

## Contesting Policies: Rural Development versus Biodiversity Conservation in the Ba Be National Park Area

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### Abstract

During the last few decades, the mountain environment of northern Viet Nam has been undergoing tremendous land cover changes due to expanding agricultural activities. Loss of forest cover and resultant threats to biodiversity hotspots have caused increasing national and international concern. Environmental policies and programs have been launched to counteract the degradation processes and to assist the mountain population to intensify and diversify their livelihood systems. Both environmental and agricultural policies get re-interpreted and modified by local actors. Their objectives and interventions are locally contested. This article adopts an historical perspective to analyze the rural development and biodiversity conservation policies implemented in the *Ba Be* National Park area of *Bac Kan* Province from the 1970s to the late 1990s. It makes use of land-use maps and interprets land-use changes in the light of changing policies. The research reveals the conflicting objectives of early conservation versus development policies, as well as present-day conflicts between biodiversity conservation and rural development. The research findings indicate that the past and current policy and institutional frameworks have not generated the intended results in environmental protection, having been outweighed by the effects of agricultural development in the region. Flexible policy frameworks are needed for ecologically- and ethnically-diverse mountain regions and programs for conserving biodiversity need to adopt a more participatory approach.

*Keywords:* Land use changes, upland agriculture, policy process, conservation, rural development, *Viet Nam*

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## 1 Introduction

### 1.1 Environmental changes in Viet Nam's mountains

For many centuries, mountain agriculture and environment have modified each other in a two-way adaptation process. People have adapted their livelihood systems to the mountain conditions, and the environment has been manipulated to suit people's changing food demands. For hundreds of years, a great number of ethnic groups have inhabited the northern mountain region of Viet Nam, basing their subsistence on both sedentary and nomadic agriculture. Traditionally, the *Thái*, *Nùng*, and *Tày* ethnic groups have lived in the valley bottoms, where they cultivate paddy rice and maize. In contrast, *Dao*, *H'mông*, and *Sán Dìu* have populated the hills, largely relying on the forest resources for shifting cultivation. It cannot be assumed that the ethnic groups of northern Viet Nam have always lived in balance with the mountain environment. However, in former times they at least were able to extract resources at a rate that met their sustenance needs, thanks to low population density, a vast resource endowment, and little interaction with wider economic and political structures. Environmental protection mechanisms, such as sacred forests and belief in

supernatural control (geomancy) (McKinnon, 1997; Pham Quang Hoan 1999; Corlin, 2001) have shaped human agricultural activity, helping slow the intensity and rates of resource use. In addition, the biophysical factors of the mountain environment also have influenced the pace and patterns of resource use (Jodha, 1997).

Today, the context in which the 'traditional' practices of these ethnic groups worked well no longer exists. The population has grown, market forces and the exchange with lowlands have been strengthened, and the State has pursued a number of political, economic and development interventions. All of these factors have altered mountain agriculture and put pressure on the natural resource base. The expansion of agricultural fields to ever-higher altitudes and steeper slopes, and the extraction of valuable forest products, have reduced the forest cover and threaten the biodiversity pools. During Viet Nam's ongoing period of economic reforms, the exploitation of the ecologically fragile mountain environment has been intensified and has reached unsustainable dimensions (Rambo, 1995; 1997; Romm and Dang Thi Sy 1996).

Many authors associate the current state of the mountain environment with resource degradation and crisis (Donovan, 1997). They use terms such as "vicious circles" and "downward spirals" to describe the problematic link between poverty and environmental degradation in the northern mountain areas (Jamieson et al., 1998). Therefore, in recent years the Viet Nam government and international development organizations have launched a number of programs concerning environment and development in the northern mountain areas. These programs address the direct and ecologically-crucial link between agriculture and the remaining natural resources. In *Ba Be* District of *Bac Kan* Province, as in most other parts of the northern mountain region, the intensification of agricultural production has been prioritized since the early 1980s.

However, giving priority to agriculture has endangered *Ba Be* National Park, rich in both biodiversity and cultural relics. In response, international organizations and donor agencies have stressed that current patterns of use and management in the natural resource sector are a threat to Viet Nam's continued economic viability (IUCN, 1999; United Nations in Viet Nam, 1999). Today, Viet Nam is under increasing internal and external pressure to enhance the effectiveness of its natural resource sector; environmental accountability has become a new priority. Unfortunately, however, the local people's role in the policy process has often been neglected.

In this article, we focus on the programs concerning environment and development in the northern mountain areas. We present the outcomes of rural development and biodiversity conservation policies, and interpret the outcomes as the result of local responses and power relations among diverse actors. We show that if the livelihood struggle of mountain communities is neglected when designing and implementing policy, then environmental policies will fail to produce their intended effect.

## 1.2 Focus and approach

This study examines the agricultural intensification and the biodiversity conservation policies as implemented in *Ba Be* District between 1970 and 2000. It attempts to uncover the inherent tensions and sectoral conflicts between production and protection. The objective of the study is to understand the present agricultural and environmental situation in the *Ba Be* National Park area and to identify the major local concerns that challenge agricultural and environmental policy in *Ba Be* District today.

The study asks three broad questions:

- How get policies concerning agricultural intensification and biodiversity conservation established and implemented?
- How have mountain agriculture and mountain environment changed during Viet Nam's reform era (1986 to present)?
- What are the local responses to, and outcomes of, agricultural and environmental policies?

The study is framed by concepts such as the policy process and social organization of natural resource management. Methodologically, it draws on data from different sources, such as official

statistics; land cover maps; policy documents; monographs about individual communes; and qualitative data collected in interviews, oral histories, and participatory observation. Section Two provides details about how the concepts and diverse sources of data were used. Section Three analyzes the main agricultural and environmental changes within the *Ba Be* National Park area during the last twenty years. Furthermore, it examines how local communities respond to policy change. Section Four discusses policies that had considerable impact on the agricultural production and the state of the environment in *Ba Be*, and also draws general conclusions at the local and provincial scale. Section Five identifies the major challenges for development and conservation in the mountain region of northern Viet Nam, and provides a perspective on research and development.

## 2 Theoretical background and methodology

### 2.1 Policy interventions

The act of defining problems such as environmental degradation and deforestation, and of designing policy interventions to address them, is a socially and politically complex process (Thompson and Warburton, 1985; Keeley and Scoones, 1999; Blaikie and Sadeque, 2000). Nonetheless, many policy-makers incorrectly assume that the policy process follows a linear succession of problem definition, agenda-setting, decision-making, and implementation (Thomas and Grindle, 1990). Indeed, the political practice in Viet Nam seems to be shaped by this view. Following investigations of existing problems, usually conducted by the Communist Party, the political leadership in Ha Noi sets the policy agenda and designs policies according to specific, sometimes incomplete problem definitions. Subsequently, policies are implemented by government agencies at various levels of the state hierarchy.

There is much evidence to suggest that the model of such a linear policy process is far from reality (Sutton, 1999). Alternative views on the policy process draw attention to competing policy interests, groupings and networks of policy actors that influence the policy process by sharing different interests and views of the world in practice (Lindblom, 1980; Apthorpe and Gasper, 1996; Tait and Campbell, 2000). For example, when central policies in Viet Nam reach the local level they are simplified and often translated into different languages. Many aspects of the policy contents get re-interpreted according to the local understanding or interests. Government officials and people's representatives negotiate the policies' feasibility and the implementation strategies. Local systems of knowledge provide frames of reference within which people act in their daily lives. They shape the way that social actors influence the world around them (Hajer, 1995; Keeley and Scoones, 2000).

