

IX

Assessment of the contribution of forestry to poverty alleviation in the Philippines

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Introduction

The forestry sector is the centerpiece of the country's natural resource base and ecosystems. Although the sector's productivity is declining, its contribution to the economy in terms of gross value added, export revenues, employment and full-time job creation, and the provision of biomass fuels, are still significant. Its continued development and that of the environmental sector is a pre-requisite to a sustained growth in agriculture and other industries. However, the sector continues to reel from many threats to forest resources due to the tremendous pressure from an increasing population in search of land to till and forest resources to use resulting in the loss of vital watershed functions and biodiversity in areas affected by human activities. Despite the constraints besetting the sector, forestry in the Philippines still has considerable potentials for the development of the country—economically and ecologically. One is the potential of putting all forest areas under appropriate forest management systems that seek to obtain optimum economic and environmental benefits for forest communities, other stakeholders, and society in general (Revised Master Plan for Forestry Development 2003).

Historically, the forest is an important sector of the economy. Data of the National Statistical Coordination Board (NSCB) showed that the sector contributed 2.4 percent to the gross national product (GNP) in 1980. This contribution steadily declined to 0.07 percent in 2006. However, the total contribution of forests to the economy of the country is still largely underestimated. Forest helps cushion the impacts of poverty as it absorbs much of the poor people by providing venues for both formal and informal settlements as well as livelihood sources for most of them.

The forest sector situation

Forestry statistics

Historical records show that in 1575, the country then had an estimated forest area of around 27.5 million ha, around 91.67 percent of the total land area of around 30 million ha. As shown in Table IX.1, through the years, the country's forest cover has been inversely proportional with the total population. The estimated population of the Philippines in 1575 was only around 160,000. In the early 1920s, the estimated population was around 10.9 million with a total forest area of about 63 percent. In 2005, the total population was almost 88 million while the total forest area was reduced to only around 24 percent (7.2 million ha).

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Table IX.1. Philippine forest cover and estimated population

Year	Forest cover (million ha)*	% of total area	Population**
1575	27.5	91.67	160,000
1863	20.9	69.67	4,452,544
1920	18.9	63.00	10,855,833
1934	17.8	59.33	14,646,495
1970	10.9	36.33	36,684,486
1980	7.4	24.67	48,098,460
1990	6.7	22.33	60,703,206
2005	7.2	24.00	87,857,470

Note: * RMPFD 2003, 2005 Forest cover data based on PFS 2006.

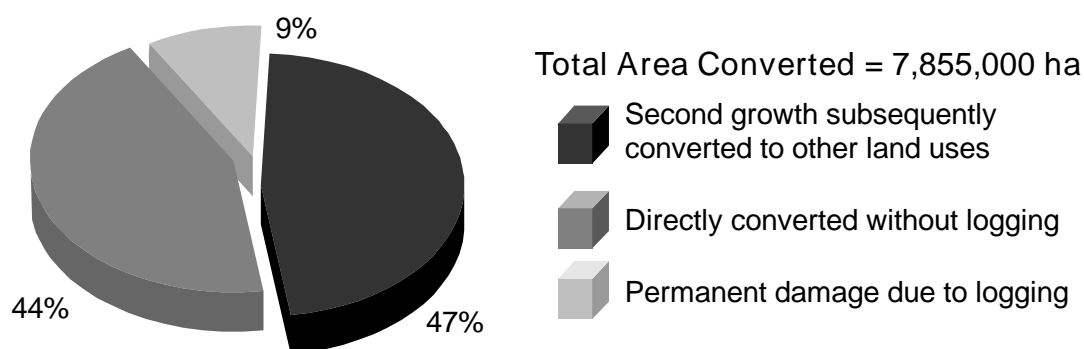
** NSCB 2010. 1575 data estimated from different sources.

Following the colonization of the country by the United States in 1898, the American Congress enacted the first Forest Act in 1904 (Chandrasekhran 2003) that was to form the basis of forestry laws until 1975. The Bureau of Forestry was established during this period, and the mechanization of logging was introduced. The tenure system where private entities leased forests and operated forest businesses started with a systematic assessment and recording of forest resources. In 1934, a national forestry map was drawn when the country had around 17.8 ha of forests (Bureau of Forestry 1934) and the population was around 15 million people.

Estimates of the deforestation rate over the years vary. Between 1948 and 1957, a loss of around 221,300 ha of forests per year was recorded at a rate of 1.56 percent annual loss (Kummer and Turner 1992). The National Economic Council estimated the forest loss between 1957 and 1969 at 226,200 ha per year or a 1.91 percent annual rate. As also reported by Kummer and Turner, later estimates from the Forest Management Bureau (FMB) of the Department of Environment and Natural Resources (DENR) showed a 2.14 percent decrease in forest cover between 1969 and 1976. Other estimates by the Forestry Development Center (FDC) between 1980 and 1987 showed a loss of 157,000 ha annually at 2.17 percent. In a World Bank study, Carandang (2008) estimated that the country lost around 7.9 million ha of forests between 1935 and 2003 (Figure IX.1). One of the major reasons cited is the conversion of logged over areas into other land uses.

In 1996, Philippine forest statistics showed the lowest forest cover at 5.6 million ha. In 2003, the official forestry statistics gave a higher estimate of around 7.2 million ha of forests. Forest cover in the country increased with the new international definition of forest adopted from the Food and Agriculture Organization (FAO). This increase is also attributed to natural regeneration and plantings, in both public and private lands and the addition of the category of other wooded lands, indicating that trees are growing on lands previously under pasture, grasslands, and agriculture, either by natural regeneration or planting. Ninety-one percent (91 percent) of this forest is in public forestlands while 9 percent is in alienable or disposable (A&D) lands.

Figure IX.1. Forest conversion (1935-2003)



Basic forest policies

Current forest policies in the Philippines trace their roots to the Forest Act of 7 May 1904. It was the primary basis of all forestry policies and operations until May 19, 1975, when Presidential Decree (PD) No. 705 known as the Revised Forestry Code of the Philippines was issued, formally organizing the Bureau of Forest Development (BFD) as the main regulatory body in forest management and utilization. The basic orientation of this policy is industrial forestry with significant emphasis on the corporate approach to forest utilization and wood processing. This law also provided that areas 18 percent and above in slope are to be classified as forest lands that affected indigenous peoples and upland communities on their rights on lands and forests. On 10 June 1987, Executive Order (EO) No. 192 known as the Reorganization Act of the DENR created, among others, the FMB which integrated and absorbed the powers and functions of the BFD and the Wood Industry Development Authority, except those line functions and powers which were transferred to the regional field offices.

In the 1980s to 1990s, forest management shifted to people-oriented approaches promoting community-based forest management (CBFM) that made the term “paradigm shift” very popular. In July 1995, EO 263 was issued adopting CBFM as the national strategy to ensure the sustainable development of the country’s forestland resources. The CBFM program seeks to engage local people in forest management with the ultimate purpose of alleviating poverty in target upland areas. A landmark legislation was passed in 1997, Republic Act (RA) 8371 or the Indigenous Peoples Rights Act (IPRA), recognizing, protecting and promoting the rights of indigenous cultural communities/indigenous peoples and creating the National Commission on Indigenous Peoples (NCIP). This afforded reforms on land tenure and ownership on ancestral domains, providing titles to ancestral lands and ancestral domains in forestlands.

Forest management in the Philippines

The Department of Environment and Natural Resources is the primary government agency that is in charge of managing natural resources in the country. It has the mandate to assign forest areas to other entities for management and utilization purposes. Table IX.2 shows the different tenurial instruments issued by the government to qualified entities, the biggest chunk of which is the certificate of ancestral domains title (CADT) and other ancestral land tenures comprising around 4.1 million ha. The corporate sector holds around 1.5 million ha through timber license agreements (TLAs) and integrated forest management agreements (IFMAs). A substantial portion of forest areas was subsumed under National Integrated Protected Area System (NIPAS) areas that include national parks and other protected areas covering around 4 million ha. Considered under state tenure, extraction of resources in these areas is more restricted, which has profound impacts on the livelihood of communities living in or near protected areas.

Table IX.2. Forest tenurial instruments

Tenurial Instruments	Number	Area (in ha)
Community-Based Forest Management Agreements (CBFMA)	1,781	1,622,129
Timber License Agreement	15	691,019
Integrated Forest Management Agreement (IFMA)/Industrial Tree Plantation Lease Agreement (ITPLA)	153	770,719
Socialized Industrial Forest Management Agreements (SIFMA)	1,803	34,743
Private Forest Development Agreements	91	4,992
Forest Land Grazing Management Agreements (FLGMA)	395	111,005
Tree Farm Leases (TFL)	127	15,651
Agroforestry Farm Leases (AFL)	71	84,343
Certificate of Ancestral Domains Title (CADT), CALC/CALT/CADC		4,086,271
State Tenure (NIPAS Areas)*		4,000,000
TOTAL	4,436	11,420,872
Total Forest Areas		15,855,000
Open Access Areas		4,434,128

Philippine Forestry Statistics, 2006

Note: * Areas under State tenure estimated by Guiang, 2008.

Livelihood and poverty context in the forests

It has been observed that in areas where forests are still substantial and forest resources abound, poverty incidence tends to be higher. Family income in these areas usually falls below the poverty thresholds as forests can only provide subsistence livelihoods, especially in isolated areas. However, there are unaccounted incomes received by upland households for free like fuelwood, vegetables from their gardens, water from springs, land rentals and a host of other goods and services that constitute a large part of household consumption that are usually underestimated in their household income surveys

There are different livelihood activities in the forests that the people are engaged in. Many forest dwellers do kaingin (swidden) and plant agricultural crops in areas they occupy. They gather and utilize forest products for household consumption. There is not much issue about this as this is allowed especially for the indigenous peoples but, legally, the gathering of any forest product without authorization from the government is a punishable act (PD 705). Some also have ventured in illegal commercial forest products extraction for sale. The common products that are gathered and sold commercially whether legally or illegally include timber, rattan, bamboo, resins, honey, fuelwood, and charcoal. Many upland community members also process some raw materials into handicrafts, novelty and decorative items and semi-finished products to get higher value.

Deforestation and poverty

Deforestation is the process of the removal of natural forest vegetation and eventual conversion of originally forested areas into non-forest uses. One of the major drivers of deforestation is forest conversion to upland agriculture. Forests have been cut down to clear lands for growing agricultural crops. In 1996, FAO estimated that 60-70 percent of tropical forest conversion was due to permanent or short-fallow agriculture (Tenorio 1999 as cited by Bugayong and Peralta 2006). The study by Fernandez et al. on the status of cancelled and expired TLAs found that in 27 out of 32 cancelled or expired TLAs surveyed, these areas were destroyed in varying degrees 5 to 10 years after cancellation or expiration. Apparently, the displaced workers and adjacent community members moved in to the “open access” forest areas and occupied them for farming.

Logging is also a primary driver of deforestation in an indirect way. In Balangue’s study (1991) 15 percent of dipterocarp forests in the country was permanently lost due to peripheral logging activities, particularly, allocation of forest areas for road building, logging camps, settlements of workers and cultivation of some parts of the forests for the production of food for these workers and their dependents. Moreover, logging also contributed much to subsequent destruction of second growth forests as it provided access to forests and brought along plenty of people in their operations. When logging stopped, many of the workers and their relatives opened up and converted forest lands into agricultural and agroforestry farms.

Mining for mineral resources entails clearing of forests (mostly culled forests where soil is lateritic) and thus adds to the problems of deforestation. Coal mining, for example, entails stripping of the topsoil to recover the minerals beneath. This happened in the Bagacay mines in Samar where large tracts of forest areas have been left deforested until now, long after the mining operators left the area. This caused suffering to communities downstream as they lost some of their livelihood sources that are dependent on the river.

In some grazing practices, forests are cut down and burned to create land for grazing cattle. Once burning is repeatedly done, the sturdiest grass (*Imperata* sp) invades the area, which regressively becomes the climax vegetation.

The impact of deforestation is now felt adversely in many areas. Coupled with erratic rainfall patterns in some areas where in a few hours the volume of rainfall exceeds normal levels, mountain slips, landslides, flash floods, and massive soil erosion are now common occurrences in many upland areas. These calamities continue to occur resulting in untold miseries and sufferings to people, further aggravating the massive poverty in the countryside and perpetuating the never-ending cycle of poverty and environmental degradation.

Population in relation to forests

The Philippine uplands are characterized by a steadily expanding population coming from both the natural growth of the local population and in-migration from the lowlands. The upland population in the country has phenomenally increased from 5.8 million in 1950 to almost 17.8 million by 1990 (Serrano et al. 2001). With an estimated current upland population of 24 million, the average annual growth rate is over 3 percent per year. On the other hand, cultivated areas in the uplands accounted for less than 10 percent of the country's total area in 1960 (582,000 ha), compared to over 30 percent in 1987 (>3,090,000 ha). In the 1980s, close to 60 percent of the increase in upland farming occurred in logged-over areas with slopes between 18-30 percent, degraded grasslands, and shrub lands, which were unsustainable for cultivation (World Bank 1989 as cited by Serrano, et al. 2001).



Juanito Saday and his family lead a hard life, living off on the coconut and some vegetables they grow on the farm that they established on a logged over area.

ha per capita. A reported increase in forest cover in the Philippines in 2010 (FAO-GFRA 2010) did not improve the per capita forest in the country that slightly dipped to 0.08 due to a further increase in the population growth.

Upland populations comprise indigenous peoples and lowland migrants, with intermarriages among them over the years. These migrants have introduced more intensive cultivation and cropping systems in the upland areas that increased production. In the Philippines, indigenous peoples consist of some 100 distinct tribal groups, numbering around 14-17 million people (UNDP 2010). They invoke ancestral rights to the forestlands and coastal areas they have occupied or managed for generations under IPRA. Many have traditionally practiced long-rotation swidden agriculture, locally called kaingin, with fallowing.

Poverty situation

The poverty threshold, or poverty line, is the minimum level of income deemed necessary to achieve an adequate standard of living in a given locality. It is the level of income that a household must obtain annually so that it can adequately provide the basic needs of its members in terms of food, clothing, and basic services like health and education. Poverty is also multidimensional and is appreciated

As also noted earlier in this report, regions with high forest cover have low population densities and likewise, in areas where forests are still substantial, poverty incidence is higher. The provinces that have intact forests like Quirino, Palawan, Eastern Samar, Western Samar, and Agusan del Sur are less populated with only around 50 people per sq km. On the other hand, provinces with a high population density like those in Central Luzon, Southern Luzon, and Central Visayas regions have less or insignificant forest cover.

With respect to forest per capita in the ASEAN Region in 2005, the Philippines has the lowest ratio at 0.09 ha of forest per person (FAO-GFRA 2005) while Lao PDR has the highest ratio at 2.73 ha per person. The average for the ASEAN region is 0.36

ha per person. A reported increase in forest cover in the Philippines in 2010 (FAO-GFRA 2010) did not improve the per capita forest in the country that slightly dipped to 0.08 due to a further increase in the population growth.

geographically through the Human Development Index (HDI) which summarizes a composite index of life expectancy, adult literacy rate, combined primary, secondary, and tertiary gross enrolment ratio and GDP per capita, among others. The country improved its HDI rating from 0.735 in 1995 to 0.753 in 2002, or an increase of 2.4 percent (MTPDP 2004-2010). Among the top five provinces with high HDI in 2000 are Bulacan (0.76), Bataan (0.746), Cavite (0.735), Rizal (0.733), and Batanes (0.717) while Sulu (0.351), Tawi-tawi (0.396), Basilan (0.425), Ifugao (0.461), and Maguindanao (0.461) are the five provinces with the least HDI.

According to Virola (2009), a Filipino needed Philippine peso (PhP) 974 (US\$ 21) in 2009 to meet monthly food needs or PhP 1,403 (US\$ 32) per month to stay out of poverty. Thus, a family of five needed PhP 7,017 (US\$ 160) monthly or PhP 84,200 (US\$ 1,914) to stay out of the poverty line (exchange rate of US\$1 = PhP44). Around a fifth (20.9 percent) of the families in the Philippines lived below this poverty threshold level in 2009, translating to around 3.9 million families.

There is not much of a difference in the country's poverty incidence in 2003, 2006, and 2009 at 20 percent, 21.1 percent, and 20.9 percent, respectively. However, these recent estimates are lower than the 1991 statistics where the percentage poverty incidence among the families was at a high of 28.3 percent. Subsistence incidence also improved slightly, from 11.7 percent in 2006 to 10.8 percent in 2009, or one Filipino per 100 was lifted out of food poverty for the period (Virola 2011). Among the regions with high poverty incidence among families (with 30 percent and higher) in 2009 are as follows: Region V (36 percent), Region VII (30.2 percent), Region VIII (33.2 percent), Region IX (36.6 percent), Region X (32.8 percent), Caraga (39.8 percent), and ARMM (38.1 percent). Caraga and ARMM consistently posted the highest poverty incidence among families in 2006 and 2009.

Regions with still high forest areas have a low population density and high poverty incidence. Region IV-B (Mimaropa) for example has the highest per capita forest cover (PCFC) in the country at 0.48 per ha per person but its poverty incidence is also high at 26.7 percent (Table IX.3). Caraga region (in northeastern Mindanao) has the highest poverty incidence at 39.8 percent but it has the second highest PCFC at 0.23 percent. On the other hand, Region IV-A (Calabarzon) has the second lowest poverty incidence and lowest PCFC (0.02 percent) outside of NCR (National Capital Region). Another interesting region is Eastern Samar that has the fourth highest PCFC, but ranks fifth in poverty incidence.

The common denominators among areas with high population and low PCFC but consequently, low poverty incidences, are urbanization, industrialization, and more employment opportunities. Nevertheless, these regions depend much on the resources and production from rural areas, particularly agriculture, fisheries, and forestry. In regions with high poverty incidence, forests constitute a significant resource that can contribute to reducing poverty if they can be harnessed effectively. The prevailing conditions in these areas like economic isolation, low or no industrialization, low levels of education, poor integration with commercial markets, and producing primary goods with little value-added are factors that reinforce poverty.

Table IX.3. Regional summary of population, forests and poverty incidence

Region	Total land area (sq km)	2007 Population	Forest area 2003 (ha)	Population density (Population/sq km)	Forest per capita (ha)	Poverty incidence among families (%)
Philippines	308,993.59	88,574,614	7,159,280	287	0.08	20.9
NCR- National Capital Region (Metro Manila)	633.11	11,553,427	2,820	18,249	0.00	2.6
CAR- Cordillera Administrative Region	19,422.03	1,520,743	672,360	78	0.44	17.1
Region I (Ilocos Region)	13,012.06	4,545,906	189,800	349	0.04	17.8
Region II (Cagayan Valley)	28,228.83	3,051,487	1,149,860	108	0.38	14.5
Region III (Central Luzon)	22,014.63	9,720,982	589,500	442	0.06	12.0

Region IV-A (Calabarzon)	16,873.31	11,743,110	289,660	696	0.02	10.3
Region IV-B (Mimaropa)	29,620.87	2,559,791	1,193,830	86	0.47	27.6
Region V (Bicol)	18,155.82	5,109,798	156,490	281	0.03	36.0
Region VI (Western Visayas)	20,794.18	6,843,643	256,640	329	0.04	23.8
Region VII (Central Visayas)	15,885.97	6,398,628	74,840	403	0.01	30.2
Region VIII (Eastern Visayas)	23,251.10	3,912,936	519,860	168	0.13	33.2
Region IX (Zamboanga Peninsula)	17,046.64	3,230,094	182,190	189	0.06	36.6
Region X (Northern Mindanao)	20,496.02	3,952,437	337,490	193	0.09	32.8
Region XI (Davao Region)	20,357.42	4,156,653	421,030	204	0.10	25.6
Region XII (Soccsksargen)	20,713.09	3,829,081	349,250	185	0.09	28.1
Region XIII (Caraga)	21,478.35	2,293,480	523,310	107	0.23	39.8
ARMM- Autonomous Region in Muslim Mindanao	21,065.30	4,120,795	250,350	196	0.06	38.1

Sources: NSO 2010, NSCB 2010, NAMRIA 2005.

