

# **LAND SPARING and LAND SHARING: PERSPECTIVES OF INDIGENOUS PEOPLES and RURAL COMMUNITIES**





## AGROBIODIVERSITY, LAND AND PEOPLE

*Strengthening the Partnership between Indigenous Peoples, Rural Communities and Scientists* is an initiative by the Platform for Agrobiodiversity Research (PAR). The initiative seeks to address issues and knowledge gaps surrounding the debate on land sparing versus land sharing and to create a research agenda on the key issues involved that reflects the views and concerns of indigenous and rural communities that maintain agrobiodiversity.<sup>1</sup>

In partnership with the Indigenous Knowledge and Peoples Network (IKAP), PAR convened a workshop to explore the issues raised by the debate from the perspectives of indigenous and rural communities. Scientists and representatives of indigenous groups, NGOs and farmers from around the world came together to examine claims and evidence in the debate, to discuss the different forces involved and to identify major concerns. This brochure presents the conclusions of the workshop and a story of the *Huay Hin Lad Nai* community.

<sup>1</sup> Agrobiodiversity, or agricultural biodiversity, includes all biological diversity of relevance to food and agriculture - the variety and variability of animals, plants and micro-organisms, at genetic, species and ecosystem levels that sustain the functions, structure and processes of the agro-ecosystem. Maintained by farmers, communities and indigenous peoples, agrobiodiversity reflects the interactions between people, their physical environment and the available biological diversity.

## LAND SPARING OR LAND SHARING?

How can we best conserve biodiversity while feeding the world's growing population? The land sparing versus land sharing debate presents two alternative approaches. Land sparing advocates the intensification of agriculture to prevent further expansion of cropland into biodiversity-rich habitats. Land sharing calls for a greater integration of conservation goals and agricultural practices to create landscapes in which sustainable yields and biodiversity can co-exist.

### LAND SPARING

### LAND SHARING

#### Objectives

To prevent further conversion of natural habitats to cropland and to achieve a sufficient food supply for the world's growing population.

To create agricultural landscapes that support high levels of biodiversity and sustainable livelihoods for rural communities.

#### Conservation

Large nature reserves set aside for conservation. Many species are sensitive to anthropogenic disturbances and cannot survive in agricultural landscapes.

A highly connected landscape matrix of farms, semi-natural habitats and reserves assures species survival. Nature reserves alone cannot adequately protect biodiversity, as the majority of ecosystems are fragmented.

#### Agriculture

More intensively farmed areas, with a focus on using methods that produce highest yields with least negative effects on biodiversity.

Small-scale family farms with emphasis on agroecological methods (e.g. biological control, crop rotation and diversification).

#### People

Land sparing reflects a view of landscapes where natural areas are separate from agriculture and human activity.

Landscapes are created by interactions between humans and nature. Agriculture and ecosystems are inherently linked.

## LIMITATIONS OF THE 'LAND SPARING versus LAND SHARING' DEBATE

The current framing of the debate is over-simplified and involves unrealistic assumptions. It overlooks integral aspects of land use change and discounts the contribution of agrobiodiversity to food, nutrition, ecosystem functions and resilience.

- 1 The debate** largely fails to address the realities of the rural communities and indigenous peoples who have long inhabited areas that are the subject of decisions on sparing or sharing. Their ancestral and legal rights and their roles in conserving agricultural and wild biodiversity have been neglected. Demands for increased control over their land use management and food production systems also continue to be ignored.
- 2 While discourse** has so far focused on measuring trade-offs between yield and biodiversity within different production systems, day-to-day land management decisions are rarely based on these trade-offs. Complex social, economic, ecological and environmental forces shape land use. These forces include "land grabs" and land degradation due to erosion of agrobiodiversity and ecosystem functions.
- 3 Expansion of intensive agriculture**, driven by increasing global demand for meat, biofuels and other commodities is a major cause of continued deforestation, habitat degradation and biodiversity loss.
- 4 One billion people** still lack food security and remain malnourished while 40% of the world's food is lost in post-production or ends up as

waste. Conventional intensification, associated with external inputs such as chemical fertilizers and pesticides, neither protects biodiversity nor provides future generations with adequate food for healthy and sustainable diets and nutrition.

- 5 Many different forms** of biodiversity conservation practices are needed to adequately secure ecosystems and species' populations, and to secure ecosystem functions. Different areas of different sizes under different management practices are required both for the survival of important species and for the provision of key ecosystem functions such as pollination.
- 6 Agrobiodiversity**, which contributes to resilience and sustainability of agro-ecosystems, has been largely ignored throughout the debate. This diversity, which has been maintained by farmers, pastoralists, fisher folk and forest dwellers for millennia, remains a key element in the livelihood strategies of the small scale farmers who produce and gather an estimated 70% of food in the developing world.
- 7 The debate** takes little account of the importance of embedding resilience and adaptability into both food production and biodiversity conservation efforts. Change, particularly climate change, is likely to have profound effects both on the nature and the locations of areas most suited for natural conservation and agricultural production.





## THE HUAY HIN LAD NAI STORY

The story of *Huay Hin Lad Nai*, an indigenous Karen community in Thailand, illustrates how important it is to identify the realities of those who have long inhabited areas that are the subject of decisions on sparing or sharing. The Karen are indigenous to the Thailand-Myanmar border region in Southeast Asia. For generations they practiced rotational farming, or shifting cultivation, which is a traditional land use system found across the tropics. In the face of many challenges, the *Huay Hin Lad Nai* community has developed an innovative approach while maintaining a deep cultural and spiritual connection with the land.