In Viet Nam, central policies therefore frequently get tailored to the local context. Although in Viet Nam political power is concentrated in the hands of the Party leadership, these policy spaces for local actors have always existed (Dang Phong and Beresford, 1998). This might not give local actors policy-making power, but certainly give them influence in the implementation of policy. These local policy actors are low-level cadres and local leaders such as secretaries of the Party Cell, Chairmen of the People's Committee or village heads who are the mediators between the public and the State. Their capabilities and attitudes are decisive in determining how policy will be implemented. They frequently tailor the central policies to the local context. An historical example is the collectivization policy, which was unevenly and diversely implemented throughout the country (Kerkvliet, 1995; 1999). Even in a centrally-managed country such as Viet Nam, policy making and implementation tend to be diverse, diffuse, and complicated activities, where sometimes competing, sometimes overlapping policy positions are advocated by a range of stakeholder groupings including Party leaders, government officials, scientists, administrators, international agency personnel, and rural people.

In this article, we argue that the dynamics of environmental change clearly show the multi-faceted nature of environmental and agricultural policy development and implementation. We conducted a historical analysis of landscape changes and in-depth research on the social and institutional dynamics that structure access to and use of resources (Leach and Mearns, 1996; Leach et al.,

1999). In Viet Nam, institutional and policy changes during the cooperative era (1954-1986) and subsequent economic transitions were key causes of land cover changes in mountain environments. Policies such as collectivization, resettlement-sedentarization of ethnic groups, and the economic reforms of the 1980s altered the macro-level structures in which mountain agriculture unfolds today.

## 2.2 Sources of data

The research reported here results from a partnership among a number of research and development projects having converging interests in improving farmers' livelihood systems while preserving the natural resource base in the *Ba Be* National Park area. As shown in Box 1, these projects pursued different objectives; involved different disciplines (e.g. agronomy, geography, sociology, forestry, conservation and agricultural extension); used different approaches and methods; and had different mandates and agendas. We developed an original collective research process to ensure that each partner could contribute its own materials and knowledge and that the results would be useful for all partners. The participating projects contributed both quantitative and qualitative data to this study. The main sources of information used were:

- Land cover maps derived from 1983, 1989 and 1998 aerial photographs.

They had been developed by various projects according to their own needs, which led to a diversity of scales and legends. It was thus necessary to rationalize and standardize these maps to make sure they would be comparable and to generate two land-use-change maps, one each for the periods 1983-89 and 1989-98

- Statistical data collected from the district's agricultural and statistical services.

Long-term data series related to land use and agriculture (areas of main crops, yield and production, number of livestock, etc.) of four communes of the National Park area and for the total district of *Ba Be* were collected and compiled into a database. Although this kind of data is inherently uncertain (due to possible errors in collection, calculation, and manipulation), in long-term series it nonetheless is reliable for identifying historical trends.

- Official policy documents (e.g. laws, decrees) and interviews with local authorities and policy makers.

We studied many edicts issued in the environmental and agricultural sector, particularly those related to forestry and conservation, and discussed them in the locality. These include the statutes concerning forest development and protection (National Assembly of the Socialist Republic of Viet Nam, 1991), biodiversity conservation, and forest land allocation (Government of the Socialist Republic of Viet Nam, 1995; 1999; 2001; General Cadastral Department, 1997).

- Monographic studies conducted in *Bac Kan* Province from 1999 to 2001 (Sadoulet et al., 2002; Castella et al., 2002; Fatoux et al., 2002).

The SAM-Regional program carried out on-farm surveys in a set of communes representative of *Bac Kan* Province's agro-ecological diversity and selected across a gradient of integration into the market. Land use changes from 1950 to 2000 were analyzed based on aerial photographs interpreted and discussed with local informants. Subsequently, farmers' livelihood strategies were investigated in terms of their diversity and especially how they emerged in response to the policy changes that occurred over the last decades. The combination of landscape analysis and farming systems surveys led to a better understanding of the main forces driving land use changes at the local level (i.e. household or village) and at the regional level (i.e. district or province) (Castella et al., 1999).

- A study on the social organization of natural resource use, conducted in three villages of the *Ba Be* National Park area.

This study examined institutional arrangements governing access to and control over forestland and forest resources, and the process of negotiating and adapting national policies in a local development context. Qualitative data was collected in interviews, oral histories and participatory observation.

### 2.3 The research process

The quantitative data provided by the participating projects were standardized and compiled into a database. We generated preliminary maps and graphs from this database to quantify land-use changes in *Ba Be* National Park area over the last decades. On 16 May 2001, these preliminary results were presented to a panel of local informants. Village heads, People's Committee chairmen, and agroforestry officers from four communes in the southern part of *Ba Be* National Park area as well as field officers of the National Park and of the participating projects attended this meeting. They commented on the statistics and the maps and provided explanations and/or hypotheses about the driving forces behind the observed land-use changes. The participants expressed different views through lively discussions and reached some consensus in explaining major trends in land-use changes. This meeting provided us with many elements of validation of our preliminary hypotheses, as well as recommendations on how to improve our analysis (e.g. minor corrections on the land-use maps, data entry to check on the statistical database). Then, we analyzed our collective results in the light of empirical research studies conducted in *Ba Be* National Park area by Zingerli (2001) and in other parts of *Bac Kan* Province by SAM-Regional program.

## 3 Production versus protection: policy challenges in the *Ba Be* National Park area

### 3.1 The natural environment of *Ba Be* National Park

*Ba Be* National Park was established as the eighth National Park in Viet Nam in 1992 (Prime Minister of the Government of Viet Nam, 1993). It is located 256 km to the north of Ha Noi in *Ba Be* District of *Bac Kan* Province. *Ba Be* National Park consists of 7610ha and includes the famous lake *Ba Be*, which is located in a karstic depression and surrounded by rugged limestone mountains (Figure 1). A dense forest covers the core zone of the National Park, which occupies the entire area of *Nam Mau* Commune and parts of three surrounding communes (Figure 2). The National Park is a representative of the tropical evergreen broadleaf forest on limestone karst and one of the few remaining habitats for two highly-endangered species of primates<sup>1</sup> and other rare and endangered mammals<sup>2</sup> (Hill et al., 1997). The narrow valleys in *Ba Be* National Park area are bordered with houses and cropped with irrigated rice. Agricultural area is very limited because of the steep slopes of the mountains that border the valleys. Several rivers drain the surrounding watersheds into the lake, and during the rainy season the rising lake level causes annual flooding of agricultural land.

The buffer zone of *Ba Be* National Park covers the entire area of the communes of *Cao Thuong*, *Cao Tri*, *Khang Ninh*, *Quang Khe*, *Hoang Tri*, and *Dong Phuc*. As shown in Figure 2, the landscape on the rounded flagstone mountains of the buffer zone is very different from the core zone of the Park. Large watersheds of acid ferralitic soils drain into wide valleys cultivated with irrigated rice. Land use typically varies across the toposequence with ricefields in the valley floor, then houses surrounded by small gardens on the colluviums that make the first gentle slopes (Sadoulet et al., 2002). Rice terraces, usually located close to the streams, occupy the next tier up the watershed. Further up one finds terraced, rain-fed fields and gardens. Pastures are usually located on relatively flat areas in the upper part of the watersheds. The upper part also contains an extensive agricultural system forming a mosaic of upland fields (mainly maize and cassava, but also upland rice on the older forests) and fallows of various ages ranging from grass to shrub and open forest, with the proportion of timber species increasing with age. A dense forest usually covers the tops of the mountains.