Poverty reduction and forestry in national policy

National poverty reduction strategy

Under the 2011-2016 Medium-term Philippine Development Plan (MTPDP) (NEDA 2011), the government aims to reduce poverty incidence in the Philippines by 10 percent annually until the president's term ends in 2016. The key targets are poverty reduction (from 33.1 percent in 1991 to 16.6 percent in 2015), and employment creation (one million jobs annually) and annual average labor force growth of 2.75 percent. This goal is accompanied by the government's aim to promote inclusive growth by increasing the gross domestic product (GDP) growth to around 7-8 percent every year, while increasing per capita income to US\$ 3,000 by 2016 and US\$ 5,000 in two decades. The National Economic Development Authority (NEDA) presented the summary of the Plan's 10 chapters focusing on the following five crosscutting key strategies: (a) boosting competitiveness to generate employment; (b) improving access to financing; (c) investing massively in physical infrastructure; (d) promoting transparent and responsive governance; and (e) developing human resources through improved social services.

In the past, the government implemented various poverty reduction programs. The Social Reform and Poverty Alleviation Act (RA 8425) was passed in 1997 primarily to reduce poverty by redistributing economic resources and creating institutions to implement the Social Reform Agenda. This law established the National Anti-Poverty Commission to serve as a coordinating and advisory body. Its responsibilities are to support and coordinate the SRA into the development plans at the national, regional, and local levels, to strengthen currently effective initiatives and avoid duplication of efforts by different agencies.

Under the previous MTPDP 2004-2010, the government implemented major policy and institutional reforms and key programs aimed at protecting and empowering the poor and the vulnerable groups. To empower the poor, it implemented a program called the Kapit-Bisig Laban sa Kahirapan. The objectives of this strategy that are related to poverty alleviation in the uplands are improving access to social

services and quality of human development and acceleration of ancestral domain reforms. Significant achievements were made in the area of ‘convergent’ and integrated delivery of social services. The sustained commitment of local government units (LGUs), cooperation and assistance of national government agencies and infusion of external assistance made the achievements more meaningful.

In 2008, the Arroyo administration started to implement the Conditional Cash Transfer (CCT) nationwide as part of the government’s poverty alleviation program, after piloting this in four provinces in 2007. This program is perceived as an effective tool for poverty alleviation as it was highly successful in Latin American countries, and is increasingly perceived as a magic bullet for poverty reduction. In 2009, the CCT was implemented in 277 municipalities: 36.5 percent in Luzon, 22.4 percent in Visayas, and 41.1 percent in Mindanao (Virola 2011). The CCT was also considered by the current Aquino administration as a key to poverty alleviation as it earmarked PhP 23 billion in 2011 while the CCT budget for 2012 was increased to PhP 39 billion (Business World Online 14 August 2011). In a joint report of the World Bank (WB) and Australian Agency for International Development, the CCT program of the government was estimated to raise the annual income of indigent families by 12.6 percent, thus reducing the poverty incidence by 6.2 percent (The Philippine Star 2011).

Forestry policies

Section 2 of the 1987 Philippine Constitution reiterates the State’s ownership of “all lands of the public domain and all other natural resources following the Regalian Doctrine.” The State, as the mandated owner, has full control and supervision over the exploitation of such resources and allows active participation of other entities through joint venture, co-production and production sharing.

Until now, PD 705 (with amendments) remains as the basis of the forest policy in the Philippines. The Code adopted the multiple use of forest lands and encouragement and rationalization of processing plants, as basic policies. The policy implementation strategy as propounded are based on: management of productive forests; reforestation; stabilization of upland communities; and protection of critical watersheds. The code does not carry the economic provisions espoused by the 1987 Constitution and is now deemed obsolete. Nevertheless, the policy on providing multiple uses of forest lands where agroforestry inside social forestry areas was allowed provided great opportunities for upland communities to stabilize on forest zones without the usual constant threat of eviction. Among the other major policies that can have positive or negative impacts on forests and poverty in the uplands are as follows:

RA 7586 – NIPAS Act

Effectively, the NIPAS Act limited exploitative activities in protected areas, most of which were previously forest lands. Under Section 20 of the Act, many traditional utilization activities like hunting, collection of products or mere possession of any plants or animals or products derived therefrom, without a permit from the Protected Area Management Board (PAMB), are prohibited. Under Section 13, however, ancestral lands and customary rights and interest arising from occupancy of indigenous peoples in protected areas are accorded due recognition. With respect to other migrant communities that depend on the resources within a protected area, a community-based program is also allowed for them to continue their possession and use of the land under the close supervision of the DENR through the protected area community-based resource management agreement (PCBRMA). One of the poverty alleviation contributions of the protected areas under the NIPAS Act is the opportunity of applying payment for environmental services that could provide sustainable sources of income to upland communities.

RA 7942 – Mining Act

Many mining areas are located within forest lands and therefore affect upland communities including indigenous peoples. Local communities have no direct income share from mining activities except for the royalty payments to indigenous peoples by the mining firms. Nevertheless, the government share in the Mineral Production Sharing Agreement (Sec. 80 of Mining Act) that includes the excise tax on

mineral products is supposed to be plowed back to social services. Under Section 229 of the Local Government Code (RA 7160), the LGU with jurisdiction over the resources receives a 40 percent share from gross revenues collected in the LGU jurisdiction that then can be directly shared with local people through social welfare and services in the LGU. There are, however, issues of equity with respect to indigenous peoples' share from the gross income of the mining companies and how benefits are shared among the members.

RA 7381 – IPRA

IPRA was a landmark legislation in 1997 that recognizes, protects and promotes the rights of indigenous cultural communities/indigenous peoples. Under Section 2.2, the State has the inherent duty to protect the rights of indigenous cultural communities /indigenous peoples to their ancestral domains to ensure their economic, social and cultural well being. IPRA recognizes the applicability of customary laws governing property rights or relations in determining the ownership and extent of ancestral domains. With this law, the indigenous peoples are assured of protection from the government with respect to managing their lands for their economic, environmental and cultural well-being.

RA 9729 – Climate Change Act (CCA) – 2009

The Climate Change Act is intended to mainstream climate change into government policy formulation and to establish the framework strategy and program on climate change. LGUs are expressly authorized to appropriate and use a portion from its internal revenue allotment (IRA) to implement local climate change adaptation plans. Participation of upland communities in the crafting and implementation of local climate change action plans and in any planning and implementation activities related to reduced emissions from deforestation and forest degradation (REDD plus) strategies is necessary. Based on the implementing orders of CCA (EO 881), the DENR acts as the operational implementor of REDD plus strategies. This is relevant to forest communities as the DENR will manage and utilize climate change funds obtained from the UN and other international organizations, which can be an opportunity for the department to operationalize poverty reduction strategies as espoused in the Revised Master Plan for Forestry Development (RMPFD) of 2003 and the MTPDP 2011-2016.

The community based forest management program (CBFM)

Of the different government programs targeting poverty alleviation in forest areas, CBFM has the most profound impact. In 1995, the CBFM strategy was adopted by the government through EO 263. The program promotes the active and productive partnership between the government and forest communities in developing, rehabilitating, and managing vast tracts of forest areas. It is anchored on the thesis that if the government seriously addressed the poverty problems in the upland communities, then these same communities will themselves protect and manage the forests. This is captured in the CBFM slogan, "People first, sustainable forestry will follow".

In 2004, EO 318 on "Promoting Sustainable Forest Management in the Philippines" was issued by President Arroyo. Embodied in this order is the holistic, sustainable, and integrated development of forestry resources and the adoption of CBFM as the primary strategy in all forest conservation and development and related activities, including joint ventures, production sharing and co-production.

Through CBFM, the government effectively shifted from corporate forest management to community forest management that allowed the holders to sustainably harvest timber from the forests. However, the series of national cancellations of resource use permits by three DENR Secretaries not only adversely affected the operation of and benefits from the enterprise, but also ran counter to the principles of SmartWood Certification initiated by the government (Pulhin and Ramirez 2004). As pointed out by a people's organization (PO) leader, "Each suspension was followed by a downgrade of the AAC (annual allowable cut) against the approved volume by the DENR, which affects our production output. This, in turn, limits our capacity to implement forest development targets and generate livelihood projects. In short, less volume means less benefit to the environment and the people."

CBFM is still recognized as a major program of the DENR. It is the approach being pushed for in the proposed Sustainable Forest Management (SFM) bills in both houses of Congress. It is also one of the major vehicles that would carry the implementation of the National Greening Program (NGP) through EO 26. NGP is also a poverty alleviation program in forestry as it is envisioned to promote employment in the uplands and as a means of addressing wood shortage in the future by providing the industry volumes of quality timber materials for its sustained operations.

Prior to NGP, President Aquino issued in February 2011 EO 23 declaring a “Moratorium on the Cutting and Harvesting of Timber in the Natural and Residual Forests and Creating the Anti-Illegal Logging Task Force” in response to the series of flooding that happened in the country in 2010. The DENR was prohibited from issuing logging contracts/agreements in all natural and residual forests, such as IFMA, SIFMA, CBFM agreements and other agreements/contracts with logging components in natural and residual forests. The DENR is likewise prohibited from issuing/renewing tree cutting permits in all natural and residual forests nationwide, except for clearing of road right-of-way by the Department of Public Works and Highways, site preparation for tree plantations, silvicultural treatment and similar activities. Nevertheless, the policy allows tree cutting associated with cultural practices pursuant to the IPRA subject to strict compliance with existing guidelines of the DENR.

EO 23 has profound effects in many forestry operations including existing CBFMAs. This has effectively put a stop to many community-based timber enterprises. Many jobs were lost because of this policy as a number of wood processing plants were ordered to close due to some stringent requirements for operations such as five-year assurance of wood supply and more stringent permitting requirements.

Other poverty reduction programs

Community livelihood assistance and special project (CLASP)

Among the pro-poor programs of the DENR, CLASP is intended for organizations engaged in environment-friendly business ventures. It began in November 2001, with DENR Special Order No. 2001-660 creating the Technical Working Committee charged to develop and implement the department’s contribution to the national program on poverty alleviation.

CLASP is the response of the DENR to the President’s call for poverty reduction and wealth creation in the Philippines. CLASP aimed to help alleviate poverty and improve the quality of life in resource-dependent communities in various areas in the Philippines through appropriate and environmentally sound technologies, information, and other resources that will lead to sustainable economic, social, and ecological benefits for these communities.

Many upland livelihood systems (such as bamboo propagation and plantation development, goat production under forest plantation, production of charcoal briquettes, and rattan seedling production) that are being practiced by communities are eligible to obtain support from this project. These livelihood projects started under CLASP continue to provide income to the beneficiaries. As to the actual economic impact of the program, a thorough evaluation is yet to be conducted. Based on a DENR program assessment report (2005), the sustainability of CLASP projects is assessed to be anchored on the PO’s capacity to operate the livelihood beyond the initial CLASP funding. Here, it is important for the organization to have a well-established structure, commitment and capacity for implementing and maintaining a livelihood enterprise. Not all CLASP projects were structured to ensure sustainability.

Nevertheless, there are some documented cases of CLASP success like the bamboo plantation and development program in the city of San Fernando. The project is remarkably gaining success based on the results of periodic evaluation and monitoring of the project (Cardona, personal communication, 2011). At present, the 20-hectare bamboo plantation is fully established and is expected to provide the bamboo raw materials needed by the POs. Another success story is exemplified by the Nagkhiusang Kristohanong Mag-Uuma sa Maputi-Multi-Purpose Cooperative (NAKRISMA-MPC) in San Isidro, Davao Oriental. It was supported through CLASP in managing natural stands of romblon (*Pandanus*

sp) and developing new plantations. The Department of Trade and Industry and the DENR assisted the PO members in the production, processing, and marketing of romblon and other products (e.g., bags, mats, nito plates, bayong, pouch bags, bag pack, food cover, fruit trays and wall decor). They were able to link the PO with a variety of market outlets such as local pasalubong (gift) centers, direct buyers, and trade fairs within the province.

Upland Development Program (UDP)

UDP was a reforestation and agroforestry program launched by the DENR in 2009 to create emergency employment and “green collar jobs” primarily to alleviate poverty in the uplands. Under the UDP, DENR intended to hire some 52,425 upland farmers “to plant forest and fruit tree seedlings, including high-value cash crops in 49,318 ha of upland areas and around 2,000 ha of mangrove areas” (GMA News, 2009 February 2). As the program was primarily intended to create immediate additional income and mitigate hunger within a very short time window for implementation and so many beneficiaries, it was bound to create confusion and impinge on the absorptive capacity of DENR field offices to move funds as fast as it could to comply with targets without sacrificing quality. With over 32,300 contracts awarded in the first year, the program created a monitoring nightmare. As it happened, the sustainability of development created by such kind of program is always short-lived. The program is now integrated in the current NGP of the DENR.

Past and current contribution of forestry to poverty alleviation

Traditional forestry/subsistence use of forests

Forests contribute to the livelihood of around 24 million people based on a 2003 study of the University of the Philippines-Population Institute (Garcia 2005). Accordingly, Central Visayas topped all other regions in the country with the highest number of upland occupants at three million people occupying an area of 535,919 ha of land. Western Visayas followed with 2.5 million spread over 613,529 ha. Southern Tagalog, Southern Mindanao, and the Cordillera Administrative Region tied at number three, followed by the regions of Caraga, Bicol, Cagayan Valley, Eastern Visayas, Central Luzon, Northern Mindanao, Autonomous Region in Muslim Mindanao, Western Mindanao, and Central Mindanao. Ilocos Region has the lowest number of upland occupants at 300,000 people occupying 473,097 ha of land.

Around 80 percent of upland people live below the poverty threshold (Dugan 2000). A great percentage of this population consists of indigenous peoples and/or beneficiaries of the CBFM program who undeniably depend on the forests for their livelihood. Most of the indigenous peoples live in provinces where there are still forests. These are areas with recognized ancestral domains. In 2009, 138 certificates of ancestral domain titles were already approved by the NCIP. Most of the approved CADTs are in the Cordillera region, mostly for Kankana-ey and Ibaloi tribes covering around 265,798 ha, the biggest CADT area so far. The next region with the most number of approved CADTs is CARAGA with 18, mostly for Manobo and Mamanwa tribes covering an area of 71,260 ha. On the other hand, there are 222 approved Certificates of Ancestral Land Titles (CALT) covering an area of around 11,843 ha (NCIP 2009).

It may also be noted that many ancestral land areas are under ongoing applications. As noted earlier, ancestral domains are areas with still intact forests but with high poverty incidence among families. However, this land tenure or “land asset” reform which is equivalent to private land ownership is envisioned to provide great opportunity for the indigenous peoples to develop economically due to the vast resources that they alone have the right to dispose.

Among the traditional livelihood practices among the indigenous peoples and other forest dwellers are farming, non-wood forest products (NWFPs) gathering, fuelwood collection, and charcoal making. These provide livelihood sources to many forest dwellers but also in areas where access to urban



In many parts of the country, collectors can find only smaller-sized rattan in the forests owing to the lack of regulation on rattan harvesting over the years.

centers is affordable. Illegal logging is also a subsistence livelihood activity to many upland people. A great part of the income from this activity goes to wealthy financiers. In the Cordillera region, wood carvings and other handicrafts from wood and NWFPs are common livelihood sources. However, sustainability of raw materials for these trades is becoming a problem as resource renewal cannot cope with the rate of their extraction.

Allocation of tenure over forest resources (community forestry, individual and family forestry)

CBFM is the main Philippine strategy for managing forest lands and resources. Under this program, communities are organized and provided tenure over portions of the forest lands on which they are dependent for their livelihood. However, the government is unable to provide adequate financial assistance to POs to develop their areas except when the area is part of a foreign-assisted project. Even in cases where the projects were supported by foreign funds, the POs usually become inactive when the support ceases. But despite tenure reforms in the country's uplands espoused by CBFM, analysis shows that the anticipated impact on economic empowerment of CBFM beneficiaries was not realized on the ground (Pulhin et al. 2008). This resulted from the combined effects of overly bureaucratic procedures and unstable policies, especially on activities that are supposedly providing economic empowerment like timber utilization. Under CBFMA, the DENR allows investors to partner with the POs in the development of their areas. However, seldom do such investments take place. The CBFM areas therefore remain undeveloped and contribute few financial benefits to the community.

CBFM is still the national strategy to develop forest land resources. According to the CBFM Strategic Plan (2008-2017), the gains of CBFM can be attributed to the following: government policies recognizing communities and individuals as partners in development; communities and POs willing and able to become CBFM forest lands managers; availability of appropriate technology (e.g., agroforestry); and effective channels for technology transfer (e.g., farmer-to-farmer training and cross site visits).

The CBFM projects in the Philippines were supported by several multilateral funding institutions and international banks such as the Japan Bank for International Cooperation (JBIC), the Asian Development Bank (ADB), the World Bank (WB), the International Tropical Timber Organization (ITTO), and other international NGOs. JBIC, for example, supported 24 big watershed CBFM projects and 12 mangrove development subprojects under the Forestry Sector Project II (FSP II, a US\$ 120 million Sectoral Loan package) between 1996-2003 while, under the same loan umbrella, ADB funded other CBFM sites through an equivalent package of US\$ 120 million.

While CBFM funds abounded during those times, only remnants of the POs supported are still active. Invariably, many CBFM POs became inactive a few years after termination of funding support. Currently, only few CBFM projects are able to get support from international funding, e.g., the GIZ (German Development Service)-supported CBFM sites in Southern Leyte, and those supported by DENR through the Global Environmental Facility (GEF) funding in Ligawasan Marsh and Bago Watershed. In recent years, there was no substantial increase in the operational budget for CBFM activities. From 2002 to 2005, the average annual national budget directly associated with forestry was only 0.22 percent of the Philippine budget (only 0.01 percent for CBFM). Within DENR, the average forestry budget for the same period was about 32.23 percent and the CBFM budget was only 1.31 percent (CBFM Strategic Plan 2008-2016).