In 1986 a logging company came into the area and deforested their land. Only a handful of the oldest trees were spared. As a result, streams dried up and the water supply diminished. Faced with this crisis, the *Huay Hin Lad Nai* established community rules for forest management and restoration. These regulations, used and refined to this day, created a landscape encompassing a gradient of land-use intensity from extensively used forest to intensively used paddy fields. Rattan, bamboo shoots, mushrooms, tea and honey from wild bees are some of the main sources of income. The landscape harbours high levels of wild and agricultural biodiversity including six varieties of rice, local varieties of vegetables, fruit and nut trees.

The *Huay Hin Lad Nai* community wish to be an example for community-based forest management and organic agriculture. Their land use system is a result of the continuous development of traditional knowledge and of increasing capacities to maintain regeneration of the resource base. This in turn ensures

food security and income for the whole village. They are actively sharing their experiences and knowledge with other indigenous communities.

The *Huay Hin Lad Nai* community hopes to encourage others to pursue conservation practices, cultural autonomy and land ownership rights. One real obstacle for *Huay Hin Lad Nai*, and many other indigenous communities, is not having ownership of their land. The area is part of the Mae Chang National Park and belongs to the Thai Government. The people of *Huay Hin Lad Nai* have been negotiating their rights for many years. They are striving for recognition of collective community-based rights over the land.

The struggle for the land and cultural autonomy includes efforts to prove that rotational farming is not necessarily an environmentally destructive practice. Rotational farming is illegal in national parks and wildlife sanctuaries across Northern Thailand. The ban led to a reduction of traditional cultivation practices and many farmers in the area have since turned to cash crop cultivation. A neighbouring Karen village has adopted commercial maize cultivation and, as a result, much of their forest has been cleared. The contrast between *Huay Hin Lad Nai* and the neighbouring community illustrates some of the complexities involved in assessing land sparing and land sharing alternatives and the need to take account of the wider context of land use change, land rights and the loss of traditional systems and associated knowledge.



*Huay Hin Lad Nai village*



*Commercial maize fields in the neighbouring village*



# Land use mosaic of *Huay Hin Lad Nai*



A valley (marked on the map) shows the main land uses (right)

**1** The village of *Huay Hin Lad Nai* lies in a hilly area surrounded by a mosaic of forest, rotational fields, agroforestry gardens and rice fields.

**2** Community forest covers approximately 90% of the land. It includes sacred hilltops, conservation zones and areas for collecting non-timber forest products like honey, mushrooms and wild vegetables.

**3** Rotational fields are circulated between land parcels on the slopes. The rotational cycle consists of 1-2 years of cultivation and 6-10 years of fallow. After the harvest, the fields are grazed and then left to fallow for the soil and vegetation to regenerate.

**4** Agroforestry products include tea, rattan, bamboo, fruit and nut trees, which are planted among native trees. Small agroforestry gardens are occasionally created on cleared land.

**5** Permanent fields located on soft slopes or flat areas close to water sources are used for paddy rice cultivation.

**6** Rice diversity includes six local varieties. Paddy varieties are cultivated in permanent fields; while upland rice varieties are grown in rotating fields intercropped with vegetables and pulses.



Map of the area managed by *Huay Hin Lad Nai*





## MOVING THE DEBATE FORWARD

As the debate intensifies and policies and investments are made with respect to land sparing or land sharing, there remain serious gaps in knowledge regarding the realities of land management decision-making and its consequences for people and biodiversity.

Continuing and expanding investigations, research and analyses have an essential role to play within this debate. However, they must be undertaken in ways that keep rural farmers and indigenous peoples at the centre and provide support for their decisions on land use and land management. Employing participatory and trans-disciplinary methods will also provide the essential knowledge to support global integration of food security and biodiversity conservation. Such work should explore:

- Changes in land use and decision-making processes involved, particularly in areas rich in agricultural and wild biodiversity;
- Traditional landscape management as conservation strategies and the interactions between agricultural and natural ecosystems;
- The contribution of biodiversity to sustainability, ecosystem functions and resilience of agricultural, pastoral, forest and aquatic ecosystems;
- The challenge of improving nutrition and securing food sovereignty in the context of biodiversity conservation and climate change adaptation.

PAR seeks to increase understanding of the ways in which rural communities and indigenous peoples make decisions on land sparing or sharing by collecting and analysing experiences from coastal to mountainous areas, from drylands to rainforests, which have not yet been captured or considered in this debate. With its partners, PAR aims to bring these experiences into the debate and strengthen collaboration between the scientific community and those affected by decisions on land sparing or sharing.

*“Decisions regarding how and what we will farm, what land will belong to us, to the state, or for the sake of biodiversity, how we will earn income and support food security and food sovereignty for our families do not find answers in trade-offs between yield and biodiversity.”*

*We welcome examination of the inter-relationship between agriculture and biodiversity and, of the effects of our practices, ways to improve them in terms of sustainability or productivity, and even potential trade-offs among multiple axes, such examinations must be truly participatory and to take place alongside a recognition of current threats to our very survival, and a history of hardship, both intentional and unintentional, from the state and sometimes under the aegis of biodiversity conservation.*

*What land might be spared, or why and how it might be shared, must be considered, or else it risks reinforcing a history of expropriating land from the less powerful to conserve biodiversity for the well-being of the more powerful, whether that well-being is in the satisfaction of biodiversity’s existence or the expropriation of its multiple wealths.”*

*Quote by a workshop participant*

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*Image credit: Atit Siri (cover photo) & Dunja Mijatovic*





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