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<sup>1</sup> Tonkin Snub-nosed Monkey (*Rhinopithecus avunculus*) and François Leaf Monkey (*Semnopithecus francoisi*).

<sup>2</sup> Lesser Slow Loris (*Nycticebus pygmaeus*), Owston's Banded Civet (*Hemigalus owstoni*), Sun Bear (*Ursus thibetanus*), Asiatic Black Bear (*Ursus malayanus*), Asian Golden Cat (*Catopuma temminicki*), and Southern Serow (*Naemorhedus sumatraensis*).

### 3.2 *Local actors in policy implementation*

*Ba Be* District is attracting growing national and international interest. Since 1997, a number of internationally-funded development and environmental projects have been launched. The first projects of the Swiss NGO Helvetas and the Viet Nam-Finland Forestry Support Program focused on agricultural extension, forestry, and infrastructure development. Both projects were carried out together with the Agricultural and Rural Development Office (ARDO) of *Ba Be* District. At the end of 1999, the Creating Protected Areas for Resource Conservation project (PARC) was launched. PARC is funded by the Global Environmental Facility (GEF) and the United Nations Development Program (UNDP), and is implemented by a private consultancy company in partnership with the Ministry of Agriculture and Rural Development (MARD). It assists the National Park management unit in biodiversity conservation and sustainable natural resource management for the National Park area. Other projects in the district are the Non-Timber Forest Products (NTFP) project, funded by the International Union for the Conservation of Nature (IUCN); and the Mountain Program of the European Union (EU), which engages in reforestation and infrastructure development in the northern part of the district.

A number of research activities were carried out by both Vietnamese and foreign scholars, mostly focusing on rural livelihoods in the *Ba Be* National Park area. In addition, the National Park is attracting a growing number of foreign and Vietnamese tourists. Ecotourism is one of the promising future industries for the remote mountain district of *Ba Be*.

All of these actors interact with the local people as well as with district and commune authorities, who of course are the central policy actors around whom development in *Ba Be* District revolves. The local residents mostly belong to the ethnic groups of *Tày*, *Dao* and *H'mong*. Their cultures and traditions, histories and livelihoods are different from the mostly urban and western 'outsiders' listed above. Local authorities and staff act as mediators between the central and the local state authorities, as well as between national and international projects and the local villages.

In the face of increasing environmental pressure in the *Ba Be* National Park area, conservationists and State authorities have concluded that traditional local livelihoods and resource-use patterns are no longer sustainable. In response, they have developed several strategies that use diverse approaches and seek diverse objectives:

- **Agricultural intensification** through irrigation infrastructure and crop varieties better adapted to mountain conditions, as well as the promotion of fruit tree planting and reforestation, is in line with the Green Revolution approach.
- **Land allocation and land use planning**, including clear agro-ecological zoning and management plans for agriculture, forestry and conservation, follows an approach of smallholder participation in environmental protection and livelihood security.
- **Resource conservation** in the National Park, as promoted and practiced by the policy actor group allied with the National Park management board, i.e. PARC, MARD, GEF, UNDP, reflects tendencies of 'green imperialism'. The conservation strategy places local people and their livelihood needs second to the preservation of a rare fauna and flora.

The diverse strategies of the different policy actors in the *Ba Be* National Park area therefore range from rural development objectives to strict conservation. Ideally, a balance should be found among them, based on a consensus among all stakeholders involved in managing the *Ba Be* National Park area. However, there are sectoral conflicts between the policies that are extremely difficult to resolve. In the following section, we will summarize some recent examples of conflicting environmental policy intentions and management schemes in the study area.

### 3.3 *A short history of rural development in Ba Be District*

Between 1959 and 1989 agricultural production throughout the nation was largely organized in cooperatives (Castella et al., 2002; Fatoux et al., 2002; Sadoulet et al., 2002). However, after national reunification in 1975, the farmers' already-eroded enthusiasm for the cooperatives and very low agricultural productivity called for reforms. The Sixth Party Plenum, held in 1979, issued Resolution No. 6, which represents the turning point in the agricultural sector of Viet Nam.

Resolution No. 6 facilitated the allocation of agricultural output. It also initiated the agricultural reform process, which some years later was formalized by Decree No. 100 (1981) and Resolution No. 10 (1988). Resolution No. 6 eliminated the paradox of underemployed farmers suffering poverty and hunger because of food shortages while large areas of cooperative land laid idle (Ngo, 1995). In *Ba Be* District, Resolution No. 6 increased availability of high-yield rice and maize varieties, and more land was brought under cultivation. Land was contracted out to cooperative members, who were allowed to keep or sell any surplus above the declared output. These two factors (improved varieties and incentives for higher production) resulted in increased agricultural productivity and better food and income for the people. Prior to Resolution No. 6, individual work in upland fields was constrained by the rigid working-hour system of the working brigades. Resolution No. 6 provided more incentives for household-based decision-making that involved trade-offs between agricultural and forestry.

The combination of lowland and upland cultivation is characteristic of *Tây* mountain agriculture. In contrast, *Dao* and *H'mong* traditionally have relied much more on forest resources. Therefore, families from all ethnic groups with labor to spare during the cooperative period were engaged in upland cultivation as a means of complementing the insufficient production shares received from the cooperative. But upland farmers were tapping a limited natural resource base, and by the end of the 1980s they had exploited and deforested all the area that was suitable for upland agriculture (Castella et al., 2002; Sadoulet et al., 2002).

The allocation of paddy fields to individual households in 1990 was intended to stimulate renewed farmer investment in paddy fields, thereby reducing pressure on the hillsides. Indeed, rice production in *Ba Be* District increased by 30% between 1991 and 2000 (Figure 3). This increase was due to a combination of increased investment (more-efficiently-allocated chemical fertilizers, and use of manure); intensification (double-cropping with spring-season rice); and extensification. While the paddy land allocations were successful in stimulating increased production and investment in paddy fields, they were by no means a universal solution to high population pressure and land scarcity in the region. Land was largely claimed by the pre-cooperative-period owners and was returned to them. Most paddy land ended up in the hands of the *Tây*, leaving approximately 20% of farmers in *Ba Be* District in the beginning of the 1990s without paddy fields (Castella and Erout, 2002).

Paddy land now offered productivity advantages over the hillsides, making possession of paddy lands the objective of farmers of all ethnic groups. But the scarcity of paddy fields forced most *Dao* and *H'mong* farmers to continue the resource-intensive upland cultivation in the forested zones. In search of new land, a number of *H'mong* households from other parts of the district migrated into the core zone of the National Park. Wherever possible, they now engage in paddy land cultivation, but nonetheless rely substantially on forest resources. These households are now under heavy pressure from the National Park management board to leave the area, but only a few of them have been relocated. The majority who remain find themselves within an increasingly-restrictive policy framework that prohibits clearing new fields for shifting cultivation. In fact, upland cultivation is practiced by all households within the study area, *Tây*, *Dao* and *H'mong* alike, and is an integral part of their livelihood systems. Upland fields provide a safety net in times of floods or outbreaks of crop pests. District-level policy analyses indicate that the allocation of lowland achieved the desired effects. However, the most impoverished and marginalized of farmers, who have lost their access to the lowlands, now face an increasingly difficult situation (Castella et al., 2002a).