In an ITTO-supported project in Nueva Vizcaya, Acosta (2000) noted that the experience shows that local people tended to maintain their efforts in community-based forestry projects when four necessary conditions were satisfied: (i) secure land tenure; (ii) capacity-building through training; (iii) ready access to capital for forestry enterprises; and (iv) good access to markets for their products. It is also critical that government support must be sustained. The continued presence of DENR personnel in CBFM project sites encourages the POs to strive more in actively continuing their support and interest in their activities. This happened in the case of the SAUG watershed subproject (Region 11) and Maasin Watershed Subprojects (Region 6), both of which were JBIC-funded projects. Continuing extension services and the provision of infrastructure and other welfare services are vital for communities to sustain their role as resource managers.

Table IX.4. Community-based forest management agreement (Area in hectare)

Region	No of CBFMAs issued	Tenured area	Beneficiaries	
			No of households	No. of people's organizations
Philippines	1,790	1,633,891	322,248	1,790
CAR	87	56,625	13,762	87
1	127	40,272	15,514	127
2	103	269,879	92,391	103
3	131	79,517	12,502	131
4-A	47	18,401	3,098	47
4-B	78	92,615	10,229	78
5	83	47,926	12,328	83
6	105	40,715	17,142	105
7	208	57,609	16,056	208
8	132	116,739	14,405	132
9	131	79,207	12,886	131
10	298	213,770	34,021	298
11	94	207,264	26,114	94
12	53	95,739	10,607	53
13	113	217,613	31,193	113

Source: Forest Management Bureau 2009.

Small-scale commercial forestry

Non-wood forest products (NWFPs)

Production of NWFPs has always been a major use of Philippine forests. Several NWFPs that have important commercial values abound in the forests, such as rattan, bamboo, resin and nipa shingles. These products play a major role in the survival of many upland communities. However, production of these products is declining, except for nipa shingles that has a stable production through time.

Forest-based communities, particularly indigenous peoples, are the primary collectors of NWFPs in the country. They are the formal managers in places where the right to manage the resources is granted (e.g., in CADTs, CBFMAs). DENR policy requires communities that apply for rights to harvest regulated NWFPs to conduct a NWFP resource inventory (at 5 percent sampling intensity) for Annual Allowable Cut calculation and issuance of resource use permits. The prescribed intensity of sampling entails costs that are unaffordable to forest communities, especially indigenous peoples, causing problems in their legal utilization of resources that are theirs in the first place. Further requirements include a reassessment (i.e., a re-inventory) every five years to monitor trends in NWFP resource abundance and population structure.

In a position paper submitted to DENR, the NTFP-Exchange Program stated that such monitoring, in theory, can generate data for rigorous hypothesis testing and can provide important scientific evidence. However, since the frequency of data collection is low, such exercises rarely provide any input to management (NTFP-EP 2010). Another problem with the resource inventory requirement is the limitations of inventory as a tool for monitoring the sustainability of many NWFP resources, especially those that are harvested non-destructively. For these resources, the more important issue is surely to determine the harvesting practices that will cause the least damage to the resource, and then ensuring that these practices are used and sustained. In September 2007, a policy forum on NWFP drew up different issues related to gathering, marketing, and sustaining NWFP resources, to wit: bureaucratic nature of getting permits; stringent and costly requirements; and irrelevant and outdated laws (e.g., DAO 04-1989, RA 7161), among others.

Bio-energy/Biofuels

The crisis in fossil oil fuel triggered many countries to think of alternative fuels that are renewable. Through Republic Act No. 9367 (Biofuels Act), forest lands were eyed as a source of biofuels. The DENR provided 375,000 ha of forest lands to PhilForest, a subsidiary of the Natural Resources Corporation of DENR, for the planting of jatropha for the production of biodiesel. Due to the unimpressive yield of earlier planted jatropha, interest in biofuel production from this plant waned or shifted to other crops. For over three years, the forest lands provided for this purpose were not fully utilized. Nevertheless, the forest lands are also being considered for the establishment of other biofuel producing plants like oil palm, cassava, and coconut.

Ecotourism

Ecotourism is now fast becoming an industry in the Philippines. Many proponents of ecotourism in forest lands capitalize on the beauty of forests to sell their services. Among the features/attractions of these ecotourism areas include forest trails, canopy walk, ziplines, environment learning centers, tree planting activities, and botanical theme parks. In Mount Kitanglad Natural Park, local indigenous peoples are hired as guides by local and foreign tourists who want to enjoy the natural beauty of the mountain. This provides an additional source of income to the villagers as well as inculcating respect for indigenous cultures. In Agusan Marsh, local people find business in catering to the needs of the tourists. In other words, ecotourism has a vast potential in providing local income through the many opportunities it offers to local communities.

Small-holder tree farms/private land tree plantations

Smallholder tree farming in upland areas are mostly under the tenure of Certificate of Stewardship Contracts (CSC) which were popularized in the 1980s. This was seen as an economic empowerment program where farmers were encouraged to engage in the tree farming business. With the advent of CBFM, many CSC holders opted to join POs, retaining their individual property rights over the original CSC area. On the other hand, tree farming in private lands is popular in Mindanao, particularly in the Agusan del Sur area. Falcata, gmelina, and rubber are the most popular tree crops planted. Tree farming provides plenty of livelihood opportunities for local people, from seedling production to planting, maintenance, harvesting, and marketing activities that entail hiring of local labor. Even the communities dependent on traditional forestry benefit from employment in these tree farms as part time labor during peak labor seasons of maintenance and harvesting.

Industrial forestry

The wood-based industry was once a pillar of the national economy contributing around 5 percent to the country's gross national product (GNP) in the 1970s through forest charges, export earnings, and generation of employment. Table IX.5 shows the country's the GNP and gross value added (GVA) in forestry as well as the share of forestry to the GNP at constant prices. The GVA and percentage share of forestry in the GNP has declined since the 1970s. The percentage share of forestry in GNP dropped from 2.11 percent in 1981-1985 to 0.83 percent in 1990, and further dropped to only 0.06 percent in 2001-2005 at current prices. This decreasing importance of forestry as an economic sector in the economy as reflected in the GVA share is somehow due to the continued strong growth in other economic sectors and the shrinking recorded production in the sector, especially in the logging sector. From a total round log production of around 11 million cu m in the mid-1970s, total production shrunk to 1.4 million cu m in 2009 (FMB 2010).

Table IX.5. Gross national product (GNP) and gross value added (GVA)

Year	GNP	GVA in forestry	% share to GNP
2006	6,570,310	4,342	0.07
2001-2005	4,768,244	2,820	0.06
1996-2000	2,842,264	3,412	0.13
1991-1995	1,566,769	5,278	0.36
1986-1990	802,559	10,790	1.41
1981-1985	419,318	8,862	2.11
1979-1980	241,282	5,931	2.45

in forestry, 1979-2006 (at 2006 constant prices, in million pesos)

Coordination Board 2007. ical (in million pesos)oss Value Added hectare)ated s Source: National Statistical Coordination Board 2007.

In corporate forestry, there was a steady decline in these types of tenure in terms of number and area as shown in Table IX.6. From 8.04 million ha covered in 1980, it went down to 1.02 million ha in 2009. The gradual decrease in the number of TLAs is the result of a provision in the 1987 Philippine Constitution that allowed only three modes of natural resources utilization, namely: joint venture; co-production; and production sharing with the government. The TLA is outside of these modes, hence, all expiring TLAs were not renewed and no new agreements have been issued since 1987. There are only four remaining TLAs in 2009 and at present, no TLA is operating in secondary growth forests because of EO 23 that effectively prohibits logging in second growth natural forests.

EO 23 also has profound implications on the employment situation in the uplands, as IFMA areas are also affected. In the case study discussed in succeeding sections, there is a clamor from forest-based dependent communities to lift or modify this EO so as not to deny these communities the sustainable benefits from the harvesting privilege in "production residual forests." It is assumed that with IFMA holders strictly following the selective harvesting system, sustainability of resources management and utilization can be ensured, hence, employment from all IFMA holders' forest operations, together with the dependent downstream industries, can be secured.

Tree plantations from IFMA and small holder tree farms are the main source of timber in the country. In 2009, total recorded harvest in the country was 801,520 cu m, of which 694,236 cu m (87 percent) came from forest plantations (FMB 2009). According to PWPA (2011), the private sector employs around 650,000 direct workers in the wood processing and furniture factories. The bulk of this employment is provided by industrial tree plantations.

The Socialized Integrated Forest Management Agreement (SIFMA) is a privilege granted to individuals for development and management of small forest areas of 10 ha up to 500 ha of forest lands into plantations. It provides for equitable access of qualified individuals to engage in forest production from their own private capital. But with the high costs of forest development, only a few moneyed individuals can avail of this SIFMA privilege. In 2009, there were about 1,813 SIFMA instruments issued covering an area of 36,079 ha (FMB 2010). The SIFMA program is worth revisiting in lieu of the national concern on poverty reduction.

Table IX.6. Timber license agreement (TLA), integrated forest management agreement/ industrial tree plantation lease agreement (IFMA/ITPLA), tree farm lease and agroforestry farm lease, 1980 – 2009 (000 ha)

Year	Philippines		TLA/ Wood Permits		IFMA/ ITPLA		Tree farm		Agroforestry farm	
	No	Area	No	Area	No	Area	No	Area	No	Area
2009	294	1,194	4	253	154	867	94	10	42	64
2005	418	1,644	18	825	178	713	142	17	80	89
2000	439	1,568	20	910	184	548	155	19	80	91
1995	501	2,253	41	1,600	248	538	128	18	84	97
1990	373	4,189	97	3,762	81	304	101	13	94	110
1985	476	7,001	165	6,594	81	291	129	17	101	99
1980	376	8,037	261	7,939	12	88	101	9	2	1

Source: FMB 2010.

Payments for environmental services, carbon payments

The recognition of both direct values (supplying timber and non-wood products, and recreation/ tourism opportunities) and indirect values (providing hydrological services, carbon sequestration and biodiversity) of forest ecosystems show the potential of PES and how communities can benefit from these services without extracting products from the forests. PES seeks to evolve and institutionalize a package of a compensation mechanism for the developers and protectors of forests (the sellers) that provide environmental services for the users (the buyers) of such environmental services. The PES markets that are in various stages of development so far can be categorized into the following:

- a. compliance market like carbon forestry, water quality, and biodiversity offsets, among others, whose drivers include emission caps, international protocols, trade agreements, and government regulations;
- b. voluntary markets like voluntary carbon forestry, voluntary watershed management payments, and voluntary biodiversity offsets, among others, whose drivers include corporate responsibility, private sector initiatives, and voluntary PES agreements between or among concerned watershed stakeholders; and
- c. government-mediated PES projects like those in China, Mexico, and Danube whose drivers include internationally-funded projects and government-initiated PES.

In a study of Bennagen et al. (2006) that explored the potential of implementing PES in the Peñablanca Protected Landscape, the results revealed some important strengths and weaknesses along several implementation aspects. The economics study revealed that there is demand for watershed protection services by the different water users within the protected area of Peñablanca, while the institutional

aspects show that while there are several legal bases that would support the establishment of PES in the Peñablanca Protected Landscape, the lack of proper institutional impetus prevents the initiative for taking off. Moreover, the property rights of the majority of upland dwellers in the area are not well defined, which may pose a problem. This is further complicated by the continuing influx of people into the upland areas and the absence of peoples' organizations. Likewise, there is potential for carbon sequestration projects in the two sites considering the presence of large degraded areas within that need rehabilitation.

Among the lessons on the poverty-and-environment nexus, the study showed that the poor upland dwellers residing within the Peñablanca Protected Landscape are much aware of the negative consequences of forest degradation caused by illegal logging and by their own unsustainable farming and forest use practices. Since the upland dwellers have no alternative but to exploit forest resources as farming is their main source of livelihood, exploring the non-traditional livelihood schemes like PES that can potentially compensate upland forest communities for the provision of watershed protection services, is worth initiating.

Balaguer (2008), in his study on "Equitable Payment for Watershed Services (EPWS)" in Mt. Isarog National Park, defined PES as a market-based mechanism where beneficiaries (buyers) of watershed services are willing to pay watershed service providers (sellers) for the restoration of degraded and sustainable management of watersheds to produce such services. Thus, evolving a formal market system agreed upon by both buyers and sellers to trade environmental services is a necessary condition for PES to take place. In such a study, equitability is defined as payment according to capacity and willingness to pay for such services based on quantity of watershed services consumed or demanded. In his conclusion, Balaguer surmised that the EPWS has high potential for generating income and investments for farmers in the uplands. He also projected that the total value of watershed services increases as more services are included. It was established that research is important in establishing the right watershed management interventions, watershed service values, and willingness of sellers to provide services and the buyers' willingness to pay for such services. The capacity of buyers to pay for the services and availability of capable intermediaries to assist in the successful implementation of EPWS on the ground are also important considerations.

Public sector forestry (forest officials, forest rangers)

The biggest public sector employer in forestry is the DENR. Of the estimated 23,000 personnel in the DENR, is estimated that around 6,500 personnel are employed in the forestry service. The Forest Management Bureau has around 200 personnel. The potential of these bureaucratic organizations is great, with respect to facilitation programs that are intended to alleviate poverty in the uplands. As mentioned earlier in preceding sections, the DENR has implemented various poverty alleviation programs, some of which have shown potential success like CLASP and some CBFM projects.

National case studies

To support the discussions in this paper with some actual experiences in the field, four case studies were selected in the CARAGA Region. This region was primarily selected due to the intricate relationships among forests, people, and poverty (detailed discussions on the cases are provided in Annex A). The following are the cases considered in this study:

- a. Private land with a subcase on rubber tree farming and traditional community forestry: the case of Talacogon, Agusan del Sur
- b. Corporate Forestry (also in Talacogon)
- c. Corporate Forestry (SUDECOR, Cantilan, Surigao del Sur)
- d. Agusan Marsh (for PES Initiative)

CARAGA region in the Philippines is a region blessed with fertile land and favorable climate for growing

trees. Its potential for tree farming is recognized by the government. It is a major source of timber for Mindanao and the rest of the country, recognizing the region as its “timber corridor.” In 2004, there were an estimated 46,000 ha of tree farms in private lands in the region involving 31,000 tree farmers and supplying 60 percent of the country’s plantation timber (Mitchao 2004). Nevertheless, CARAGA Region consistently posted the highest poverty incidence among families in 2006 and 2009 (Virola 2011). However, this was jokingly disputed by a Regional Technical Director of DENR in the region, saying in jest that many people in CARAGA are rich: the many businessmen in the region including the many tree farmers who are earning good income from this trade. Because of the importance of forestry activities in the region and the high poverty incidence of the families, three towns in CARAGA were chosen for these case studies.

Among the major insights gathered in case studies are as follows:

Private land tree plantations with subcase on rubber tree farming and traditional community forestry: Talacogon, Agusan del Sur

Talacogon is basically rural. Tree farming in private lands is a lucrative business among the local people with falcata (*Paraserianthes falcataria*) as the primary tree crop. Accordingly, tree farmers earn a gross income per ha that ranges from PhP 100,000 to PhP 500,000 per rotation of seven to eight



Antonio Canandang

A tree farmer’s net income from a falcata plantation is what remains of the proceeds from the sale of harvested logs, less all the costs incurred from the establishment of the plantation to the harvesting and marketing of the logs. Costs commonly incurred during harvesting and marketing include labor hired for tree felling, hauling of logs from the plantation to the roadside and loading onto a truck, truck rental for transporting logs to buyers, and “standard operating procedure” (SOP) payments at a series of checkpoints along the way.

years. Tree farming employs a lot of people. Even the communities dependent on traditional forestry benefit from employment in these tree farms as part-time labor services during the peak labor season of maintenance and harvesting. Among the problems encountered by tree farmers include unfair prices received for their products, poor roads, and strict requirements on wood processors that force them to sell to processors in the city (Butuan) and to incur higher transportation costs in the process.

In some private land tree farms, rubber is also planted as an alternative crop. This is sometimes mixed with falcata or planted beside falcata trees. Income from rubber plantations is seasonal and usually very small during rainy days. Nevertheless, rubber is viewed as a good crop because of the stable income the whole year round, compared with falcata, and has the potential of providing continuous employment opportunities to local people; at least two full time jobs per ha per year. Moreover, there is high demand for rubber. Traders from Davao City buy every available volume of rubber in the area. However, good rubber seedlings are hard to come by. Thus, the farmers appeal to the government to help them by ensuring that quality rubber seedlings are available and for access to affordable rubber production technologies.

For community members who are dependent on traditional forestry, the sources of livelihood are varied. Many are employed in the harvesting of planted trees. They also do farming and a variety of other forestry activities (e.g., rattan gathering, charcoal making, etc.) to supplement farm incomes. Most of the problems usually encountered relate to transportation, government policies, usual bad weather conditions and low prices received from the middlemen. With respect to policy, the community members lament the frequent changes in policy, especially on timber harvesting, that affect their operations. Due to the stringent requirements of EO 23, more than half of the wood processing plants in the area have been effectively shut down, leaving tree farmers without ready markets, and hence, also effectively reducing the employment they provide to the local people. This has put more pressure on the forests because of increased unsustainable extraction of NWFPs like rattan and fuelwood.

Corporate forestry (Talacogon)

The corporate entity visited is the Provident Tree Farms, Inc. (PTFI), an IFMA holder with tree plantations in the area and vicinity. The company provides employment to communities and helps the government in many aspects of forestry operations, like building schools. The presence of PTFI has positive impacts on the local economy and on the delivery of basic services like education, health, and cultural well-being of the communities and indigenous peoples. Continued employment of people in this company helps abate illegal logging and kaingin. However, the concern of local authorities is about how private initiatives on forest development can be sustained in the light of perceived unstable policies of the government with respect to timber harvesting.

Corporate forestry (SUDECOR, Cantilan, Surigao del Sur)

Surigao Development Corporation (SUDECOR) is one of the last remaining TLAs in the country. It is listed in the FAO directory of exemplary forest management cases in the Asia-Pacific region. It is located in Surigao del Sur harvesting wood within the 75,671 ha of forest concession covering seven municipalities of the province. It operates a veneer and plywood manufacturing plant in Cantilan, Surigao del Sur. SUDECOR began its operations in 1959 through a TLA. The company has managed its concession area effectively and sustainably. It has continuously employed over a thousand workers and contributed to the revenue generation efforts of national and local governments and development assistance to communities, local institutions, and organizations.

The livelihood of communities within and adjacent to the SUDECOR TLA is 40 percent forest-based and 60 percent agricultural farming\ business sector. The company's operations contribute positively to communities, primarily in terms of employment opportunities to indigenous peoples, and assistance of the company to the DENR in its overall forest protection activities. When the DENR conducts operations involving confiscation of illegal products like logs and semi-processed logs, the company usually provides a vehicle (diesel/oil/crude) and manpower to successfully complete the confiscation operations. The company is a big source of revenue for the municipality of Cantilan, contributing to the overall social welfare of the municipality under the 25 percent share of the barangay in the tax collected. It also provides and maintains the road network that the company and communities use.

Many other services like building and maintenance of school buildings, barangay offices, nurseries (DENR) and other government buildings (day care, health center, cultural gym, etc.), medical assistance including medicines for the community, student scholarships, and donations of houses to the indigenous peoples, are provided by the company, among others.

