservation or carbon sinks. While community management of forests has gained ground in some places, it generally does not include a mandate to develop the food security and livelihood potential of forests. Even non-governmental organizations advocating for the rights of forest people tend to limit their demands to the right to manage forests for protection purposes.

Forest exclusion leads to poverty and food insecurity

Exclusion from the forest is associated with poverty and food insecurity among upland communities in South and Southeast Asia, even when they have been allocated non-forest cropland. One study found that across the Greater Mekong subregion (excluding Yunnan province of China) 75% of the population in the forested uplands had too little resources for food security and lived below national poverty lines. Interviewees in resettled forest communities in Thailand and Vietnam claimed that their current inadequate farmland allocations combined with current forest protection policies were forcing them into unsustainable farming practices. Traditionally, they have left land fallow for several years at a time to recover soil fertility. However, without access to the forest and forest resources, they now have to farm their marginal plots more intensively, with shorter or no fallow periods. This requires the use of agrochemicals, which the farmers claim increase soil erosion, and the agricultural land is too limited to allow farmers to prioritize intercropping with bushes and trees to reduce the erosion risk. Furthermore, leaving land fallow carries the risk of farmers losing access to that land, as it may be reclassified as forest.

Upland villagers' concerns about food security have increased during the past decade, with the growing frequency and intensity of climate-related stressors like heavy rains, temperature extremes, drought and irregular rainfall patterns, which are putting additional burdens on their livelihoods.

KEY FINDINGS

Segregation of upland landscapes into exclusive zones of agriculture and forest increases risks to both livelihoods and ecosystems.

Sectoral division of institutional structures and policies often reinforces this segregation and limits local initiatives to manage resources in alignment with livelihood needs and food security.

Institutions and policies should allow communities to develop integrated land use that can help them safeguard livelihoods and food security in the face of climate change and other risks.



Tomato harvest in Mae Larn Noi village, Chiang Mai province, Thailand. Photo by Malin Beckman.

POLICY RECOMMENDATIONS

Policy-makers concerned with upland development and natural resource management should consider:

- Allowing multiple uses of forests, including formal recognition of agroforestry systems in land-use planning.
- Working across the sectoral divide between agriculture and forestry, providing an enabling environment for innovative approaches to climate adaptation and food security.
- Supporting local farmers and communities in managing forests for both environmental protection and livelihood development, building on experiences from local initiatives.

Agricultural policies reinforce risks

Irrigation

In Thailand and Vietnam, the government development strategies for resettled forest communities support the cultivation of irrigated crops in river valleys and on terraces, to reduce dependency on sloping land cultivation. This strategy is, however, becoming less viable due to increasing climate-related risks, as the case of Hong Ha commune in central Vietnam illustrates. Locals in Hong Ha explained that sloping land is classified as forest land (whether it is forested or not), and that the agricultural land they have access to is mainly in river valleys. In the past decade, increasingly frequent flash floods have damaged crops and fields in these river valleys, as well as the irrigation systems that they rely on to farm during the dry season.

Farmers spoke about the difficulty of mobilizing funding to repair irrigation systems, and local government leaders confirmed the lack of budget for such repairs. It appears that agricultural policies have not yet adapted to the frequency of drought and flood damage. The reliance on irrigation may be further undermined by future water shortages. Interviewees said that they had perceived a gradual reduction of water levels in the rivers. This concern regarding damage caused by flash floods was shared also by farmers in the other field sites in Vietnam and Thailand.

Promotion of cash crops

In the past decade in Thailand, there has been a massive expansion of maize production for the animal fodder industry. The expansion has been driven by market opportunities, along with promotion both from the fodder industry and from government agricultural extension services. Official agricultural policy, such as the promotion of maize, is typically conceived at the national level, with insufficient consideration of geographical differences and local impacts.

Staff of the Nan province Agricultural Extension Department noted that the promotion of maize cultivation in their province, where most cultivated land is on steep slopes, had had unintended consequences, including deforestation and landslides. Maize cultivation was no longer actively promoted, but maize farmers interviewed in Pang Yang village said they continued with it as they did not see any alternative for income generation. However, they were increasingly concerned about damage to their fields and maize crops from heavy rains causing landslides – as happened to eight households in 2011. When they approached the district extension service to get help to develop alternative sources of income, they were told that the service could not support sloping land agricultural development in this area, as it is within the Doi Phu Kha National Park.

Farmers in Om Koi district of Chiang Mai province, Thailand, said they had received a similar response when they asked for help in handling disease affecting their tomato crops. The district extension staff could only advise on paddy rice production, not on sloping land cultivation. The interviewed farmers also explained that they were unable to access credit from the Bank for Agriculture and Cooperatives, as the bank required land tenure certificates as collateral, which they did not have. As a result, many households in Mae Larn Noi village had to rely on private moneylenders and had become heavily indebted.

The upland communities are thus in a bind: they can neither access the forest for income generation or food, nor can they access extension services or credit to develop more sustainable agriculture production on the slopes. Government policies are contradictory in the sense that, by classifying the uplands as protected forest areas, including land without forest cover, they make it difficult for the communities to develop sustainable agricultural practices. The focus of government policies is to facilitate the move of agriculture production from the slopes to riverbanks or terraces, which is increasingly risky due to climate change effects. Interviewed farmers argued that the land in the river valleys is insufficient for

crop production, and that development of sloping land agroforestry would meet both environmental and livelihood needs.

Community initiatives

The communities studied had tried various approaches to adapt to environmental risks, for example forest regeneration, agroforestry, and local water management schemes. The villages in Thailand had all given up crop production on part of their land, to reduce the risk of landslides by letting forest regenerate above their residential areas. They had ideas of planting fruit trees, nuts, vegetables, forest tea and coffee in the regenerated forest, to contribute to food and income. Agroforestry initiatives were allowed on agricultural land, but not on land classified as forest, and therefore very limited in upland communities. The villagers argued that official policies should be revised to permit agroforestry on land currently classified as forest. This would enable them to move away from monoculture of cash crops, replacing it with income from perennial trees and bushes, intercropped with annual crops for food security and forest trees for protection against storms and heavy rains.

With increasing damage to crops from irregular rains and weather extremes, livestock as a financial safety net is becoming increasingly important for villagers in all three countries. A recent study in Nepal argues that forests remain important sources of forage for livestock – and this strategy could be further developed to enhance livelihood security. Current regulations on villagers' access to the forests generally inhibit grazing in the forest in all the countries studied.

Workshop participants emphasized the need to provide local people with the physical and institutional space for innovation, for them to be able to adapt to climate change. Community management institutions can provide such space to some extent, but they are currently constrained by state regulations on land use. Communities where people's livelihoods depend on a multifunctional landscape should have a broader mandate, to reflect ecosystem health, food security and income needs.

Conclusions

The evidence of the fieldwork suggests that to allow villagers to re-orient their livelihood strategies to boost food and income security, policies and institutional approaches should enable a shift from intensive cultivation of marginal areas to more integrated land use. Forest officials in all three countries commented that food security issues lay outside their mandate, which means lost opportunities for developing forests to contribute to food security. Many of the interviewed farmers, village leaders and government staff argued that policies should support upland forest communities in making a living from the forest, and develop integrated forms of land use, like agroforestry, in order to reduce the amount of exposed agricultural land. This would reduce the risk of crops and soil being lost to flash floods, landslides and drought. They believe that in upland areas, agroforestry landscapes are less sensitive to climate-related risk than landscapes where forest and farmland are segregated.

The views and content in this document are the authors' own, and do not necessarily represent the views of SIANI or its members or partners