Policy reforms also have taken place in the forestry sector. During the cooperative period, forestry policy largely had the objective of contributing to agricultural and industrial production by increasing the output of timber and non-timber forest products. Gilmour and Nguyen Van San (1999:14) point out that Viet Nam's forestry between 1954 and 1986 was characterized by substantial over-exploitation, as production quotas were set based on state needs rather than on the productive capacity of the forests. Nationwide, most forestry production was under state control. Similarly in *Ba Be* District, a state-owned forest enterprise was established during that time. The

Ministry of Forestry<sup>3</sup> followed a resource-intensive production strategy, and the role of the forest generally was considered as to, "serve as a basis for the development of agriculture" (Gilmour and Nguyen Van San 1999:13). In 1983, the Central Committee of the Communist Party of Viet Nam decided to initiate a process of forestland distribution. The agricultural cooperatives leased forestland to their members with the condition that members reforest or transform natural forests into production forests. The declared purpose of the forestland distribution was the establishment of a productive forestry sector as well as the eradication of shifting cultivation and slash-and-burn practices in old-growth forests (Nguyen Thuong Luu et al., 1995). However, the policy change did not produce the expected results and was repeatedly refined. In 1994, the forest land allocation policy was launched (Government of the Socialist Republic of Viet Nam, 1994; 1999). It provides organizations, households, and individuals with land tenure rights for up to fifty years. The policy-makers generally assumed that farmers would value trees much more if they 'owned' them and that farmers' control over forest resources would lead to sustainable forestland management (Morrison and Dubois, 1998).

The forestland allocation policy was applied uniformly throughout the country. The management authority of the forestland classifies specific forestland areas into one of three categories: (1) special-use forest (2) protection forest, and (3) production forest. Special-use forest, as in National Parks and other protected areas, is not allocated to individual households but falls under the management authority of management boards or forest protection units. This is the case in the core zone of *Ba Be* National Park (*Nam Mau* Commune). The *Tày* people in *Nam Mau* Commune, who for generations have been cultivating both lowland and upland fields around lake *Ba Be*, have lost the right to cultivate the hillsides. They are forced by the National Park policy to restrict their agricultural activities to gardens close to their houses and paddy fields.

In the buffer zone of *Ba Be* National Park, the forest is officially classified as special-use forest, but in practice is treated as a mixture of protection and production forest. Therefore, the buffer-zone communes have started allocating forestland to village communities and individual households. Individual land-use titles (so-called Red Books) and community land rights co-exist. Each village community sets a policy for how to redistribute and allocate its forestland equally among all households. Generally, the *Dao* communities have opted for individual land tenure rights for a period of fifty years. The *Tày* village communities, on the other hand, preferred communal rights over the forestland, although control over the forestland is clearly claimed by some few families of the village communities. However, individual arrangements among the households allow everyone to access, use, and cultivate the hillsides. The forest on the hilltops is considered as protection forest, and the protection enforcement largely lies in the hands of the village heads.

### 3.4 *The struggle between livelihood security and biodiversity conservation*

The disparity between local people's efforts to achieve food security, and MARD's and international organizations' efforts to achieve biodiversity conservation, causes major challenges in the *Ba Be* National Park area. Conflicts between agricultural and environmental goals have caused considerable tensions in the local policy context, especially during the past few years as the National Park management board has grown more influential. Since 1999, it has received technical and financial support from the international Protected Area and Resource Conservation (PARC) project mentioned in Section 3.2. The PARC project tends to place rural development second to conservation, yet sees socio-economic development as a side-product of conservation. Together the National Park management board, MARD, and PARC constitute an influential policy actor group in *Ba Be* District with considerable power to orient land use towards the goal of restoring forest cover and rehabilitating biodiversity.

In collaboration with the PARC project, the National Park management board encourages local people to intensify lowland agricultural production and to develop an ecotourism industry. Forest-protection contracts are issued by the National Park management board that provide farmers with small amounts of money for carrying out protection services. The contracts are seen as a means to

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<sup>3</sup> The Ministry of Forestry was founded in 1976, but was later integrated into the Ministry of Agriculture and Rural Development.

prevent people from destroying the forests by binding them to village conventions and official law, and by regulating access to and control over the forest resources (Ministry of Agriculture and Rural Development, 1999; 2001; Government of the Socialist Republic of Viet Nam, 2001). However, a member of the National Park management board admitted that true collaboration between the National Park and the local people is difficult. The local people say that they feel deprived of their former access to forestland, which for some was essential for their well-being. Furthermore, they claim that the compensation payments for patrolling and reforestation activities are far too low. Although they acknowledge the importance of biodiversity conservation for a potential benefit derived from a future ecotourism industry, at present many people are desperate and struggle for livelihood security. In particular, the landless families regularly disregard the protection and management regulations. The current institutional situation and the lack of stakeholder participation leads to their further economic and social marginalization.

In the buffer zone area, the local communities are under less pressure because the policy guidelines for buffer zone management have not yet been formulated. The institutional situation there allows room to maneuver, permitting pluralistic policy responses. However, in an attempt to close some institutional gaps, commune authorities have implemented some of the policies on agricultural intensification and forestry. For example, some forestland has been allocated even though the forest is officially classified as special-use forest. This reflects contradictions between the policy objectives of the Ministry of Agricultural and Rural Development and the General Cadastral Office. The disparate approaches to implementing policy reveal that the policy framework for the buffer zone is not well defined and that therefore the village communities in the buffer zone area enjoy more autonomy in decision-making concerning agricultural and environmental development than their neighbors in the core zone of the National Park. However, some buffer-zone communities still struggle for livelihood security, which makes the enforcement of environmental and forest protection inherently difficult. The account of a village elder makes this clear. She recounts:

"In the hills, the *Dao* people continue to clear and destroy the forests. The forest rangers, such as my son, do not allow them to do so. They said to him, 'You do not let us clear forests for agricultural land, but can the government support us with food for the whole year? If the government can, we will be happy to stop clearing and destroying the forests for upland fields.' And then my son said, 'I am a government officer. Please do what I tell you because it is stipulated in the government policy. I tell you to stop clearing the forests, but concerning your difficulties I do not know what to answer.' When people broke the rules, my son confiscated their property (work tools) in order to prevent them from cutting trees. He said, however, that he could not do this job here anymore because they were our neighbors and we see them every day. And so he moved to work in *Na Nong*."

The village elder's account also highlights the social relations that are central for life in the remote mountain communes. Cohesive communities and networks of families and clans are important 'social capital' for future development of the villages. Quite frequently forest rangers and local authorities do not report violations of the official environmental law, despite the risk of being fined themselves. Village solidarity in the buffer zone areas seems to be stronger than obedience to the state. This contributes to pluralistic policy outcomes and discrepancies between formal regulations and local practice (e.g. Sikor, 2001). In places like the buffer zone area of *Ba Be* National Park, where local authorities have discretionary power through consultation with the people, the policies get negotiated and the formal guidelines get modified to fit with the local context. There, the communities tend to be more self-confident and aware of the opportunities and constraints implicit in policy and environmental changes. They act as entrepreneurs, and are open to discussion and change. However, where the central policies are rigidly imposed, such as in the core zone of the National Park, there is no room for maneuver or pluralism. People feel deprived and dependent on decisions made outside their reach and influence. Some of them lose their self-esteem and hope (Jamieson et al., 1998). To break the vicious circle of marginalization and environmental degradation grows ever more difficult.