The company's logging operations are within the ancestral domain claim of the Manobo tribes. Peace and order conditions are unstable with the presence of insurgents in the area. There are conflicts with the Manobos in terms of their rights over the land and some members barricade some roads when the Datu's requested vehicle for hauling of their harvested logs is not granted. The company employees lament the effects of EO 23 restricting the movement of machines and equipment, suspending operations, displacing workers, and forcing children to stop schooling. The corporate community in SUDECOR strongly appeals for the lifting of the moratorium on logging (EO 23) or to amend it to accommodate a

reduction in the log supply contract to three years instead of five years, as the approval of their IFMA as the company's TLA is already expiring.

The Manobos have their issues about the company, some of which are delays in payment of their salaries, non-remittance to the Social Security System, bulldozing by the company of their burial grounds, harvesting by the company of falcata trees owned by the community within their kaingin/ ISF area, the non-fulfillment by the company of its promise to relocate and construction of their houses affected by TLA operations, along with many other unfulfilled promises. There are sentiments among the Manobos against the continued operation of SUDECOR in their ancestral domain area.

Agusan Marsh (PES Initiative)

According to the staff of the Protected Area and Wildlife Sanctuary of DENR-CARAGA, Agusan Marsh is a protected site that covers an area of 40,954 ha and was given Ramsar site status in 1999. It is a vast complex of freshwater marshes and watercourses with four big lakes and numerous small shallow lakes and ponds in the upper basin of the Agusan River and its tributaries. Some parts of the marsh are used for traditional fish ponds and rice paddies. The site acts as storage for rain water and reduces the immediate downstream flow of floodwater into Butuan City. The marsh is an important habitat for water birds such wild ducks, herons, and egrets. It is also the refuge of the rare Oriental Darter (*Anhinga melanogaster*) and Purple Swamp Hen (*Porphyrio porphyrio*) and the threatened Philippine Hawk Eagle, Spotted Imperial Pigeon and Rufous-lored Kingfisher, among others.

Miranda (2011, personal communication) points out that the major livelihood of households around the big lakes is fishing, where 80 percent is involved. Around 50 percent are engaged in farming, while around 15-20 percent are partially dependent on forest products. Among the common forest products used are bamboo, lanipao (*Terminalia* sp) and bangkal (*Rubiaceae* sp).



Pedro Walpole

Charcoal making is a short-term source of cash; however, unsustainable charcoal production will deplete their wood sources.

Some indigenous people and local communities in Agusan Marsh are engaged in ecotourism by providing accommodation, food and guided tours for groups of tourists, selling of souvenir items, and renting out of vests, binoculars, and fees for camping and birding. The POs in the area also have established a tourist center on one of the lakes. The ecotourism provides sustainable income and revenue for the communities. Incidentally, Agusan Marsh was established as a Wildlife Sanctuary in 1996 through Presidential Proclamation 913 and is now slowly transforming into a PES site, initially by virtue of PAMB resolution No. 1 in 1995 when they started charging user fees. They started charging entrance fees with the following rates: US\$ 2 each for foreigners; PhP 25 for local tourists; and PhP 10 for students. With these rates, the marsh was able to generate a meager average income of only PhP 2,500 per year.

In 2010, it was able to generate around PhP 6,000, a fairly good increase from the previous averages but still not enough

to capture the value of the resource as well as help in the upkeep of the resources. By virtue of a draft PAMB resolution, the fees were increased to the following: PhP 300 each for foreigners; PhP 100 for local tourists/Filipinos; and Ph 30 for Filipino students. Other user fees are now also being institutionalized as follows: filming fee at PhP 3000 per day for documentary films; PhP 5,000 per day for commercial films; and camping fees at PhP 50 per person.

It may be noted, however, that income derived by the local communities from providing services to tourists are not yet included in the recorded income of the marsh. There are still no estimates of the POs' income with respect to the services they provide to the visitors as well as on crafting strategies on how to improve the income generating activities of the POs. Local DENR authorities, however, see the potential of the marsh in generating income for poverty alleviation in the area, as well as serving as a source of sustainable income for the government. However, there are still no economic studies conducted in the area that provide a clear basis for estimating/charging the proper amount of fees that should be collected in the area (Miranda, personal communication, 2011). It was noted that the PAMB needs to conduct some economic valuation studies to determine the appropriate amount of fees to be collected and to craft mechanisms for sustainable funding of the management and protection activities of the marsh.

Outlook for forestry and poverty alleviation

In a study by FMB on Philippines Forestry Outlook Study (2009), the following are some of the key conclusions related to poverty:

- a. There is a need for Congress to pass the Sustainable Forest Management Act in order to institute stable forestry policies and improved governance in the sector. This Act is supposed to provide a stable platform of good governance that would require cooperation as well as emancipation of upland communities.
- b. More forest lands will be used in the growing of raw materials for biofuels. Other investments like this would certainly generate employment that will ease pressure on remaining forest resources
- c. The population growth rate will continue in the next decade and it will also continue to be one of the major reasons for the destruction of forests. This outlook is of course is not easy to accept for many pro-poor sectors as the presence of people in the uplands can be evolved to a more beneficial one than many thought otherwise.

In the same outlook, there will be an improvement in the forest cover, mainly from forest plantations. More forest lands will be devolved to LGUs and communities that will improve management and protection. Furniture and handicrafts will continue to be foreign exchange earners. NWFPs, especially herbal, body care products, and food supplements will increase in export value.

Under this study, however, the question remains about what forestry can still do in alleviating poverty that it has not provided in the past. Big industrial forestry is waning and will not likely contribute much to poverty alleviation. Collection of NWFPs by upland people and indigenous peoples only reinforces the subsistence economy of these people. The real winners under most setups of NWFP utilization are the financiers, processors, and traders. These are roles in the value chain that are beyond the grasp of upland and indigenous communities. PES and carbon markets seem to offer potential opportunities, but are still a long way off. Tree farming and high value forest plantations seem to offer the best prospects of generating real livelihoods for people from forestry (Brown, 2011, comments). It is important, however, for the government to address many constraints in this respect (e.g., policy, social, environmental, etc.).

Another outlook worth seriously considering is enterprise development in rural areas along the idea of rural industrialization. Rural industrialization is observed to be successful in other developing countries, as in the small to medium bamboo processing mills in Vietnam. India is known for creating viable

spheres of production for small industry with credit linked to self-employment programs and affordable technology development and distribution. Specialized credit institutions and marketing networks in the field of agriculture and private-land forestry are provided by the government. In the Republic of Korea, the rural industrialization policy is considered as an important income policy for small farmers and businessmen and an instrument to disperse economic activity and control concentration. The gradual and steady increase in rural income, in turn, has helped the country in providing markets for the development of large and complex industries. These lessons and other successful poverty eradication policies can be put to good use by the Philippine government in curbing poverty problems in the uplands as well as the lowlands.

It is important to consider how forests can help people and how people can help forests under conditions of long lasting stewardship. Both the capability to manage forests as well as the capability of forests to absorb human activities must be well-studied. There is always a limit on what the forests can provide. Any plan on forest management/development must consider the eventual saturation of its carrying capacity; hence, the need for some radical population management strategies that must be enshrined in the national forestry programs.

Conclusions

The magnitude of continuous and widespread forest destruction is now being felt adversely in many areas. Aggravated by an erratic rainfall pattern, landslides and flash floods are now common occurrences many upland areas. These calamities aggravate massive poverty of people in the uplands because of their inherent vulnerability to these calamities. It was already established that environmental degradation and poverty in the uplands are intricately related, both of which perpetuate each other in a vicious cycle. Widespread poverty and inadequate livelihood opportunities in the uplands/forest communities have continued to worsen for the last 20 years. These arise due to increasing numbers of people competing for limited and shrinking natural resources. More than 24 million Filipinos are living in upland communities, more than half of whom are fully dependent on the forest for their livelihood. As they pose problems for the forests, they also provide opportunities for solving these same problems.

It is observed that in areas where forests are still substantial and forest resources abound, poverty incidence is higher. Family income in these areas usually falls below the poverty thresholds as forests can only provide subsistence/backstop livelihoods, especially in isolated areas. Many families have lived there for generations, traditionally practicing long-rotation swidden agriculture called *kaingin*. But because of rapid upland population growth and the diminishing area available for cultivation, fallowing which is sustainable as practiced before, is rarely being observed now. Recent migrants have introduced more intensive cultivation and cropping systems that significantly improved production over the short term. However, natural population growth and additional in-migration among the migrants have exerted so much pressure on the forest resources, rendering them unsustainable.

Aside from farming, extraction of forest products in the forests substantially contributes to the subsistence of many people. However, the points of view of people dependent on the forests are poles apart from those who want the forests preserved in view of environmental protection. The seeming indecisiveness of the government in providing a conducive and stable policy environment supportive of sustainable forest management (that is logically pro-poor) continuously provides impetus for unrest and forces the people to pursue more destructive activities in the forests.

Poverty reduction is always a key concern of every government in the country. There is some headway on this respect as the country continued to experience decrease in poverty incidence among families, from 28.3 percent in 1991 to 20.9 percent in 2009. However, this improvement in the poverty situation was not felt in the uplands. Still, the regions with high forest cover with high upland populations are still the poorest regions as shown by data on poverty incidence among families. Under the 2011-2016 MTPDP, the government aims to reduce poverty incidence in the Philippines by 10 percent annually until the President's term ends in 2016.

In a holistic perspective, poverty in the uplands is intricately connected with poverty in the lowlands. Its reduction in both requires an integrative solution. One of the conditions that can provide a solution to poverty is rural industrialization that will provide equitable rural growth. However, there are many obstacles to rural growth that are prevalent in many upland areas that must be hurdled. There are institutional, behavioral, and structural weaknesses relating to the existing entrepreneurial environment in the Philippines that contributes to poverty as follows:

- Weak policies and programs related to securing integrity and continuing productivity of natural resources;
- Leakage/wastage of resources, due to poor managerial skills;
- Lack of information on viable products, markets and low cost technologies;
- Lack of confidence among the rural entrepreneurs and perceived inferiority of goods and services produced in rural areas (e.g., furniture and handicrafts);
- Rural and upland areas not very well connected by road networks and dependent on middlemen; and
- Lack of unity and support for each other.

Many government projects that provide financial assistance and dole-outs to the poor sectors of society have invariably failed. Charity approaches to poverty alleviation that are not sustainably converted into viable self-employment and small business enterprises through small investments, skills and entrepreneurship, are bound to fail, as countless experiences show.

Recommendations to improve the contribution of forestry to poverty alleviation

The study attempted to cover as many areas of poverty as possible and recommends some key measures to improve the contribution of forestry to poverty alleviation in the country as follows below:

1. Adopt policies that economically empower upland communities

The Revised Master Plan for Forestry Development (2003) reported that the forestry sector's potential to alleviate poverty is bright and requires the setting of the right policy environment for the sector to move forward to sustainability and economic development. Once and for all, stable forestry policies are needed to propel investments in the sector, both big and small, and to avoid unnecessarily disrupting forest production and raw materials processing and marketing operations. The government must give the necessary support to utilization activities, especially those that promote value-adding, subject to careful assessment of their sustainability, instead of sweeping prohibitions on the pretext of protecting the people from catastrophes.

2. Rural industrialization in forestry

Recognizing that small rural entrepreneurs are part of the significant backbone of the local economy, enterprise development towards rural industrialization in rural areas must be supported. A vibrant local economy lifts up many families out of poverty. In industrializing the rural economy, the government must provide conducive space in terms of policy and institutional support for development and growth of small entrepreneurs in rural areas. This is a strategic move towards alleviating poverty so that instead of many family members looking for jobs, they can be the ones providing it. Assistance to forest development entrepreneurs in adopting new technologies, and securing and mobilizing capital for continuing or starting viable enterprises in the sector is a good start for industrializing rural forestry. In support of this, the government must help develop and provide affordable technologies designed to improve quality and reduction of costs by small entrepreneurs. Careful analysis of all potential markets for products and services must be done to evaluate their absorptive capacity from rural industries to avoid redundancy in products and services.

3. Ensure sustainability of raw material sources that are vital to rural enterprises

Securing raw material sources of forestry enterprises is not only the job of these entrepreneurs, but also a major government concern. Hence, forest development must focus on conserving the current raw material bases as well establishing new plantations for raw material sustainability.

4. Promote other income sources that are not necessarily extractive

Other sustainable forest activities that provide income and are not necessarily extractive must also be equally enhanced and supported. Ecotourism potentials that would include recreation, bird-watching, etc. and PES like water and biodiversity, must also be explored following a careful examination of the potentials of a forest area and forest communities in the context of participative development planning and watershed approach.

5. Population management and education

The problems of population and education go hand in hand. There is a need to institute an effective population management program, not only in the uplands, but for other sectors as well in tandem with improving access of the poor to education. The continued high incidence of poverty in the uplands is a result of a growing number of people sharing an almost fixed or even declining amount of resources and products. When a family is poor, the basic right of the children to proper education is always compromised.

6. Provision of basic services as a stop gap measure

It is the inherent duty of the government to provide basic services, especially to those who cannot afford them. However, this must only be a stop gap measure as this may become a perverse policy and may actually reinforce poverty in the long term.

As an overall strategy, the rural poverty alleviation policy in the Philippines should include the following elements:

- a continuing strong focus on sustainable economic growth in rural areas driven by openness and competitiveness, and accompanied by peace and order stability;
- improvement of access by the upland poor to the means of production by focusing on upland tenure reform that would encourage responsible collective management of resources;
- ensuring that essential investments are made in rural infrastructure and forest development that are necessary in bringing about increased productivity and, consequently, incomes;
- increased investment in human capital through the improvement of the quantity and quality of primary education in rural areas and the uplands and strengthening of primary health services; and
- presence of supportive and benefitting institutions that are sincere in sustaining development in the uplands (e.g., financial institutions, banks, private business, etc.).

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X

Assessment of the contribution of forestry to poverty alleviation in Thailand

Orapan Nabangchang*

Introduction

Thailand's forestry sector: an overview

Throughout the 1970s, forest cover in Thailand declined as agricultural land expanded. Between 1984 and 1993, the increase in agricultural acreage and the reduction of forest coverage was alarming. By the mid-1980s, associations were gradually made between the declining forest cover and environmental consequences, such as higher frequency of flash flooding, long periods of droughts, dried-up streams, and disappearing forest products that once constituted a significant source of non-marketable food supplies. The trade-offs from the continued expansion of extensive cultivation were becoming more apparent, which expedited policy responses and launching of measures to protect the forest resources, compromising the needs of marginal farmers for land. Deforestation continued, however. Between 1993 and 1995, approximately 192,000 ha¹ of forest area was converted to agricultural land. This highlighted the ineffectiveness of control mechanisms and the urgency to find workable means for control and monitoring of resources.²

Towards the end of the 1990s, not only was there concern over less than satisfactory measures to protect the remaining 25 percent of the total area of Thailand that still remained under forest cover, but there was also concern over the unsuitable agricultural practices resulting in land degradation. The supply of easily cultivable land was pushed to the limit and the potential threat to the environment conditioned adjustments in the institutional framework, which became no longer supportive of further conversion of forest areas for alternative land use.

Into the new millennium, there was a reversal of trends. According to the 2000 figures in Table X.1, forest area increased from 12,972,200 ha (25 percent of the country's land area) in 1998 to 17,011,078 ha (33 percent) in 2000. The increase of 8 percent in two years could have been due to the adjustments in map scales or, from a more positive interpretation, could be the result of efforts of preceding years to reforest. The latest figure available for 2006 indicated that the percentage of forest coverage was approximately 30 percent or 15,865,259 ha. Most of the remaining forests were concentrated in the Northern Region. Up until 1996, mangrove forests were also rapidly declining and one major cause was the expansion of shrimp farms along the coastline of the Gulf of Thailand as well as the Andaman Sea. Statistics nevertheless showed some significant reversal of this trend from 2000 onwards and, in 2008, Thailand's mangrove forests were estimated to be around 255,000 ha.

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¹ Rai is a local unit of area measurement where 1 hectare is equal to 6.25 rai.

² Agricultural Statistics of Thailand, Crop Year 1996/97, Office of Agricultural Economics, Ministry of Agriculture and Cooperatives.

Table X.1. Forest area by region, 1961-2006 (in million ha)

Year	North		North-East		East		Central		South		Whole Kingdom	
	(ha)	%	(ha)	%	(ha)	%	(ha)	%	(ha)	%	(ha)	%
1961	11.6	68.5	7.1	42.0	2.1	58.0	3.6	52.6	3.0	41.9	27.4	53.3
1973	11.3	67.0	5.1	30.0	1.5	41.2	2.4	35.6	1.8	26.1	22.2	43.2
1976	10.2	60.3	4.1	24.6	1.3	34.6	2.2	32.4	2.0	28.5	19.8	38.7
1978	9.5	56.0	3.1	18.5	1.1	30.2	2.0	30.3	1.8	24.9	17.5	34.2
1982	8.8	51.7	2.6	15.3	0.8	21.9	1.9	27.5	1.6	23.3	15.7	30.5
1985	8.4	49.6	2.6	15.2	0.8	21.9	1.8	26.2	1.5	21.9	15.1	39.4
1988	8.9	47.4	2.4	14.0	1.7	25.6	1.7	25.6	1.5	20.7	14.4	28.0
1989	8.0	47.3	2.4	14.0	1.7	25.6	1.7	25.6	1.5	20.7	14.3	28.0
1991	7.7	45.5	2.2	12.9	1.7	24.7	1.7	24.7	1.3	19.0	13.7	26.6
1993	7.5	44.4	2.1	12.7	1.6	24.3	1.6	24.3	1.3	18.1	13.4	26.0
1995	7.4	43.6	2.1	12.6	1.6	24.2	1.6	24.2	1.2	17.6	13.1	25.6
1998	7.3	43.1	2.1	12.4	1.6	23.8	1.6	23.8	1.2	17.2	13.0	25.3
2000	9.6	56.8	2.7	15.7	0.8	23.1	2.1	31.8	1.7	24.6	17.0	33.2
2004	9.2	54.3	2.8	16.6	0.8	22.6	2.1	31.5	1.8	25.4	1.7	32.7
2005	8.9	47.3	2.5	15.0	0.8	21.7	2.1	30.7	1.8	25.0	16.1	31.4
2006	8.8	52.1	2.5	14.5	0.8	21.6	2.1	30.5	1.7	24.5	15.9	30.9

Source: FAO 2009.

Forest areas in Thailand are classified into many categories. One category is natural forest reserves. In 2007, around 43 percent of national forest reserves were located in the Northern Region. Approximately 24 percent and 20 percent of the national forest reserves are located in the Northeast and Central Region, respectively. The remaining, 12 percent of the forest reserve areas are located in the Southern Region. Apart from national forest reserves, the remaining forest areas are classified into different types of protected areas. In 2006, protected areas covered approximately 9,426,460 ha (18.4 percent of Thailand's land area), 67 percent of which comprise national parks (5,278,220 ha) and wildlife sanctuaries (3,574,880 ha). The rest are forest parks, no-hunting areas, botanical gardens and arboretum.

What must be said is that there are different layers of classification. In 1992, forest areas were reclassified into three zones, namely Zone C for protection covering an area of 14.1 million ha.; Zone E for economic uses (8.3 million ha); and Zone A for agricultural production (1.2 million ha). Thus, some parts within the national parks, which by definition are forest ecosystems of ecological importance, can also have the elevated protected status if they are located in Zone C. By definition, Zone E is part of the National Forest Reserve earmarked for production of timber and timber forest products. It could cover areas under community forests, or forestry projects such as the Forest Village Projects, degraded forest areas with potential for reforestation, areas where mining and quarrying concessions are granted, and areas that are suitable for agricultural production.

In addition, there are also the five watershed classifications. It should be noted that watershed classifications were made for the purpose of protection, preservation, and restoration of the watersheds. There are of course overlaps. For example, WSC 1A, by its ecological importance, will be located in forest type Zone C. According to the report of the *Ad Hoc Committee to Solve Land Problems and to Expedite the Issuance of Land Rights (Parliament)* in 2009, 797,848 people were occupying nearly 1.92 million ha of public land under various "protected" status categories. About 23 percent of the people settled in some 0.36 million ha of protected areas, while 56 percent are living in national forest reserves.

Social and economic development and changes in poverty situation

It was not until the 5th National Economic and Social Development Plan (1982-1986) that poverty alleviation was explicitly stated as a national policy. Under the broader frame of rural development, poverty alleviation was seen as matter of providing food, water, sanitation, and utility services. At

that time, providing local employment opportunities was seen as a key to lifting poor people out of poverty, hence a range of occupational trainings was offered and physical infrastructure investment projects was provided. An important dimension was added in the 6th National Plan Period (1987-1991) with the concept of “decentralization”. This was thought to be the way to ensure that the development process accords with the local needs. To ensure that people had access to basic needs, a national rural development survey (NRDS) was administered. Despite criticisms, this village level data proved to be a valuable tool in classifying villages into different levels of development and allowing allocation of resources to be more area and target group specific. Into the 7th National Plan, a Decentralization Committee was appointed represented by eight ministries with a specific mandate to address problems of poverty alleviation. The principal goals were the provision of basic needs and improved income distribution through providing access to land, credit, and other basic services.

With the philosophy of the 8th Plan being “people-centered”, measures in this period were oriented towards building and strengthening the capacity of the 17 human resources in terms of educational provision, encouraging local-collective organizations, and providing financial assistance through the setting up of “funds” for local development. In the 9th Plan, a target was set that the ratio of those living under the poverty line should not exceed 12 percent by 2006. This was to be partly achieved by providing assistance in occupational promotion and income generation. The 9th Plan also emphasized the need to strengthen local communities and its organizations and saw this as instrumental to meaningful participation and cooperation with public agencies and other stakeholders. The target for the 10th Plan for poverty eradication was to reduce the number of people living below poverty line to not more than 4 percent of the total population. To achieve this, all local communities were encouraged to formulate their own community plans, which could be used as the basis for determining resource allocation from the local government unit upwards. The concept of a Self-Sufficient Economy was still embraced as the insurance against risks from external economies.

The commitment of policy-makers over the decades resulted in remarkable achievements in poverty reduction. The proportion of the population living under the poverty line dropped from 33.69 percent in 1990 to only 14.75 percent in 1996 (Table X.2). During Thailand’s major financial crisis in 1997, however, the percentage of people living under the poverty line rose to 17.46 percent in 1998 and to 20.98 percent in 2000. As the economy started to recover, poverty reduction performance improved. By 2002, the proportion was reduced to 14.93 percent and since that year, the proportion of the poor steadily decreased. In 2008, only 8.95 percent of the population was living under the poverty line.

Table X.2. Profile of poverty in Thailand

	Proportion of population below poverty line (%)*	Poverty incidence in the Northeast (%)*	Poverty gap ratio*	Poverty severity*	Share of poorest quintile in individual household expenditure (%)**
1990	33.69	46.09	8.05	2.82	6
1992	28.43	41.14	6.62	2.23	5.75
1994	18.98	28.07	3.92	1.22	6.05
1996	14.75	24.54	2.85	0.85	6.1
1998	17.46	30.67	3.35	0.99	6.49
2000	20.98	35.34	4.24	1.3	6.15
2002	14.93	23.06	2.75	0.81	6.32
2004	11.16	18.58	2.01	0.56	6.17
2006	9.55	16.77	1.81	0.53	6.15
2007	8.48	13.05	1.45	0.41	
2008	8.95	14.62	1.49	0.41	6.64

Source: MDG 2009.

Note: *NESDB calculated based on expenditure; **NSO.

With the country's remarkable gains in reducing poverty, Thailand was able to meet the target set in the 9th Economic Development Plan (2002-2006) to reduce a percentage of the population under the poverty line to 12 percent before the end of the 10th Plan (2007-2011). The country is also an early achiever of Millennium Development Goal (MDG) 1, halving the percentage of people living under the poverty line between 1990 and 2015 (NESDB 2010). However, it failed to achieve the highly ambitious target of reducing poverty to less than 4 percent by 2009.

The success in bringing down the proportion of the poor relative to the total population was not paralleled by the improvement in income distribution. In 2009, the income share of the poorest quintile was still less than 5 percent, whereas the share of the highest income group was still as high as 54.39 percent. For 2009, the Gini coefficient for income was 0.48. The Gini coefficient estimated from SES data on consumption expenditures for 2009 was 0.4072 and deteriorated only slightly to 0.4094 in 2010.³

Using the Poverty Headcount Ratio, Jitsuchon and Richer revealed that the speed at which poverty was eradicated differed by region, illustrating changes in the poverty headcount by region and province in 1988, 1994, and 2002. While there were significant changes both in the number of people living below the poverty line and distribution of poverty in the north, central and southern regions, the situation for the northeast, though improved, remained quite dire relative to other regions. In 2002, it was estimated that around 3.8 million, or just over 60 percent of the population classified as "poor", lived in the northeastern region. The poorest provinces, namely Buriram, Srisaket and Surin, were also the provinces with the largest number of poor people. The north is the region with the second largest share of the poor. The poorest provinces in the northern region in 2002 were Mae Hong Son, Tak, and Uthai Thani.

A spatial information overlay of areas where there is concentration of poverty, with maps showing the location of protected areas, particularly national parks, Forest Zone C and Watershed Class 1 A and 1 B, would be interesting guidelines on the priorities in addressing poverty alleviation and forest conservation concerns.

Poverty and forestry in national policy

Forestry policies within the national economic and social development plans

On forestry resources, the 5th Plan was the first that ever went beyond statements of principles to stating concrete measures. The Plan recommended that watershed classifications be undertaken (1982), that a National Forest Committee be appointed, and land classification be undertaken to clearly delineate degraded from pristine forest area. Targets were also set that 300,000 ha of economic forests were to be planted each year. To step up control, the Plan also recommended an increase in the number of staff and equipment. Significant developments emerged during the 6th Plan Period, especially the formal recognition of the role of local people and their organization in the management of forest resources. Laws, rules, and regulations seen to impede efficient management of forest resources were to be reviewed.

Apart from reiterating the need for forest reclassification, the Plan also supported the idea of private sector involvement in areas such as development of commercial forestry, planting fast-growing trees, and community forestry. The principle of people's participation in natural resources management was reiterated in the 7th Plan. An additional element stated was the potential to reduce conflicts over natural resources use by having clearly defined land-use plans. The plan also advocated that potential uses of financial and fiscal mechanisms be explored. An important policy statement was that the process for issuing the Community Forestry Bill should be expedited to open up legal channels for people and their organization's involvement for the management of forest resources. All these principles were carried over into the 8th Plan, but with specifications over the need for adjustment both of roles and attitude

³ Thailand Development Research Institute. Calculated from SES Data tapes.

of public agencies so that they become supportive towards people's participation in the management of natural resources. Several issues were repeated such as land-use planning and zoning. A clause was included that efforts should be vested in expediting the enactment of the Community Forestry Bill, the principle being that communities already settled in protected areas should have the right to utilize resources as well as become involved in restoration of degraded resources.

The keywords in the 9th Plan were participation of stakeholders, effective enforcement of control measures through involvement of local communities, and developing and updating the natural resources database. Apart from reconfirming these key principles stated in the previous plans, an important addition was the proposal for the adoption of economic instruments to create incentives for resource users. The 10th Plan set a target that forest coverage should be at least 33 percent of the national area and that the area under protected areas should be at least 18 percent. Apart from the inclusion of terminologies such as ecosystems balance, and area-based approach which takes into consideration the carrying capacity of the ecosystem, all the principles were carried over, such as participation and reforestation.

Forestry policy, institutions and the legal framework

What must be said of the forestry policy was that efficiency was defined in terms of how the state could effectively protect forest area coverage. Given the limitations of enforcement measures oftentimes compounded by intended and unintended economic policies that had created incentives to convert natural forests for productive and commercial uses, the decline in forest coverage was inevitable. The pace at which land use changes took place was somewhat faster than the expansion of legal, institutional, and operational mechanisms of the State. These mechanisms not only lagged behind the process of land use change, but also tended to be more “*reactive*” or responding to changes and problems that occurred, rather than “*proactive*” in anticipating or even directing the changes.

Responding to social needs and economic incentives, local communities cleared and utilized forest lands, generally regarded as open access areas, prior to the state's declaration of these areas as forest reserves. On this basis, several local communities disputed the legitimacy of State claims where national forest reserves of various categories overlapped with areas already claimed by local communities or individuals. The period when natural forestlands were cleared thus becomes a crucial determinant differentiating *de facto* “*occupier*” and “*encroacher*”. Given the population increase and demand for land and the open-access situation, the problem of overlaps between *de facto* claims of the people and *de jure* claims of the State were likely to expand and intensify.

One key problem of Thailand's administration was the excessive divisions and segmentation of responsibilities. The multi-dimensions of land resources such as the spatial, physical, social-cum-cultural, economic and legal dimensions conjured up a multitude of laws and regulations and corresponding bureaucratic institutional structures. Among other things, this created a lack of unified direction, incoherence, and compartmentalization of activities. The number of agencies involved with land administration proliferated, peaking at one time at 21 agencies, each with separate mandates, authorized by different laws, and adopting different procedures (Nabangchang 2008). The key agencies and the pieces of legislation they operate under are shown in Table X.3. Only two, however, had direct mandates over the management of forest resources, namely the Royal Forestry Department (RFD) and the Department of National Parks, Wildlife and Plant Conservation (DNP). The DNP came into existence as a result of public sector reform and as a public agency under the Ministry of Natural Resources and Environment was to undertake conservation activities formerly managed by the RFD, whose responsibilities were to become more focused on the productive and utilization aspects of forestry resources.

Table X.3. Government agencies involved in land issues and related laws

Responsible Agencies	Laws
• Department of Lands	Land Code
• Department of Social Development and Welfare, Department of Cooperatives Promotion	Land for the Livelihood Act
• ALRO	Agricultural Land Reform Act 1975
• Department of Land Development	Land Development Act B.E. 2526
• Royal Irrigation Department	Agricultural Land Consolidation Act 1974
• Department of Town and Country Planning	Draft Bill on Urban Land Readjustment
• Department of Town and Country Planning	Town Planning Act 1975, Agricultural Land Reform Act 1975
• Agricultural Land Reform Office	Agricultural Land Reform Act 1975
• Royal Irrigation Department	Agricultural Land Consolidation Act 1974
• Department of Local Administration	Building Act 1979, Public Health Act 1992
• Department of Local Administration	
• Department of Pollution Control	Environmental Quality Promotion Act 1992
• Department of Town and Country Planning	Land Dredging and Landfill Act 2000
• Royal Forestry Department	National Forest Reserve Act 2507
• Agricultural Land Reform Office	Agricultural Land Reform Act 1975
• Department of Treasury	State Land Act 1975

What the brief overview of the forestry policy over the successive plan indicates is that up until the 6th Plan period, the dominant ideology was that protection and conservation were monopoly powers of the State and that the way to protect was to separate people from the forest. From the 6th Plan period onward, there was at least policy recognition that local communities may have a complementary role to play in the management of forest resources.

What should emerge from the information presented thus far is that there must be joint solutions to addressing problems of land management, deforestation, degradation, and poverty alleviation. Addressing any one issue in isolation simply does not make sense.

Major land policy landmarks have affected forest and poverty. In 1961, the policy at that time was to set targets to preserve a proportion of land as “*permanent forest*”. Within this permanent forest, some areas were to be declared as national forest reserves. However, both permanent forests and designated national forest reserves were encroached. On 22 June 1982, the Cabinet passed a Resolution that some 4.8 million ha known to be occupied and utilized in some manner were to be “*reclassified*” under the Land Reclassification Project, to be completed by 1992. All public agencies responsible for land allocation, apart from the Agricultural Land Reform Office (ALRO), were to complete all their tasks within five years.

Table X.4. Chronology of land-related poverty alleviation policies

Year	Measures
September 1, 1987	Approved Land Policy <ol style="list-style-type: none"> 1. Economic 2. Social 3. Conservation 4. Security 5. Hill tribes
May 4, 1993	State to degazette forest areas which have been occupied prior to the announcement as natural forest reserve. <ol style="list-style-type: none"> 1. If cleared and occupied prior to the official announcement, the DOL can issue land titles according to the stipulations of the Land Code 1954. 2. If cleared after, the only channel that claimants would obtain land rights was through the process of land reform

April 1997	<p>Cabinet approved the proposal of the Ministry of Agriculture and Cooperatives (MOAC) to classify land into categories. Should the areas classified as “permanent forests” be challenged, a Working Group was to be appointed to review the facts and submit findings to the Cabinet.</p> <p>For protected forests, according to cabinet decisions, a Working Group was to be appointed to verify the situations and submit findings to the Sub-Committee for Prevention and Control Illegal Exploitation of Forestry Resources which operate at the Provincial Level. Based on those findings, the Regional Forestry Office was to conduct cadastral survey, demarcate the boundaries and revise the maps which were then submitted to the MOAC and the Cabinet.</p> <p>For Protected Area (declared by the Law), the decision was</p> <ol style="list-style-type: none"> 1. to conduct a survey of the number of people inside the protected area and the areas occupied, 2. determine the appropriate area for settlement and for production, 3. cross examine the period of settlement, and 4. grant rights according to the National Forest Reserve Act.
June 30, 1998	<p>Cabinet approved the proposals of the National Forestry Policy Committee that:</p> <ol style="list-style-type: none"> 1. To expedite the verification national forest reserve areas to return to the RFD but this time recognizing that local communities should be involved in the management of forestry resources 2. For villagers who were found to be inside Protected Areas, the decision was up to the RFD to (i) proceed with declaring the area as Protected Area and (ii) if villagers were living inside PA prior to the official declaration, there were two options: <ol style="list-style-type: none"> a. If the site is not located in highly sensitive areas, then the settlers would be allowed to remain but b. within clearly defined boundaries and also under conditions that there was to be no further expansion of the land holdings. c. If the site is considered to be ecologically sensitive, RFD was to relocate the inhabitants to other suitable sites. <p>If the settlement occurred after the official declaration, then RFD was to resettle the villagers. If resettlement cannot be immediately undertaken, then temporary settlement was to be allowed but under strict control with legal measures undertaken if there was further encroachment. By this Cabinet Resolution, the RFD was also to follow the guidelines of the Land and Forestry Management Plan at the Area Level which consist of 4 components: forest protection, forest control, natural resources rehabilitation, and monitoring and evaluation and database.</p>

Land allocation to the landless and poor constitutes one of the seven priority areas under the Policy on Poverty Alleviation. Lack of ownership and access to land resources is generally cited as among the main causes of poverty. Concentration of land ownership represents one facet of the land market, which determines both efficiency and equity considerations in land resources utilization. The rationalization had been that if landlessness and near-landlessness were the roots of the poverty problem, the solution would be to redistribute and allocate land to those in need. Among the first steps by the government of that period was to make public announcements that those without land, those with insufficient land, and those who have encroached and occupied land, should register their needs for land.

In February 2001, the government announced that poverty alleviation was to be one of its three key policies and set a target to eradicate all poverty by 2008. The Ministry of Interior was responsible for registering the “poor”. A Center for Fighting Poverty was established. One of the programs within the Road Map 2004-2008 was Management of Natural Resources to Support the Economic Livelihood of the Poor. Rehabilitation of forestry resources was the first objective listed within this plan. Altogether, 8,258,275 people registered themselves as “poor”, equivalent to 13.15 percent of the total population in that year.

Table X.5. Registration of the poor requesting land allocation

	Number of applicants	%
Landless	2,208,051	41.82
• Farmers	956,611	
○ poor	456,143	
○ not poor	500,468	
• Not engaged in farming at the time of registration	1,071,440	
○ poor	364,496	
○ not poor	706,944	
Insufficient land	1,639,079	33.80
• farmers	1,026,083	
○ poor	556,751	
○ not poor	469,332	
• Not engaged in farming at the time of registration	612,996	
○ poor	228,275	
○ not poor	384,721	
Insufficient land	1,181,926	24.38

Source: Srisawalak and Nabangchang 2006.

On the supply side, land came from various government agencies in principle. The RFD at that time indicated that 0.93 million ha within the National Forest Reserves could be readily relocated. The RFD also reported that an additional 1.7 million rai classified as permanent forest may be available, but that this would require negotiations for redistributing land that the existing occupiers were using in excess of the ceiling permitted, as well as concluding a number of land disputes. The Department of National Parks also indicated that their own supply was going to be 1.3 million rai of national forest reserve plus 10.5 million rai from “permanent forests”. In the end, when all land agencies cleared their stock of land that could “in theory” be used for allocation, the total area came up to 28.89 million rai.

Table X.6. Potential stock of land supply for poverty alleviation objectives

	Unit: million rai
Reported supply that can be immediately reallocated	25.24
• National forest reserves	5.79
• State land (from Treasury Dept)	1
• ALRO	16.95
• Settlement Cooperatives	1.5
Supply subject to negotiation and resolved court cases	3.65
• Permanent forest	1.7
• ALRO	0.8
• Settlement Cooperatives	0.15
• Area used for public purposes	1

Source: Srisawalak and Nabangchang 2006.

Three things must be noted from the information above. One is that 67 percent of the land was from ALRO. It turned out that the major outcome of this policy was to endorse the rights of the existing claimants (Table X.7). The land supply that was not occupied that could be allocated to new beneficiaries was only 185,082 rai. If each household were to be allocated 10 rai, the total number of new beneficiaries would be less than 19,000 households, which is much less than the number of those who came to register for land, even if the target group was to be restricted to only the landless poor.

Table X.7. Results of land allocation under the poverty alleviation policy (in rai)

	Endorsement of rights	Unoccupied land available for reallocation
RFD	5,700,000	100,000
Treasury Department	174,547	56,469
ALRO	10,300,000	11,300

Dept. of Cooperatives Promotion	1,300,000	-
Dept. of Fisheries	235,050	2,313
Dept. of Social Welfare Development	150,000	15,000
Dept. of Lands	281,811	-
Total	18,131,408	185,082

Source: Srisawalak and Nabangchang 2006.

The second was that there was no accurate information on both the demand and supply sides of land to launch this policy. On the supply side, there were really no “public land” areas available for redistribution that were not already occupied or utilized. There was, however, the possibility of readjusting the current distribution among those who did own or had access to land through voluntary land sales or through the rental market. On the demand side, the adopted procedure for implementing the poverty eradication policy on the land issue was to make public announcements for “*the poor*” to come forward to register their needs for land. The number of applicants was far from being true reflections of demand and the lists would need to be heavily screened and verified.