#### 4 Conflicting agricultural and environmental policies

The preceding discussion shows that a number of policy changes and interventions impacted the environment and the livelihoods in the *Ba Be* National Park area. The divergent policy goals and unequal power of the various policy actors have caused conflicts between rural development and environmental conservation. Environmental and agricultural policies seek different outcomes from the same resources, creating conflict within the study area. The struggle for livelihood security in has contributed to substantial changes in land cover, exemplified in the core and buffer zone areas of *Ba Be* National Park. Forest cover decreased sharply between 1979 and 1998 as shown by the figures and maps for the communes of *Nam Mau* and *Dong Phuc* (Figure 4 and Figure 5).

In 1979, Resolution No. 6 introduced major agricultural reforms that stimulated household-based production and generally improved living standards in rural areas. However, in the *Ba Be* National Park area this policy reform coincided with the establishment of a protected area around lake *Ba Be*. This early attempt to protect *Ba Be*'s biodiversity was diametrically opposed both to the government's production plans and to the resource-intensive production strategy of the then-Ministry of Forestry, both of which were intended to enhance the well-being of the local residents.

Despite the early recognition of the important biodiversity pool around lake *Ba Be*, it proved impossible to preserve the landscape of the protected area in the state it was in 1977. Subsequently, the establishment of *Ba Be* National Park in 1992 likewise failed to prevent further encroachment on the forest resources. The National Park area has been undergoing a gradual conversion from a natural to an (agri-)cultural landscape during the last twenty years. The biodiversity conservation policy of the Forest Protection Unit and the Ministry of Agriculture and Rural Development has not been effective in the *Ba Be* National Park area. Livelihood needs and agricultural production targets clearly outweighed the idea of a protected area. The land cover changes depicted in Figure 4, Figure 5, and Figure 6 therefore reveal consequences of these rival policies. In most parts of the study area, farming communities made tremendous efforts to intensify agriculture in the lowlands, which is exemplified by the extensive terracing implemented in *Dong Phuc* during the 1990s (Figure 5). However, the agricultural potential of upland and forest resources was and continues to be crucial for the farming households, providing a safety net in times when the lowland resources are not accessible or do not generate the necessary food.

The protected area in *Ba Be* District indicates, nevertheless, that policy-makers recognized the importance of preserving the landscape and the rich biodiversity around lake *Ba BÓ*. Conservation was put back onto the agenda by the many international conservation organizations that became active in Viet Nam during the 1990s. Conservation is a powerful concept that enables conservation organizations to generate and allocate large sums of money in biodiversity-rich regions of the world. In many countries the implementation of the conservation concept depends almost entirely on international funds. Yet, the concept of conservation is differently understood and interpreted in Viet Nam than amongst the mostly Western conservation organizations and policy actors active in this debate. In particular, national and international actors seem to have different systems for valuing nature and different attitudes toward natural resources. Therefore, there are many contradictions between international and national ideas and plans for conservation. The *Ba Be* National Park area, for example, is not managed according to a natural resource management plan but according to an investment plan. For the national policy actors conservation is therefore closely linked with economic development, such as the promotion of a tourism industry. This understanding of conservation and development has recently led to the construction of a paved road in the very core zone of the National Park, which required major manipulations of the biophysical landscape and of course totally contradicts the idea of a strictly protected core zone area (Nepal and Weber, 1995).

The concepts of conservation and forest protection through land allocation also experience re-interpretations at the interface between the international and national policy actors and the local people. Environmental policy objectives are interpreted in the locality and tailored to the capacity of the communities to carry out the required reforestation activities or protection services. However, those who barely reach food security find their daily livelihood struggles hard enough. Poor farmers do not share the conservationists' ideas and disregard the rules and regulations.

Instead, they rely on and sustain the local customs and follow a natural resource management regime that is more appropriate for their immediate needs and future benefit. An example of such local institutional arrangements is land use tenure systems that are still based on common property regimes even though private tenure rights are promoted by the government. Common property rights benefit the community as a whole, by allowing families to negotiate access to resources amongst themselves (Gibbs and Bromley, 1989). The introduction of non-traditional concepts of environmental conservation and natural resource management is therefore not a straightforward, linear process. Rather, it is locally contested and re-interpreted according to the socio-cultural context of the village communities.

## 5 Conclusions and outlook

Mountain agricultural activities have transformed the natural landscape of the *Ba Be* National Park area during the last two decades. Rural development policies mostly overruled any attempt for biodiversity conservation in the 1980s and early 1990s. The environmental changes in the *Ba Be* National Park area have been similar to those in other localities within *Bac Kan* Province that were not considered for protection and conservation. In short, the official protection and conservation status of the *Ba Be* National Park area largely failed to prevent encroachment on the forest by expanding agricultural production areas and exploitation of forest resources, such as timber and wildlife.

The only protection to the forests and wildlife in the core zone of *Ba Be* National Park was provided by the biophysical factors themselves. The rugged limestone mountains and unfavorable soil conditions prevented further human encroachment on the forest resources. It can therefore be concluded that it was mainly the natural conditions and not the institutional and policy framework that contributed to a partial preservation of the natural environment in the core zone. The biodiversity conservation policy up to the late 1990s had little effect in counteracting the increasing demand for agricultural land and forest resources. More recently, the policy framework linked with an exclusionary concept of conservation has created tensions in the socio-economic realm as it deprived people of traditional resources without providing alternative opportunities to secure their livelihoods.

Agricultural and environmental policies are particularly incompatible for households who cannot attain food sufficiency because of a lack of access to paddy land fields. A communication mechanism is needed between the communities and the policy makers. The different groupings of actors should develop a management plan for the *Ba Be* National Park area that will be accepted by all stakeholders. Local policy makers and other stakeholders, including the partnership of projects described in this paper, already are undertaking several initiatives related to the adaptive co-management of natural resources. We hope this paper can contribute to the understanding of the local tensions between rural development and biodiversity conservation, demonstrating the need for innovative institutions that can satisfy the needs of all partners.

## Acknowledgements

The authors would like to thank HELVETAS, the PARC project, and the Viet Nam-Finland Social Forestry Program for providing material and information and support to this research. We appreciated very much the support provided by the villagers and commune officials in the *Ba Be* National Park area as well as the staff of the National Park management board.

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The PARC project is a UNDP funded project on biodiversity conservation. Its two main objectives are 1) “to improve operations capacity in order to efficiently and sustainably manage and maintain the protected areas” and 2) “to reduce external threats to biodiversity through integrating conservation and development objectives and activities at the local level”. It has contracted VTGeo to implement a remote-sensing, GIS-based tool for environmental characterization and monitoring of the National Park area.

The Vietnam-Finland social forestry program aims at contributing to sustainable rural development in the mountainous regions of Vietnam, through the integration of forestry activities in the rural land-use and economy. It is a bilateral development project under the Department of Agriculture and Rural Development of *Bac Kan* province.