Among the villagers themselves, there was not much optimism that they would indeed be given land. Moreover, many villagers recognize that land constraint was only part of the problem since, apart from the land supply constraint, there were also the questions of the water supply and start-up capital needed to make productive use of the land. The increasing reliance on-off farm income and non-farm income, which came out of the socio-economic surveys and was confirmed during the meeting discussions in the provinces, were both supportive of this assertion.

The third, and perhaps most directly related to the objective of this paper, is that policy makers were looking primarily for *legal* solutions to solving unclear land rights. They also regarded land as a factor of production. Until recently, policies were never about forestry *and* poverty alleviation, but the focus had been on lifting people out of poverty by de-gazetting forest land to reallocate as factors of production. This will become more evident in the next section.

Initiatives to solving land, forest and poverty related issues

National committee for solving the problem of encroachment of public land

The National Committee for Solving the Problem of Encroachment of Public Land was established in 1992 to verify claims that settlements and use of forest resources had been prior to the official declaration. Given the vast number of disputes over land claims, the National Committee for Solving the Problem of Encroachment of Public Land was set up to expedite the process of verification with the use of written records (if there were any) and with the help of aerial photographs. The existence of such a Committee provides a channel to settle disputed state claims over public land. This Committee still exists today and is still trying to cope with a backlog of old land disputes, as well as new cases where individuals and local communities challenge the legitimacy of State claim on land they believe to belong to them.

Reshaping boundaries of public areas

One of the reasons why the work of the National Committee for Solving the Problem of Encroachment of Public Land was increasing was the lack of clarity over the physical boundaries of forests. In 2005, the Cabinet at that time approved the proposal to “reshape” the boundaries of public land. Apart from the Ministry of Natural Resources and Environment, also involved in the Reshape project was the Department of Lands under the Ministry of Interior, and the Department of Land Development and ALRO under MOAC. The outcome of the “Reshape” efforts would have far-reaching implications for the poor. What

reshaping meant in practice was that the boundaries of public land would be jointly agreed upon between the responsible agencies such as the national forest reserves, national parks, wildlife sanctuaries, etc., and the local communities. This would, in principle, be a consultative process using the boundaries (demarcations) as specified by the various laws and the actual on-ground conditions. Reshaping efforts turned out to be a lengthy endeavor. However, it was more due to institutional factors that the original reshape project came to be replaced by the new “Project to Expedite Problems of Encroachment and Destruction of Forest Resources of the Country” which was mandated to undertake the same tasks.

Land use conflicts and the judiciary process

The other dimension of land dispute was access to the judiciary process. In “*Good Governance and Natural Resources Tenure in Southeast Asia*”, Nabangchang argued that beyond having the laws, good land governance depends on how the law is interpreted and enforced in a non-discriminatory manner and protection is provided to those with legally protected rights or claims. Oftentimes, laws are narrowly defined and executing agencies have the tendency to stick to the wordings used rather than the principle of the law. There are also many incidences where the law appears to be impartially enforced in favor of private businesses that are in an advantageous position to benefit from inside information and obtain the cooperation of responsible public agencies.

The effectiveness of the rule of law is also conditioned by how accessible the judiciary process is to the general public. To the general public, particularly to the poor and uneducated, the fragmentation of the administrative and legal systems described earlier, and daunting even to practitioners and academics, must seem almost impossible to comprehend. The laws and the channels presented in the preceding section do not work for the people who need them. Government officials are more ready to strictly enforce the law on the local people and more prepared to be lenient for private businesses. The legal and judicial systems are complex and habitually abused by the politically powerful.

National reform federation

Towards the end of Abhisit Vejjajiva’s government, a National Reform Federation (NRF) was established. The NRF, after consultation with various stakeholders, published the document “National Reform Federation: Main Document, B.E. 2011” recommending seven principles deemed necessary for national reform. Of the seven principles laid down by the NRF, two are related to forestry and land resources. One is “Reform for Equitable and Sustainable Allocation of Land Resources.” The other is “Return of Justice over Land and Natural Resources to the People.” The three principles advocated under the Reform for Equitable and Sustainable Allocation of Land Resources were:

- the rights of the people and the local community in determining the criteria for access to the forest, conservation, utilization and benefit-sharing of natural resources should be respected consistent with Section 66 of the 2007 Constitution;
- that land conflicts between the State and the people should be resolved. In detail, the NRF called for coordinated efforts in issuing Community Titles, improvement of the existing office of the Prime Minister Regulation 2010 and elevating this to the status of Community Title Royal Decree, and amendment of related laws such as the National Park Act 1961 to allow communities to settle and utilize land in specific cases, which are deemed necessary to ensure consistency with other laws that support the issuance of the Community Title; and
- the problem of land concentration should be addressed through a revision of the current system of land taxation, establishment of the Land Bank and amendment of the Agricultural Land Reform Act, B.E. 2524 to eliminate the existing disincentives for landowners to lease out land by specifying the minimum length of leasing.

To provide justice over land and natural resources to the people, the NRF made a general short-term recommendation for the reduction of penalties and for the DNP to reconsider its decision to sue villagers for causing climate change. Where no Court Ruling was reached, the NRF proposed that the villagers

be allowed to return to their land and work as volunteers to protect the natural resources in their localities until permanent solutions could be found. The request was also that no further measures should be pursued to expand Protected Areas, that no legal actions should be taken against villagers now living in Protected Areas, but at the same time all investments in basic physical infrastructures in the disputed locations should be delayed.⁴

Past and current contribution of forestry to poverty alleviation

Community forestry

One aspect of access and utilization of forest resources that has a direct bearing on settlements in enclaves and other types of common pool resources was over the Community Forestry Bill. After being debated for more than two decades, and after review by parliament, the Bill was submitted to the Constitutional Court to determine whether or not the contents of the Bill were inconsistent with the Constitution 2007. When the Constitutional Court ruled against the Bill, all the years of debate came to a halt (that is, unless the government would re-submit another draft). Several controversial issues were debated, including: (i) the treatment of settlement enclaves⁵ in protected areas; and (ii) the rights of communities to exclude the entry of other parties.

With regard to the first issue, it was argued that enclaves should be permitted as long as arrangements for joint protection of the protected areas and long-term implications can be worked out. It was also argued that, given the “*public goods*” nature of community forests, non-community members should, in principle, have access to community forests, but that the inputs of community members in looking after resources should justify their rights to collect some form of user charge from non-community members. In addition to the verification of location and boundaries of community forests, a general consensus had to be reached with respect to the rights and responsibilities of the so-called custodians and stakeholders of these community forests. Another controversial issue, which appeared to have divided public opinion into two extreme camps, was whether or not the concept of community forests should also apply in protected areas such as watersheds, forest reserves, national parks, and wildlife sanctuaries. Given the lack of consensus on the importance of protected areas and the present fragmented approach to resource management, the risks of not being able to control the boundaries of utilization were high. One could be forced to accept continued encroachment of forest resources for the wrong reasons and for the benefit of unintended target groups.

The community forests that are now registered, however, are located outside of Protected Areas. Based on information from the RFD (Community Forestry Division), Thailand now has 7,515 community forestry projects involving around 8,313 villages. Areas managed under community forests cover 489,462 ha. Half of the forest area managed as community forests is located in the northern region and around 33 percent is in the northern region of Thailand. More people are involved in community forests in the northeast, however. Nearly half of the community forestry projects and half of the villagers are in the northeastern region.

⁴ Court cases on land disputes are piling up. NRF records of the Department of Corrections show that there are 191 cases of land disputes that involve the poor. Somjit Kongthon (2010) from the Thailand Land Reform Network reported that 361 villagers are involved in 196 court cases (140 are civil court cases; and 56 are criminal cases). Perhaps among the most publicized is the lawsuit where the Department of National Park, Wildlife and Fauna filed a case against 34 villagers in Phetchabun, Chaiphaphum, and Trang with a charge of 150,000 Baht/rai for causing climate change from having cut rubber trees on their own land.

⁵ Usually hill tribe community settlements.

Community title

The solutions to problems related to forestry, land, and poverty need to go hand in hand. Under Abhisit Vejjajiva's government, the policy was to solve problems of landlessness among the poor by using the mechanism of the Land Bank and expediting the process of issuing land rights in the form of Community Title Deeds to poor farmers and communities in public land (in principle, these being degraded forest areas). In principle, the issuing of Community Title Deeds is seen as a possible solution to addressing the issue of land rights.

A Regulation of the Office of the Prime Minister was announced and published in the Royal Gazette, effective as of 12 June 2010. In this Regulation, "Community Title Deeds" by definition is a document that entitles local communities to jointly manage and utilize land within the "public domains" that would ensure security of settlement as well as usage of the land. Among the conditionalities for success would be clearly defined boundaries. Although local communities have the freedom to manage land and natural resources in ways that are compatible with the social-economic and environmental settings, these must be consistent with the broader land-use guidelines as well as some of the obligations that communities agreed to accept. Among these could be the agreement of communities to look after the natural resources and the environment. The local communities must also adhere to the conditions specified within the Regulation. Although the term Title Deed is used, members of local communities will only be granted the rights to use, and not the legal entitlements similar to that of private property rights. Thus, in principle, individual members are entitled to use land and resources only in so far as they are members of the community.

The term "local community" refers to a group of people who have come together to participate in the management of natural resources and have been in place not less than three years prior to 12 June 2010. To launch this policy, the government has established an Office of Community Title Deed based in the Office of the Prime Minister. Since the Regulation was announced, many local communities have applied for Community Title Deeds. The land where applications were made for Community Title Deeds ranges from public grazing land, land reform area, to even land where private property rights with land tenure certificates (such as NS-3) were issued. But of particular interest are the applications for Community Title Deeds and issued in land classified as National Forest Reserves, National Parks and Wildlife Sanctuaries. In practice, there is more than what is recorded since there are applications where it is unclear whether the particular land parcel is located in protected areas, state land, or other types of public land. Even so, the total area requested added up to 92,774 ha, involving around 100 villages and around 19,000 households.

While most of the applications are from the northern region, Table X.8 shows that 51 of the 65 applications from this region come from a single province, Nan. Also of interest are the applications from the northeastern region where two villages in Kalasin alone placed an application requesting the issuance of Community Title Deeds for a combined area of around 25,000 ha.

Table X.8: Applications for community title deeds in protected areas

Region	Province	Number of villages	Area		Population	
			Rai	Hectare	Household	Number of people
Northern	Changmai	5	11,937	1,910	1,625	6,068
	Phetchabun	3	5,161	826	463	1,896
	Changrai	1	3,337	534	54	260
	Maehongson	1	5,427	868	69	432
	Lampang	2	3,609	577	116	522
	Phayao	1	1,868	299	191	651
	Tak	1	23,314	3,730	87	457
	Nan	51	241,927	38,708	6,466	24,345
	Total	65	296,580	47,453	9,071	34,631

North-Eastern	Chaiyaphume	1	1,775	284	103	541
	Ubonratchathai	4	5,170	827	183	833
	Nakornratchasima	1	14,000			
	Burirum	2	24,246	3,879	1,170	2,022
	Khon Kaen	2	45,667	7,307	1,679	6,446
	Kalasin	2	156,850	25,096	1,635	15,175
Total		12	247,708	39,633	4,770	25,017
Southern	Trang	7	18,160	2,906	694	2,831
	Suratthani	3	10,011	1,602	845	2,070
	Krabi	1	10	2	34	133
	Phuket	13	338	54	1,443	4,642
	Ranong	5	2,233	357	177	828
Total		29	30,752	4,920	3,193	10,504
Central	Karnchanaburi	1	4,800	768	2,125	6,085

What must be said of these requests is that whether or not they are approved depends on pre-determined criteria, on proof of management, and on agreement of the local communities to the conditions imposed. Without a continuity of policy and commitment from the decision makers, they could just end up being numbers. Nonetheless, there is room for optimism.

One advantage this has over the stalemate in the Community Forestry Bill is that the process was already launched and is not caught up in two decades of debate. The other is that since local communities are positively responding to this policy (which is not surprising since there is much to be gained), any successive government is not likely to risk popularity by not continuing the policy. One area that should be of particular concern is an overly active pursuit of the policy to gain political popularity at the expense of appropriate and careful screening of applications, and will not augur well for the natural resources base of the country.

Commercial forestry and industrial forestry

Commercial forestry and industrial forestry are part of the economic sector with high potential for employment and income generation. Thailand is both an importer and exporter of wood and wood-based products. The increased consumption of paper is probably one of the main drivers of demand for the import of wood pulp and other types of fiber. In 2010, the value of imports of wood-based products was approximately 16,490 million Baht. In the same year, the import value of paper and paper scraps combined was approximately 52,740 million Baht. Other main import products were processed wood (10,636 million Baht) and various types of plywood. For imported logs, the main supplier both in terms of quantity and value was Myanmar. Imports of processed wood, on the other hand, were mainly from Lao PDR, followed by Malaysia.

On the export side, the top three most important export items in terms of value in 2010 were paper (42,235 million Baht), processed wood (18,145 million Baht) and wooden furniture (14,751 million Baht). By comparison, the value of log exports was much lower at only 16 million Baht. The value of teak wood exports alone was around 76 percent of the total exports. The remaining wood exports were Para wood (rubberwood or wood from the Para rubber tree, *Hevea brasiliensis*), eucalyptus, and pinewood. Most of the exports of processed wood were Para wood. The export value of Para wood in 2010 was 17,154.5 million Baht, equivalent to nearly 95 percent of the total value of exports of processed wood from Thailand.

In 2009, according to the RFD, there were 3,987 wood processing establishments. With the exception of a few that were producing wooden craft products, most of these establishments were machinery-based and capital-intensive. In addition, there were three paper pulp factories. Through the support of the Forest Industry Organization (FIO), a key public sector agency, the areas where trees were planted

for commercial uses up to 2009 were estimated to reach around 149,565 ha. According to the FIO, promotion of small-scale tree-planting is carried out through combining the concept of village forestry and support for agriculture.

While both the export and import statistics indicate that there is potential for commercial production of timber for employment and income generation, insufficient importance is attached to this sector. For smallholders, the key constraints are the high upfront investment and the long gestation period between planting and harvesting. Moreover, uncertainty over demand and price increases heighten risk perceptions and hence discourages investment. One other important constraint highlighted in the workshop organized for this project is the rigidity of interpretation of rules and regulations. Rules and regulations can be interpreted in ways that are supportive of the growth of small-scale commercial timber production. There can be excessive rigidity in following rules word-for-word and in a manner that kills incentives.

Unfortunately this may have been the case with the FIO's former initiatives to encourage small-scale trees-planting. In the earlier period, small farmers were encouraged to plant trees. There were two major constraints. To be eligible for the 3,000 Baht/rai support, farmers had to have land rights. They also should have other reliable sources of income to tide them over the period before trees can be harvested. There were also logistical constraints. For example, farmers had to plant a minimum number of trees per rai (the number of which, according to foresters, was too dense and not inductive to optimal plant growth). Farmers also had to report if and when they wanted to cut trees, or undertake any changes. With the rigidity of all these requirements, many farmers abandoned tree farming and opted for planting less valuable trees such as Para rubber or merely went back to planting annual crops.

Payment for environmental services

Payment for environmental services (PES) is a relatively new concept for Thailand. Unlike other countries in Southeast Asia, Thailand does not yet have any actual experience in launching PES. More recently, there have been initiatives to launch PES, and some organizations advocating this concept see PES as a potential instrument to address both the challenges of managing Thailand's natural resources as well as alleviating poverty.

Case studies

In this section, case studies are presented which illustrate different facets of the link between forestry resources and poverty situation. Two of the case studies are about communities that are dependent on forestry resources, but have different outlooks in terms of how they perceive public agencies, namely the RFD and the DNP. They also differ in terms of how they view pressures and opportunities from external market forces. The third case study is an account of one of the few initiatives to launch the concept of PES in Thailand. This is the story of Khao Ang Ru Nai Wildlife Sanctuary, located in the eastern region. Apart from the fact that the researcher was involved in the design of this PES Pilot Project, and therefore has a more in-depth understanding of the issues at stake, the site is chosen because it illustrates another interesting dimension of the interrelationship between the state of the ecosystem and the livelihood of local people. In this particular case, local livelihoods are affected by the degradation of the ecosystem and through their efforts to help restore the natural resources in the wildlife sanctuary, villagers not only ensure direct benefits for themselves, but also provide external positive benefits. The last case study is a previous study. The summary of this study is included in this report because both the methodology used, i.e., cost-benefit analysis and the findings are of direct relevance to the focus of this present study – finding a solution to the existence of many settlements located within protected areas that combines the interests of protecting the environment and addressing the poverty situation. Some background information regarding the case study sites is presented in the table below.

Table X.9. Background information on case study sites

Case study site	District/ Province/Region	Type of forest issue of interest	Population	
			Number	% under poverty line
Mae Tha Pa Pao	Muang/Lamphun/North	Community forest registered with the RFD	634	30.8%
Ban Thung Yao	Muang/Lamphun/North	Community forest; local community do not want to register with the RFD	539	30.6%
Ban Na Than	SakhonNakhon/Northeast	No community forest but located near Phu Phan National Park; Community resettled because of dam construction	365	27.7%
Ban ChoengDoi	KutBak/SakhonNakhon /Northeast	Community has been granted access to part of the National Park to be used as Community Forest	188	29.3%
KhaoAng Rue Nai	Chachoengsao/East	Wildlife sanctuary where there is human elephant conflicts; settlements are located in National Forest Reserve		
Na E-San			661	21.5%
Na Yao			2059	28.3%
Klong Toey			341	22.6%
Na Gnam			1653	23.7%
Tha Tent			262	28.6%

Forests managed by local communities in Lamphun Province

Mae Tha Pa Pao Village

Tha Pa Pao is located in Muang District, Lamphun Province, some 60 km south of Chiang Mai. *Ban Ma Tha Pa Pao* has a total population of 245 households. Total land area is 2,483 ha, comprising 280 ha of agricultural land and 2,080 ha of land used as community forest. Up until the late 1980s and early 1990s, the villagers earned their living from cutting trees to make charcoal and collecting non-wood forest products (NWFPs). By the late 1980s, with the uncontrolled exploitation of forest resources, the area began to suffer from flooding incidents followed by droughts. Many residents fled to neighboring villages after floods had destroyed their homes.

The initiatives for setting up a Community Forest came from Mr. Paiboon Jamhong, at the time the Sub-District Chief. Since 1982, Mr. Paiboon and his followers tried to convince villagers that it was in their interest to look after the forest so that they could continue to benefit from its timber and NWFPs. With the assistance of a local NGO, Mr. Viset, Mr. Jhahong, and a number of villagers travelled to *SilangLaeng*, where the committee members developed a firm agenda for achieving a balance between the economic needs and forest conservation. The villagers became aware that the two must go hand in hand, as all the members of the community were taught how to use the forest more responsibly. A consensus was reached that any further tree-cutting, especially in forest watersheds was strictly prohibited. From then on, villagers cooperated in activities such as replanting degraded areas, forest patrolling, making and maintaining forest fire lines, and building check dams. The abandoned charcoal kilns have been kept and are displayed as reminders of the past for educational purposes for villagers as well as for the influx of visitors.