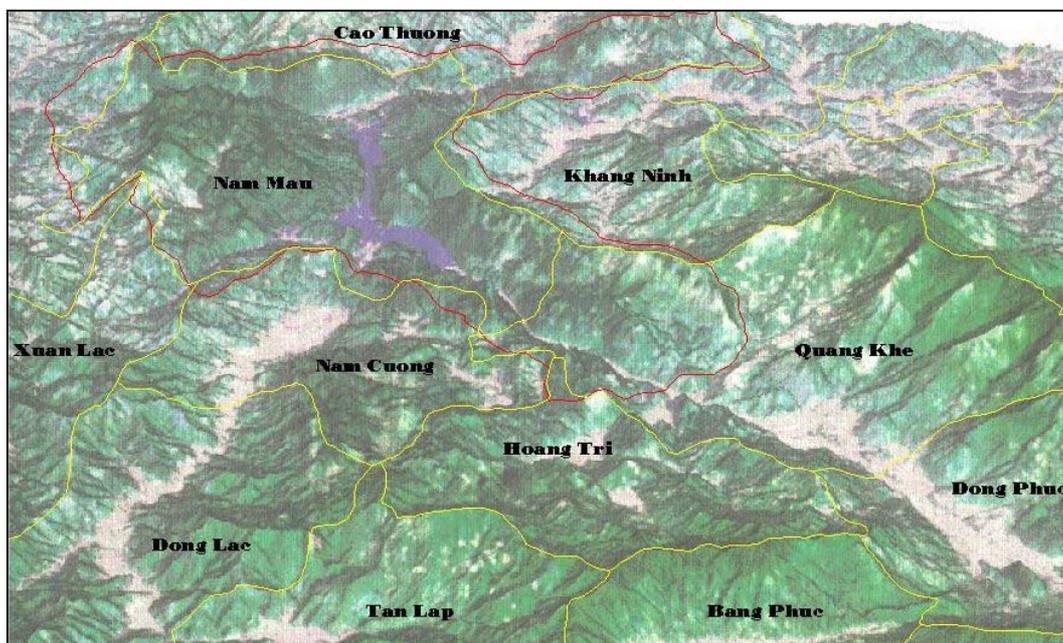
The NTFP project “Sustainable utilization of non-timber forest products, a biodiversity conservation and economic development project” was established in 1998 with technical support from IUCN. It involves in *Bac Kan* province the Non-Timber Forest Products Research Center of the Vietnam Forest Science Institute, Ministry of Agriculture and Rural Development (MARD) and the Institute of Ecological Economics (Eco-Eco).

Helvetas (Swiss Association for International Cooperation) has carried out a grassroots level development project on “Empowering local people for managing natural resources in *Ba Be* district, *Bac Kan* province, Vietnam”. The NGO supports local households through the agricultural extension services.

Claudia Zingerli is doing a PhD thesis on policy-making and institutional changes in the natural resource sector in Vietnam's uplands. She is a researcher in the School of Development Studies, University of East Anglia in Great Britain and conducted her fieldwork under the umbrella of the Helvetas program.

SAM (French acronym for Mountain Agrarian Systems) is a joint research program of the Vietnam Agricultural Science Institute (VASI, Vietnam), Institut de Recherche pour le Développement (IRD, France), Centre de Coopération Internationale en Recherche Agronomique pour le Développement (CIRAD, France), and the International Rice Research Institute (IRRI, Philippines). It started in 1997 with the main objectives of improving (i) agricultural productivity (ii) natural resources management and (iii) living standards of highlands ethnic minority groups.

*Box 1: List of projects and institutions involved in the collaborative research*



*Figure 1: Three dimensional block of the Ba Be National Park area displaying the main feature of the relief and land cover (obtained by wrapping a 1999 satellite image on the digital elevation model).*

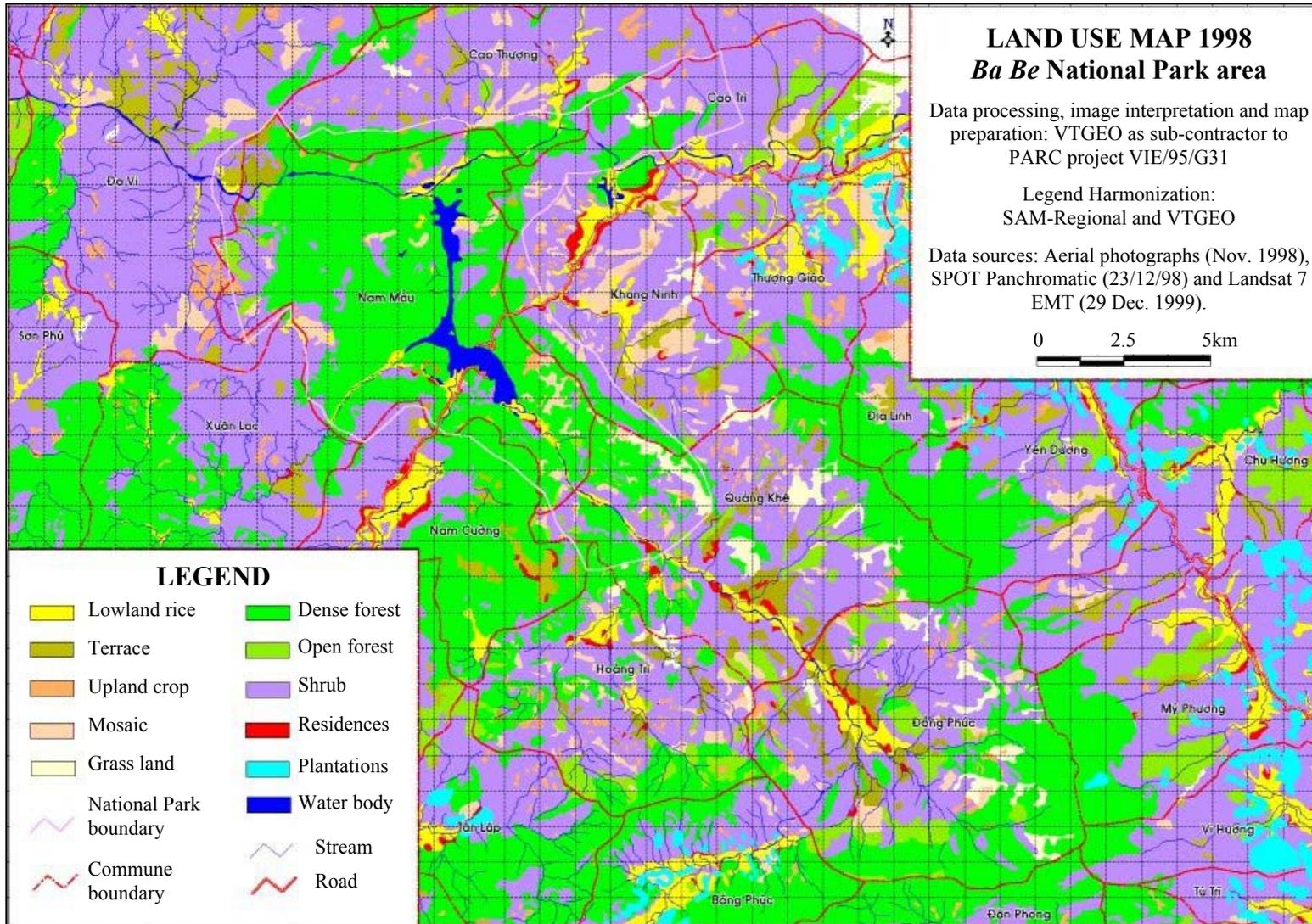
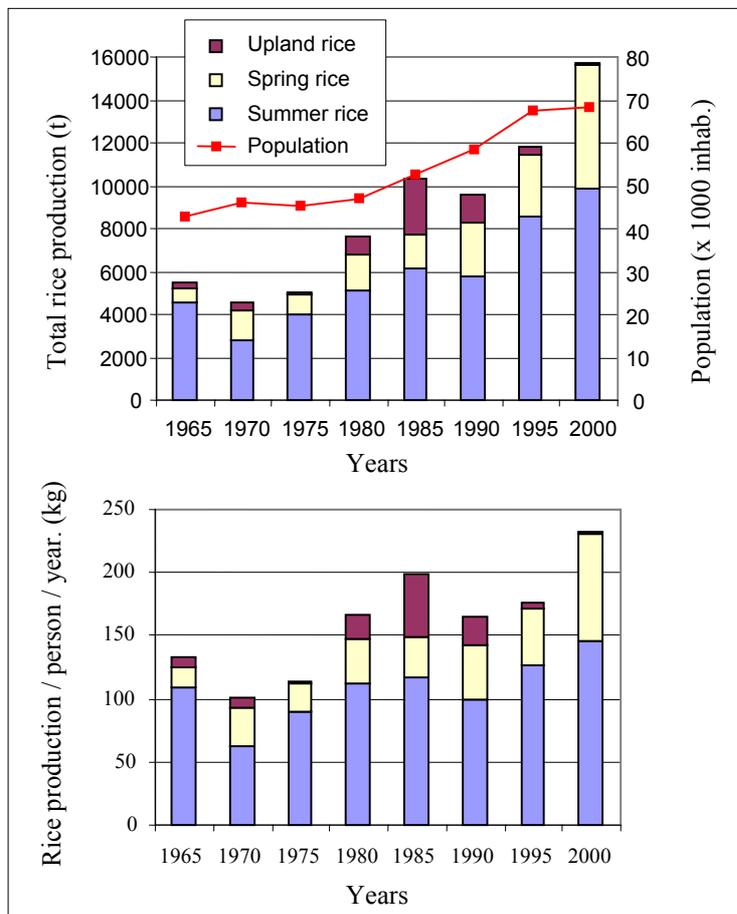