Tha Pa Pao was officially registered as a community forest under the Royal Forestry Department (RFD) in 2009. The Chairman of the Community Forest, landowners and representative of the

RFD jointly demarcated the boundary. At present, *Tha Pa Pao* Community Forest has acquired a nationwide reputation as a village with a successful framework for dealing with forest conservation. This framework tried to incorporate all areas of the community in decision-making, created a support system to engender economic stability, and maintained a positive sustainable approach to forest resources. In 1991, a system of forest fire patrols was set up, originally consisting of 70 volunteers. Insurances were bought for each volunteer.

Due to perceived risk reduction, the number of volunteers has been reduced to only 16 people. A patrol group of village volunteers guards the forest day and night. There is only one entrance to the forest from the road, which makes the task of patrolling easier. No outside vehicles are allowed in the village during the night. Should there be specific needs of community members to access the forest for any reason, a village meeting is called attended also by members of the Village Committee. There is no fixed rule on collection of NWFPs, only broad guidelines that if you find two NWFP (such as bamboo shoots, two mushrooms, etc.), only one is taken and the other one is left to grow. Each year, villagers work together to maintain the forest fire line and to build and restore check-dams. A three-pronged system of communication has been initiated with steps to connect the village committee, monks, and schoolteachers. By involving the Temple, highly respected monks are able to further spread the message on the importance of the forest to villagers, particularly to children. In addition to these expected social influences, there are also clearly written rules:

- Cutting a tree is subject to a fine of 500 baht per inch of the cut tree. It may take a local villager several months of work to raise the total fine for a cut tree.
- No encroachment is permitted on any land registered as out of bounds. This rule has proven hard to implement with the contentious status of land boundaries.
- Hunting is not allowed.
- Burning of forests is not allowed. However, some villagers continue to believe burning forest ground is required to allow wild mushrooms to grow.
- Outsiders are not allowed entry to the forest.

Up to now, no fines have been issued as a number of first-time offenders have received only verbal warnings.

Among the indicators of change are reduced incidences of floods and stable supply of water, even during the dry season. The community forest is now the source of a sustainable flow of NWFPs for 80 percent of the households in this village. NWFPs consist mainly of mushrooms, bamboos, fish, frogs, and toads. While in principle, collection should only be primarily for household consumption, many of these NWFPs, including herbs and other vegetation locally known to have medicinal properties, can be found in the nearby fresh market.

Villagers have received training on sustainable forest management at *Huey Hong Krai* with financial support from the Siam Cement group. Like many villages, *Tha Pa Pao* has set up a Savings Group, which now has some five million Baht. *Tha Pa Pao* also has a Community Forest Fund, which consists of money left over from sales of NWFPs. Started by half a dozen villagers, the fund now has over 400 members and in 2002 won the Green Globe Award, receiving US\$16,666 as prize money. The Fund developed into an established financial welfare provider delivering various benefits for its members, who on average consign US\$3 per month. It has enabled villagers to adopt self-accounting techniques, become more responsible with debt repayments, and encouraged a number of saving schemes. The village fund serves to compensate the revenue previously generated from cutting down trees.

The village has now become an eco-tourism hotspot with visitors coming from all over Thailand and other countries. Wildlife in the forest includes pheasants, deer, peacocks, and wild boar. There are five eco-guides offering three-hour, one-day, and overnight forest treks. Some projects have made *Tha Pa Pao* a routine stop-off in sustainable living tours of the region with a number of village homestays now offered to cater to this increased demand. There are 16 homestays but most of the visitors generally only



Members of the village willingly share their knowledge about their forest and management practices

come on day visits. Beyond a healthy source of income, eco-tourism has allowed the village to revive its old traditional culture and take pride in its status as a leading proponent of self-sufficient living. Mr Jhahong believes the key to moving forward is to continue to protect the strong fund in place, learn to encourage saving and self-accounting, and by continuing to embrace the self-sufficiency philosophy laid out by His Majesty the King.

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Ban Thung Yao Village

Ban Thung Yao is within *Sri-Bua-Ban* Sub-district, located some 12 kilometers from *Muang* District, Lamphun Province. The history of the village dates back as far as 1915 when the earlier settlers were said to have moved to the area in search of water and fertile land for cultivation. The village land now covers 904 ha, forming part of the Khun Tarn Mountain range. *Ban Thung Yao*'s Community Forest expands over an area of 400 ha. Similar to the previous village, there are locally accepted rules and regulations with respect to access and utilization. However, unlike *Tha Pa Pao*, this is a community forest that is not registered with the RFD.

When the earlier settlers arrived in *Ban Thung Yao*, the forests and water resources were abundant. Forest resources started to decline as the population increased, but the main reason was the granting of logging concessions to generate the supply of timber for the railway line construction. Over the years, the water supply diminished as the watersheds became degraded and as the demand for water rose for an increasing population and the expansion of commercial agriculture (rice and longan). The river ecosystem also deteriorated due to sedimentation and erosion of river embankments as villagers removed river rocks to supply the market for construction materials. Water supply became scarce, particularly during the dry season.

In 1968, the villagers decided to turn the deciduous dipterocarp forest that had shallow topsoil into a community forest, which would enable a year-round supply of wood, food, and herbs for the villagers. Mrs. Phakee Wannasak, advisor of the village committee, related, "*The forests have all gone. Although the forest concession came to an end, villagers went in and cut trees for making charcoal. All that was left was Pa Cham Nam (the watershed forest).*"

Based on Phakee's account, the Village Headman at the time called a meeting. Villagers were instructed that cutting trees for making charcoal was no longer allowed in an area of around 800 rai from the *Pa Cham Nam* (the watershed forest) to the school. Once restrictions were imposed, the villagers merely helped to oversee that no one entered the area. Without disturbance, the forest recovered, trees survived and grew, and the rain came. In 1974, there was news that the government planned to redistribute land in the *Pa Cham Nam* and that a new village was to be established. Villagers protested against this decision and informed the government that the 400 ha of land in the *Pa Cham Nam* area

was not degraded forest, but that it had become a fertile forest because of the villagers' efforts. In making their stand, the villagers managed to claim their right over the forest. However, it was not to be a long-lasting victory.

During the 1980s and under the Chartchai government, there was widespread land speculation accompanied by increases in the number of land disputes. The state attempted to declare the surrounding forest around Thung Yao "Park Reserve" in 1989, but was met with huge resistance by the people despite the offer of a support fund of US\$2,666 per year. The villagers' perception was that if the forest was turned into a park reserve, they would be denied access to much of the forest and would be required to comply with the rules and regulations of national government. It was this fear that losing the forest would mean losing their capacity to decide over their forest resources that motivated the women of Thung Yao into making a stand, as some of them recounted:

"That day the women of Ban Thung were gathered in the meeting, we shouted, 'We are not giving up the forest because if we give up the forest, we will no longer have any food. We are satisfied as we are. We don't want money from tourism. If this area becomes a Park Reserve where would we get our bamboo, mushrooms, and ants' eggs? Take your 80,000 Baht and go and develop somewhere else. This forest is ours and we will protect it ourselves.'"

"If we had left it to the men leaders, they would have given up the forest when the officials asked. But we women will not give up. So we became the main leaders ourselves. If we had not done that, we would not have our source of food supply today because the land would have all been converted to a park reserve."

The women of *Ban Thung Yao* knew that they needed concrete proof to show how important the forest resources are to their basic livelihood. To protect their forest, they needed to make outsiders understand its benefits, so they set out collecting data. *"With 5,000 Baht, we bought books and pencils and we recorded every kind of food that we collected from the forest."*

The women collected data for one year and found that there were more than 28 types of vegetables, 25 types of mushrooms, 13 kinds of fruits, and more than 20 herbs. More important, when converted into



Mrs. Phakee Wannasak (left), the village head, and Mrs. Rawiwan Kanchaisak (right) are among the women in the village who actively gave voice to their community's aspiration to retain their ownership of – and management rights (including customary rights) to – their forest.

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monetary values, the total sum was as high as US\$33,283.⁶ According to Phakee, the actual sum could be higher because there were also people from outside who collected mushrooms and ants' eggs. After that, the women continued to collect data and found that the value of the food collected from the forest was almost the same. With such evidence, the women of *Ban Thung Yao* believed that the RFD would have no choice but to respect the decision not to be registered as a Community Forest under the RFD. For some women, "*The importance of this forest was not only that it is watershed, the forest is nature's bank and what is saved is the soil, the water, the forest, food, medicine. The forest is like the 'kitchen of the village'. If we preserve nature, it is like we preserve our own lives.*"

Over the years, *Ban Thung Yao* demonstrated that their efforts to look after the forests and the benefits they reaped in terms of timber and NWFPs strengthened their resilience and cushioned the impacts of the external economy. Naturally, the pull of the external economy had its attractions, particularly for the younger generation who sought work particularly in the nearby Lamphun Industrial Estate. But lessons were learned when many workers were laid off during the 1997 economic crisis and returned to Thung Yao to work on the farm. From then on, according to Mrs Kanchaisak, villagers realized the risk in relying on cash-income sales of agricultural commodities because these fluctuated according to changes in market prices. They also realized that the increase in wage rates could never equal the increase in the cost of living and in prices of material goods.

Village leaders now believe that to build resilience, they need to strengthen and maintain tradition, the spiritual faith and customs passed down through many generations. They need to create values so that though they may be cash-poor, they are otherwise "rich in souls". There are no homestays in the village given the perception that cash income from eco-tourism may create conflict among villagers. Visitors are welcome to Thung Yao. Any cash income, however, goes to the central fund which is then shared or used by the whole village, not just the villagers who provided homestay accommodation for the visitors.

There is a set of rules over access to the Community Forest. Cutting down trees, for example, is only allowed if wood is needed for household repairs. For each household, this is allowed once a year and only with the permission of the Village Committee. The allowable cut is 15 trees per person. Once permission is granted, that particular household is no longer eligible to make another request for another 10 years. Any violation is subject to fines per inch of the diameter of the tree trunk. NWFPs can be collected for household consumption and some small amount for selling. Each year, there is a ritual to pay respect to the forest. Between December and March of each year, villagers jointly engage in forest fire protection. While rules may be sacred for the members of the community, *Thung Yao* is encountering more problems with intruders encroaching on their land.

Recently, a surge in demand for firewood as bio-fuel electricity meant that "outsiders" are increasingly cutting down trees in the area. Exacerbating the situation is the perception that the RFD has not taken action. The explanation offered is that the RFD is powerless to stop any intrusion and this only adds to the mistrust. The state's refusal to acknowledge the villagers' version of the Community Forest Bill further fuels the belief that the RFD does not recognize their heritage and tradition. Many communities share the same perception of the RFD. The department is seen to capitalize on the good gains achieved by villages, subsequently registering them on account of their success. Mrs Kanchaisak asserted, "*The trees are ours and we have been managing these resources long before the Forest Act came into being.*"

While the aim of declaring areas as national parks and wildlife sanctuaries is to protect forest and biodiversity resources, in practice "protected areas" often overlap with forestlands used by local communities. The argument, however, is that the state continues to overlook the forests' significance

⁶ Some of the NWFPs include: (1) ants' eggs: 100 Baht/kg which can be collected from February to March; (2) frogs: 40-80 Baht/kg collected from February-April; (3) snakes: 100 Baht/kg collected from February-April; (4) Maeng Mun (beetle): 100 Baht/kg collected from February-March; (5) Vegetable 100-140 Baht/kg collected from February-March; (6) Banana leaf 1.5 Baht/leaf Baht/kg available all year around; (7) variety of mushrooms collected from August-October; (8) Bamboos collected between May-July.

to the livelihoods of rural people. *Ban Thung Yao* is engaged in a continuing struggle for formal acceptance of their right and entitlement to manage their community forest, independent of the control of the RFD. The position of the villagers is that they had been looking after the forest long before the State laid its claim. If *Ban Thung Yao* will accept the offer to register as a Community Forest under the RFD, it will be like betraying other communities who also look after the Community Forests but cannot be recognized because they are located in “protected areas”. They have now become members of the Federation of the Community Forest of the Northern Region.

SakhonNakhon

The northeast region is where the highest incidences of poverty are registered in the whole of Thailand. The two villages visited, *Ban Na-Than* and *Ban ChoengDoi*, are both forest-dependent communities and have also experienced disputes with the state.

Ban Na Than

The *Ban Na Than* villagers are of *Thai So-oh* ethnicity,⁷ a group that constitutes one of eight peoples in Sakhon Nakhon Province. In 1973, villagers were resettled because of the construction of the *Lam Nam Oon* Dam. Additional land was cleared to compensate for the people’s loss. By 1982, the villagers settled in their current location. It was not long before another crisis affected them, when about 1,200 rai of land used by villagers for farming was declared part of the *Phu Phan* “National Park” in October 1982. Though the village settlement remained outside the protected zone, the ruling raised serious difficulties as the village struggled to eke out a living. Selected areas outside the national park were transferred to the ALRO, which allocated just half a rai to each household.

Ban Na Than’s landholdings are very small and will continue to shrink and fragment as plots are subdivided among their children. Ten households acquired the land reform documents allowing them to cultivate their lands through the ALRO. Acreage is otherwise under the jurisdiction of the Department of Treasury, as the lands are considered “State land”. But since these were also “irrigated lands”, the Royal Irrigation Department manages the deals. Currently, 11 households are landless. The villagers are concerned about the Department of Treasury’s plan to lease one million rai of “state lands” by dividing these into parcels, which are then given to a winner chosen through lottery. The situation has left villagers left unaware as to who owns what and where. Since by definition the cultivated land lies within the national park, the villagers do not have any formal document to support their claims. As a consequence, the village cannot access any State assistance that requires land documents to qualify.

Without access to enough land for agricultural production, the villagers are forced to search for other means to survive. One important source of non-cash income particularly for those with limited farming land is NWFPs, such as bamboo, mushrooms, and vines from *Phu Phan* National Park, which are used for household consumption as well as for bartering with rice. Collecting NWFPs from *Phu Phan* National Park is risky. If caught, all products are confiscated. To collect the NWFPs, villagers have to walk between two to three kilometers to get to the edge of the *Phu Phan* National Park and walk a further two km to enter the park. Because it is a national park, the *Ban Na Than* villagers feel they have no more right of access to the NWFPs in the park, even if they live a stone’s throw away. They therefore tend to make the trip around 3:00 in the morning, because during the daytime they fear clashing with people from as far as Kalasin, Amphoe, and Sega in NongKhai.

Also important are the fish resources in the *Nam Oon* Dam. Similarly, if villagers are caught fishing during the four months of the no-fishing period declared by the Department of Fishery, officials not only confiscate the fish, but also destroy the fishing gear. Even with these control measures, all recognize the decline in abundance of natural resources, be it NWFPs or fish in the dam. This could be among the reasons for the increasing need to find sources of revenue outside the village. Around 40 percent were said to have migrated to find work in Bangkok and other provinces (some go as far as Phangnga in the South). Most of the villagers are old people and children left behind.

⁷ Note that this is not an ethnic group like the hill tribes in Thailand.

Villagers are prone to gambling and other vices that cost money such as cigarettes, alcohol, and playing bingo. Their inability to establish initiatives to tackle their debt is a concern. The main credit source is the Bank of Agriculture and Cooperatives (BAAC). As villagers have no land documents, they are forced to use group collateral. The average debt ranges from 50,000 to 100,000 Baht. While other sources of funding, including the Village Fund and the Poverty Alleviation Fund, aim to minimize the risk, the accumulation of the village debt for some households can be as high as 10 million Baht.

Ban ChoengDoi

Ban ChoengDoi was established in 1957, when the village consisted of just 17 households. Now there are 68 households with 365 people. All the households grow rice and the average holding size for rice cultivation is around one hectare. About 60 households also grow cassava with a combined area of 19 ha. There are 25 households that earn extra income from vegetable production. Similar to most rural villages, income from off-farm work is considered an important supplement to household income. In *Ban ChoengDoi*, around 100 people earn income as construction workers. Weaving is also a supplementary source of income. The villagers originally migrated from Phannanikhom, Sukhonakon province. *Ban ChoengDoi* is located in Na Mong sub district, *Kut Bak*, some 65 miles from the city. The people are of an ethnic group called *Phu Thai*, with their own language and culture.

An important landmark in the villages' turbulent history is the year 1964. During this period, the Communist Party of Thailand controlled the surrounding area. *Ban ChoengDoi*, like many other villages in the region, harbored dissidents and communist militia, supplying them food and shelter. In response, the government designated the whole region a "red zone". The natural resources and forests became sources of conflict. In 1972, the RFD proposed the area to be declared "national park" with some 66,900 ha to become state-controlled. By 1982, a further ground survey by the RFD reduced the area to 66,470 ha. Even with a decrease in the area, it still represented a massive loss to the village as technically all their production area was now within the "national park".

In 1985, the RFD assigned *Ban ChoengDoi* "forestry village" status that led to further land re-allocation. Landholdings were restricted to no more than 15 rai each. In 1991, after the national coup d'état, the revolutionary council announced a new forestry and land policy for the whole country. Within this was born a project called "land allocation for the poor within the national forest reserve and degraded area in the North East".

Ban ChoengDoi became one of the many northeastern beneficiaries of this ill-fated project. Villagers were told to resettle to a nearby village called *Ban Duean Ha*. Fighting back, the villages affected by the policy organized themselves into a network called the "*Phu Phan* forest network" to protest the implementation of the project. They also established Village Forest Network Communities, made up of 47 forest-based villages, to solve land problems in the surrounding forests. In 1992, stepping up their protests, they wrote a petition to the then Prime Minister, Anand Panyarachun, demanding the termination of the project. Under substantial pressure, and with a visibly failing policy, the government responded. In July 1992, "land allocation for the poor within the national forest reserve and degraded area in the North East" was terminated, and the villagers returned to *Ban ChoengDoi*.

However, the conflict between the state and its people continued. Lacking security of tenure, the villagers still felt threatened. In the following years, several NGOs visited the area to conduct research and to help build the capacity of the leaders as well as community members to manage their land and forest. They accompanied the village leaders on study tours, exchanging views and knowledge with people in other provinces and other regions. Their objective was ultimately to turn *Ban ChoengDoi* into a model for land and forest resource management in the northeast region.

The forest is now classified into seven distinct zones: (i) community forest, 18 ha (comprising the area of the temple in the forest, the cemetery, and community forestry); (ii) buffer zone, 80 ha; (iii) public grazing land, 2,400 ha; (iv) spiritual forest, 4 ha; (v) village temple, 2.56 ha; (vi) school, 2.88 ha; and (vii) residential area, 12.8 ha. To manage the forest, six rules were drawn up.



A poster at the edge of the community forest enumerates the six rules set by the village members

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- No tree cutting is allowed in the community forest.
- Anybody who cuts trees with a diameter more than 20 cm will be fined 10,000 Baht.
- Anybody who cuts trees less than 20 cm will be fined 5,000 Baht.
- Anybody who intentionally burns the forest will be fined 10,000 to 50,000 Baht.
- All the timber confiscated and fines paid will be used by the village community for the benefit of the village.
- Anybody who refuses to pay the fine will be transferred to the authorities.