Figure 2: Land use map of the Ba Be National Park area in 1998 (from interpretation of aerial photographs)



*Figure 3: Evolution of rice production in Ba Be District since 1965. Relative share of spring and summer rice in the paddies and upland rice on the slopes in meeting food needs of an increasing population.*

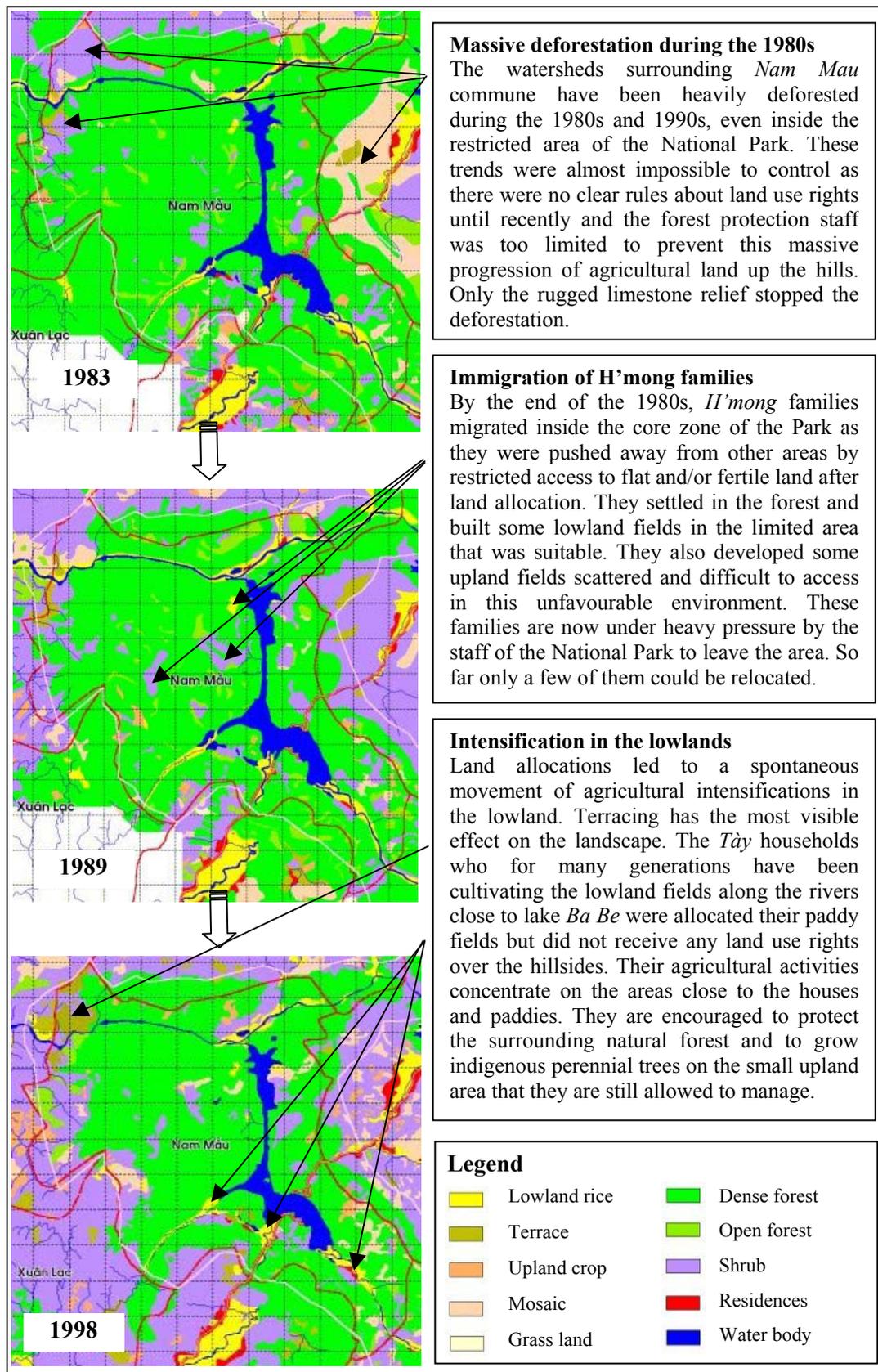


Figure 4: Land use-change-maps of Nam Mau Commune.

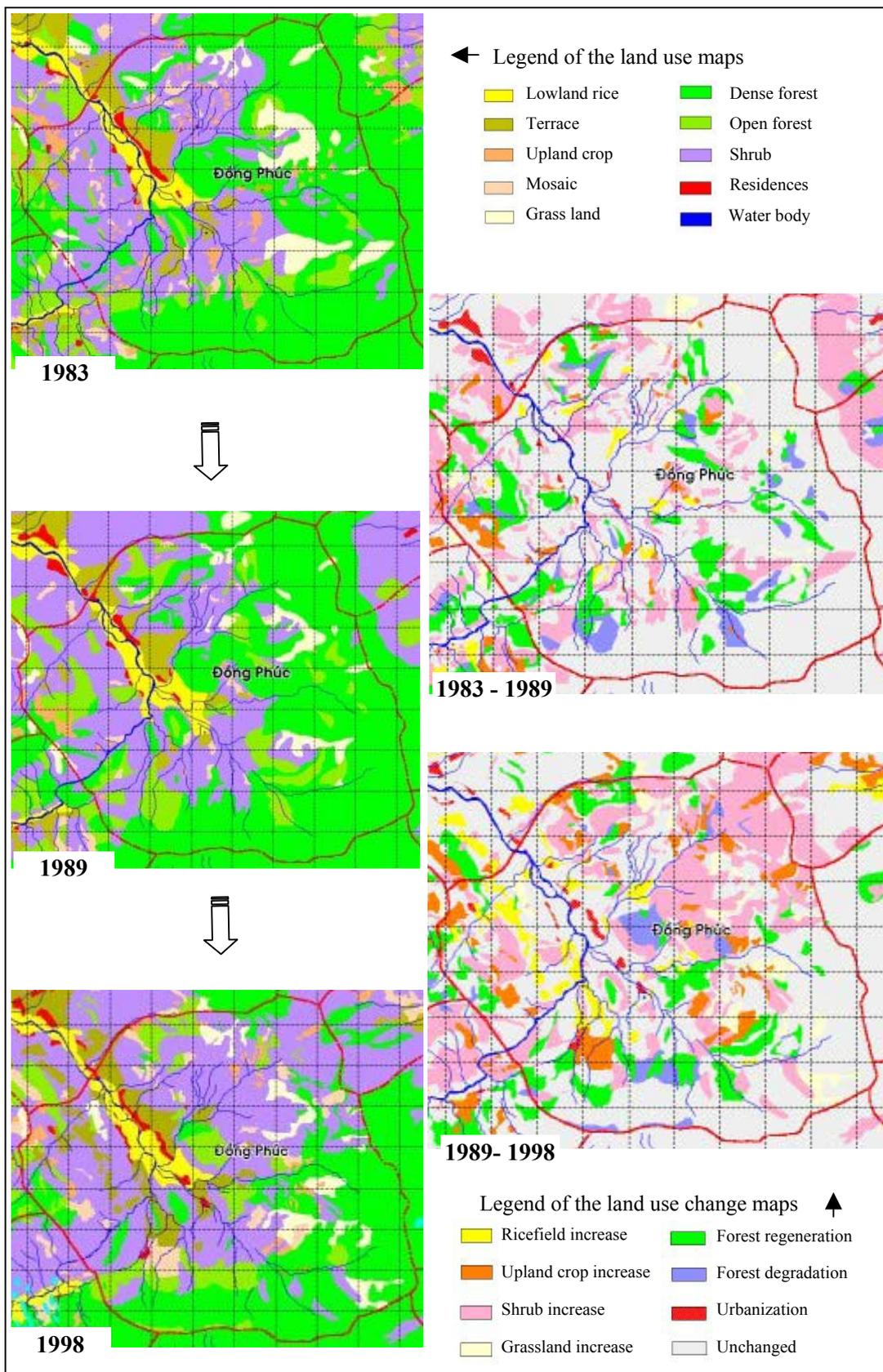
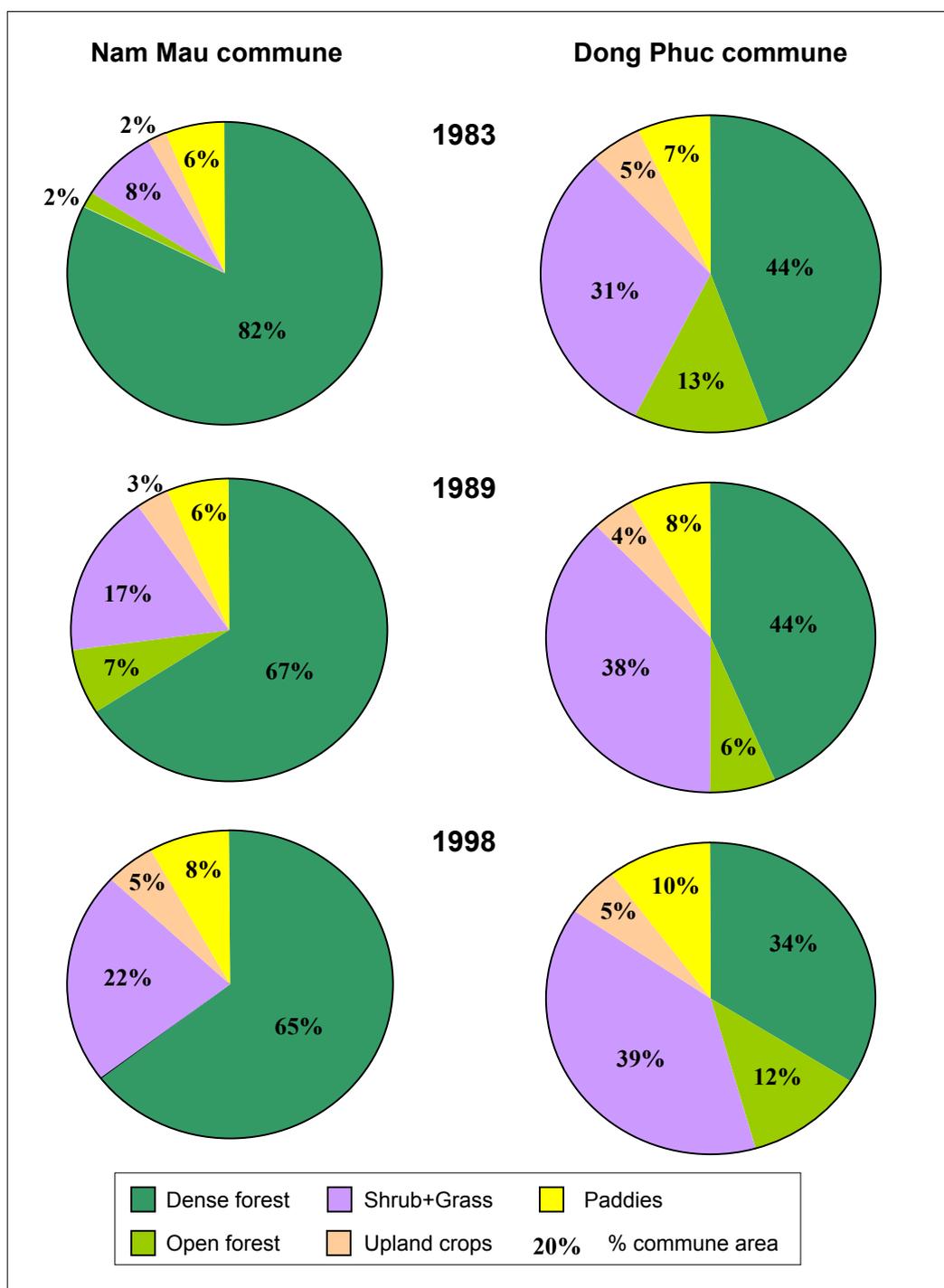


Figure 5: Land-use-change maps of Dong Phuc Commune.



*Figure 6: Proportions of each land-use class in Nam Mau and Dong Phuc communes in 1983, 1989 and 1998.*