Apart from the rules, which were enforced for nearly 20 years, the villagers were also involved in conservation activities such as establishing the forest fire line, replanting trees to increase the biodiversity of the community forest, and providing food for wild animals. They also take children to the temple to make them aware of the need to protect the forest.

One of the approaches to forest conservation was the concept of the “Yellow Forest”, a policy intended to highlight the role of the temple in forest conservation introduced by Abisit Vejjachiva’s government. In *Ban ChoengDoi*, Buddhist monks are invited to come and live in the forest temple. At present there are four monks at the temple who divide their religious activities with forest conservation. The monks also teach children how to meditate and how to learn from nature by replanting trees. This builds awareness in the children from an early age that nature is very important. Combining spiritual knowledge with forest conservation is an effective tool in contributing to addressing the problem of deforestation.

The villagers highlighted several issues as the main barriers to progress. One was the issue of continuing conflicts within the community because some people still cut trees for selling. There was also the issue of unclear boundaries of the national park, the acknowledged power of “local Mafias” threatening the villagers if they oppose cutting trees. Like the majority of rural villages, there is the problem of indebtedness. In this case, all the 68 households are in spiralling debt of at least 100,000 Baht per household.

One of the pressures, particularly seen from the eyes of the village elders, is the external pressure. All around *Ban ChoengDoi*, land was converted for commercial cash crop production. There is pressure from other villages, as far as 100 km away, interested to use the surrounding resources. The NWFP resources as shown in the chart below are relatively abundant. Outsiders harvest forest timber and NWFPs in large groups, often in a fleet of cars and trucks, collecting large volumes and leaving little to re-grow. Households who try to harvest and conserve the crops are becoming increasingly desperate.

In line with the “Yellow Forest” approach of the government to integrate religion and forest conservation, the four monks currently staying at the temple in the village engage in forest conservation activities.



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Logging activities and threat tactics by big business add to the desperation of the villagers, whose lives are threatened if they obstruct the logging activities of “influential” people.

The monetary value of NWFPs would be much higher than the table indicates if the study was conducted for a longer period.

Table X.10. NWFP harvest calendar and estimated income per year

	Jan	Feb	3	4	5	6	7	8	9	10	11	12	Estimated income per year
Collecting bamboo													(For consumption only because this is now limited)
Vegetables													30,000 Baht/year; 68 hh
Ants’ eggs													approx 200 Baht/kg; 50,000 Baht/whole village
MaengKaeng (small)													600 Baht/kg; 50,000 Baht/kg
Mushrooms													68 hh at 2,000 Baht/hh=136,000 Baht/whole village
Toads ⁸													70 Baht/kg; 150,000 Baht/whole village
Frogs													
Mussels													0.5 Baht/mussel; 10,000 Baht/year
Herbs													205 of hh collect
อื่น													10,000 Baht/whole village

“What are we preserving the forest for if people are going to come and take it all away?”

Villagers feel that they need to follow the self-sufficiency concept. Monocropping will be shelved in favor of more mixed farming while villagers abstain from material possessions that they do not need. They need to feed themselves first. Solving the land rights issue is key to development. Among the various problems, the land title is the most important; without this, villagers cannot plant tree crops, rubber, or eucalyptus. Indeed, the village cannot grow. The village leader made an important point towards the end of our short stay, saying:

⁸ The rule is nobody is allowed to take toad’s eggs.

“I have never regretted all the fights we have had with the State. What has been won has all been worth it, what has been lost, is better than nothing.”

Ang Rue Nai Wildlife Sanctuary: a payment for ecosystems pilot case study

The third case study is an account of a PES initiative, the pilot PES site in KhaoAng Rue Nai Wildlife Sanctuary (KARN-WS) in the eastern region of Thailand. The financial support for the design of this pilot project was from the Biodiversity Economy-Based Development Organization (BEDO).

The *KhaoAng Rue Nai* Wildlife Sanctuary is a lowland rainforest covering an area of 107,900 ha of lowland rainforests in five provinces in the east of Thailand, which are Chachoengsao, Chonburi, Rayong, Chanthaburi, and Sakaew provinces. The sanctuary is the watershed of Bang Pakong River and Prasae River, which are major sources of surface water supply for residential areas, industries, and agricultural production in the downstream area. KARN-WS is one of seven protected areas with a population of more than 100 elephants. Over the years, as the ecosystems were degraded, many of the key species in the area, such as fresh water crocodiles and tigers, became extinct. In the absence of natural predators, the population of elephants increased by 9.83 percent per annum, which is higher than the elephant population in other areas (Wanghongsa et al., 2006). In 2007, the estimated elephant population in KARN-WS was 217 and the crude density is 0.2 elephant per sq km. It was estimated that only 36.63 percent of the sanctuary is suitable as elephant habitat. Because of the shortage of food and water in the sanctuary, elephants often come out of the sanctuary, making KARN-WS one of the areas where the level of Human-Elephant Conflict (HEC) is high. While some investments were made to restore sections of the degraded ecosystem, the efforts were piecemeal and fell short of the scope and scale of measures required. This was why the idea of PES was considered as a possible solution.

The perimeter of the sanctuary measures 460 km, but the PES activities will only cover certain segments of this border, focusing on six villages where HEC is high. These are Na Yao, Na Isan, LumTha Sang, Tha Ten, Na Ngam, and KlongToey. The total number of households in these villages is 2,247. The main crops grown are cassava, rice and rubber. Almost all of the households are affected by elephant crop-raiding but only 32 percent of the households registered to request for compensation for crop damages. The paid compensation does not match the costs of the damages, which includes not only the crops eaten or destroyed, but also damages to property and loss of lives.

To protect their crops and their properties, villagers adopted several measures ranging from installing traps, using firecrackers to create noise, putting up fences (electric and non-electric), using lamps, to the construction of elevated huts as watch posts. Villagers spend on average 212 nights per year to keep watch over their fields.

The proposed measures

Although the situation in KARN-WS does not strictly comply with the typical PES setting with clearly defined upstream service-providers and downstream service-buyers, the sanctuary's ecosystem is clearly degraded and rehabilitation measures are needed to ensure a sustainable flow of services (particularly water) to areas where there are already existing beneficiaries and thus potential buyers. In addition to the potential use and values that can be generated from ecotourism activities, there are also the intangible benefits such as the indirect use value from the rehabilitation of the ecosystem as well as the non-use value of wild elephants that has symbolic, historical, and cultural significance in the Thai society.

Through consultation with wildlife experts and staff of the KARN Wildlife Sanctuary, a number of activities were proposed:

1. Making water supply available within the sanctuary to reduce the need for elephants to exit the sanctuary to search for water.
2. Increasing the grassland area within the sanctuary. A substantial part of the sanctuary faces the problem of rapid expansion of invasive species. These would need to be weeded out to provide more open space and sunlight.

Cost to prevent



Elevating Hut



Handmade
-Lamp



Electric fence



Catapults and Firecracker



Non-electric fence

Orepan Nabangchang

Strategies used by the villagers to protect their properties from intruding elephants

3. Creating mineral saltlicks.
4. Planting food for elephants.
5. Fencing part of the sanctuary.
6. Reforestation and afforestation to be undertaken partly within the sanctuary where the forest is degraded and partly on the buffer strip, which is the 0.5 meters of land along some 230 km of the eastern part of the sanctuary boundary.
7. Ecotourism.

From these activities, the expected benefits include the following:

- restoration of the watersheds;
- restoration of the habitats;
- possible supply of carbon credits for the voluntary credit markets;
- reduction of damage costs from human-elephant conflict;
- ensuring a sustainable flow of payments for service providers as long as there are clear incremental benefits directly associated with the restoration and conservation activities that villagers are undertaking; and
- possible revenues from wildlife ecotourism in the long-term.

Without the PES mechanism, it seems unlikely that there can be policy intervention at a scale that will produce any tangible impact. Public resources would be too stretched and would only support piecemeal measures, and local inhabitants would only be able to prevent and protect their crops and their property within the limited means they have. On the other hand, by combining natural resources restoration and protection measures and the HEC issue under the PES framework, it may be possible to reach the dual objectives of natural resources management and poverty alleviation without having to make the trade-offs.

Apart from identifying the activities, information was obtained on the quantities required and the unit

costs. The service providers were identified and these are the six villages where HEC is high, namely Na Yao, Na Isan, Lum Tha Sang, Tha Ten, Na Ngam, and Klong Toey. For these households, the damage cost from crops and property damage and medical expenses related to elephant crop raiding incidences was equivalent about 14 to 34 percent of their average household income.

When asked whether or not they would be interested in participating in activities to restore the ecosystem within the sanctuary, more than 90 percent of the 200 villagers interviewed said that they would be willing to volunteer their labor even if there were no payment. In many respects, this response was to be expected. These villagers were already spending money to protect their crops and property. Any measure that would lead to reduction of crop raiding incidences would reduce their current expenses. Technically speaking therefore, the villagers are beneficiaries as well as service-providers. The latter capacity is justified as there are external positive benefits to users and the general public from the direct and indirect benefits of restored ecosystems services, as well as the non-use values of the biodiversity resources in the sanctuary where the elephant is the umbrella species.

In addition to participating in the above activities, the service-providers from the six villages will also be involved in monitoring and patrol activities. This is also an essential component of the PES project which is to provide concrete evidence of the improvement of the ecosystems. Particularly for this pilot site, these include the reduction in the incidence of crop raiding, reduced damage costs to crops and property, and reduction of risks and fear. Villagers will be involved in data collection. With cameras installed at the locations of the water sources, the mineral licks, the food patches, and the use of GPS, it will be possible to collect data on the number, timing, and type of wildlife that benefit from the water, food, and mineral licks provided. As service-providers, villagers will undergo training so that they will be able to undertake these routine but very important tasks. Monitoring wildlife activities was done before in this sanctuary. The only difference will be that the villagers will be implementing this task instead of sanctuary staff.

Exploring buyers of ecosystems services

Perhaps the most challenging part of launching the PES project, particularly for a site such as KARN-WS, is the identification of buyers. Apart from the service providers who also directly benefit from the measures that will be undertaken, the beneficiaries of the ecosystems service are essentially those who rely on water supply from the *Bangpakong* River and *Prasae* River. The single major user is the East Water Company, a private business group that has shown considerable interest as a contributor. At a meeting organized to discuss the objectives of the KARN-PES pilot project, East Water pointed out that there is a need to know the on-going development projects funded by both government agencies and businesses as part of their CSR investments within the 5-province corridor. Knowing what, where, and at what stage the projects are would be helpful in planning processes, in identifying overlaps of investments, and in channeling resources to where there are gaps.

But having a single buyer may not be sufficient to recover either the initial investment or the costs of recurring activities. It is essential to involve other potential contributors. During the initial period, there were high expectations that it would be possible to mobilize contributions from the private sector. Private sector companies spend considerable sums each year on public relations and corporate social responsibility (CSR). The optimism was that the KARN-WS PES pilot project already offers an opportunity where they could do “good” and earn CSR points. But private companies may place more weight on quick and tangible results. Clearly, there is a need for a formal institutional framework to create tangible incentives for the private sector to be involved and to do this, it may be strategically better to approach private sector institutions such as the Federation of Thai Industries or the Thai Chamber of Commerce, rather than individual private companies. Valuable lessons can be extracted from the experiences of other countries’ initiatives to create markets for conservation of natural resources such as the New South Wales (NSW) BioBanking Scheme launched in July 2008.

In principle, biobanking is a voluntary market-based scheme. Three main groups of stakeholders are involved: the landowners, developers, and conservationists. What is bought and sold are biodiversity

credits. The suppliers of credits are landowners who agree to set aside all or part of their land as a biobank site and manage this site for conservation. Credits can be purchased by developers, by conservationists, and even by individuals (either for philanthropic reasons or for speculative purposes). To date, the demand for most biodiversity credits come from developers who are required by law to offset the negative impact of their development. It is well acknowledged that the NSW BioBanking Scheme works because of strict law enforcement. The framework for the scheme was established under Part 7A of the Threatened Species Conservation Act 1995 and is supported by the Threatened Species Conservation (Biodiversity Banking) Regulation 2008, the BioBanking Assessment Methodology, and the Compliance Assurance Strategy. Thailand has parallel laws. The difference is that the law only focuses on the command and control side. There are limited attempts to create incentives for compliance and adequate penalties for non-compliance.

Turning back to KARN-WS, it would appear that there is a basis to generate the supply of environmental goods, but to create demand on a scale that will give momentum for PES both for KARN-WS and for other potential PES sites in Thailand requires a revamping of the legal tools which already exist to create effective demand for conservation services in the same way that the biobanking scheme was established for New South Wales.

The outlook for forestry and poverty alleviation

With the outcome of the recent general elections and the change in government, there seems to be uncertainty over the future of forestry and poverty alleviation policies. Nevertheless, there is at least the consolation that the macro-economic policy framework, in principle, is supported. Under the 11th National Plan, the goal of poverty alleviation is embedded in the vision of “a happy society with equity, fairness and resilience” and in broader statements such as adhering to the “guidance of the Sufficiency Economy Philosophy”, “people-centered development”, and “broad base participation approaches towards balanced, integrated, and holistic development”. Promoting better income distribution is also reiterated as one of the missions during this plan period. Widening social disparity has led to conflicts in Thai society and is recognized, as well as the problem of persistence of poverty and indebtedness, particularly among farmers.

Income inequality and poverty issues are addressed under the strategy of promoting a just society. Four broader objectives are specified under this strategy:

1. to create opportunities for all to access funding, resources, and income earnings;
2. to increase income and social security;
3. to assist the poor, the underprivileged, foreign labor and labor force in the informal sector, and the ethnic groups to gain access to social services on equity basis;
4. to support all concerned development partners to participate in inequality alleviation and conflict resolution processes in an efficient manner and to jointly develop the country towards a society with quality.

The 11th Plan acknowledges that due to geographical changes and over-utilization, natural resources and the natural wealth of the country were depleted and that deterioration in the natural resources and environment is both a risk and weakness. The plan also recognizes that ultimately this will affect the performance of the economic sectors and well-being of the people. On natural resources and environment, the main objective is to nurture natural resources and the environment to improve the quality of natural resources and environmental quality. Under the strategy of managing natural resources and environment towards sustainability, the focus is on conserving and restoring natural resources, improving management efficiency, and ensuring fairness in the access and use of natural resources.

Measures are listed for each of these strategies. Conserving and restoring natural resources is to be done by:

1. safeguarding and restoring the natural resource base and biodiversity;
2. developing databases and geographical information system (GIS) and knowledge management;
3. reforming the management system of land ownership and utilization to ensure efficiency, fairness, and security for poor farmers;
4. promoting efficient water management through close collaboration between local administration organizations and communities; and,
5. conserving, utilizing, and sharing the benefit of biodiversity.

What is seen as instrumental to conservation and restoration of natural resources is good governance in the natural resource management. This is to be achieved by:

1. empowering communities and advocating their rights to access and utilize natural resources;
2. facilitating and encouraging public participation, and establishing joint management mechanisms with all development partners;
3. amending relevant legislations and equitably enforcing laws and regulations to reduce conflicts and disparity among communities to access and use natural resources; and
4. ensuring that government investments are in line with policies of natural resource conservation and restoration.

The quantifiable target is that forest and mangrove forest areas should remain not less than 33.56 percent and 0.5 percent of the total area, respectively. Instrumental to this would be measures to: (i) increase the abundance level of natural resources and biodiversity to maintain ecosystem balance and its efficient and equitable use; (ii) strengthen local communities in natural resource management for self-dependence; and (iii) ensure the fair access and use of natural resources and enhance capacities in responding to trade measures. What it wants to do is:

1. Conserve and restore the natural resource base and the environment
2. Preserve, protect, and restore land, water, and mineral resources, forest, coastal zones, and biodiversity.
3. Improve the system of land resource management and re-distribute landownership for fairness and protection of poor farmers' security and their basis of living.
4. Manage water resources based on the river basin system and encourage local authorities and communities to jointly develop, conserve, and use water sources.
5. Promote conservation and utilization of biodiversity as well as sharing of equitable benefits by:
 - a. Improving the efficiency, transparency, and equity of the natural resource and environment management system;
 - b. Strengthening communities and advocating their right to access and use natural resources sustainably;
 - c. Supporting the public participation process and developing local and community capacity;
 - d. Amending laws and regulations in a timely manner with the economic and social changes as well as equitably enforcing these laws and regulations;
 - e. Ensuring that government investments are in line with the conservation and restoration of natural resources;
 - f. Advocating environmental tax collection and budget reforms to create incentives for the efficient use of natural resources and pollution reduction; and
 - g. Generating income from the conservation of natural resources and biodiversity.

In addition, the NESDB drafted the Green Economy Strategy aimed at achieving six main goals, namely: (i) stop deforestation, increase forest area; (ii) manage the expansion of communities in protected areas; (iii) promote economic forests; (iv) promote farm forest patches; (v) promote sustainable forest use and conservation; (v) promote herb production in the forest through a committee that looks after herbs in protected areas.

It should also be noted that the concept of PES, measures to reduce the rate of deforestation under REDD, and the promotion of reforestation and afforestation are consistent with the principle of generating income from conservation of natural resources and biodiversity. On PES in Thailand, apart from the challenges of the PES scheme design, there are legal and institutional hurdles to be crossed. There is also the major issue of how to create effective demand for conservation measures as opposed to relying on the goodwill of conservationists, philanthropists, and private sector businesses that want to be involved as part of their CSR activities.

There are ongoing initiatives that aim to generate lessons and from which a more sustainable policy framework can be expected, such as Catalyzing Sustainability of Thailand's Protected Areas System (CATSPA) and integrated community-based forest and catchment management through an ecosystem service approach (CBFCM). These look into mechanisms to sustainably manage the forests, but which cannot be separated from the goals of poverty alleviation. More concrete outcomes are expected from these initiatives than from other interventions from the newly elected government, which is most likely to be more concerned with economic growth and "reconciliation" policies. The best that one could expect is that the new government does not intervene with these concrete initiatives to allow them to follow the planned course.

Recommendations to improve the contribution of forests to poverty alleviation

Based on information reviewed, some of the insights from the case studies and inputs from the consultation workshop,⁹ the recommendations are discussed below in relation to three areas, namely: (i) legal measures; (ii) the use of economic instruments; and (iii) the value of data to support decision-making.

Legal measures

The function of the laws in defining and protecting the rights to forestry resources is by defining the rights to access, use, and benefit from natural resources. Legislation may be necessary but insufficient, simply for want of effective enforcement measures. Even if the legitimacy of the State over public land is questionable, financial and manpower resources are unlikely to be sufficient to provide the scale of protection of forestry resources required. From the information presented in this report, it is notable that the legal framework has gradually increased the recognition of the rights of communities. More recently, we are seeing the evolution of the debate over community forests into the concept of "Community Title Deeds". Recommendations on legal aspects, based on discussions with the participants to the national workshop are:

1. Educate people about existing legislation and regulations. Workshop participants agreed that people have to be informed about what their legal status is, what their entitlement

⁹ A workshop was organized on July 8th to present findings and preliminary recommendations to a group of experts representing various organizations whose mandate is related to management of forestry, land resources and poverty issues. Present in this workshop were the Executive Board Member of the National Water Board of Thailand, former Chairman of the National Committee for Solving the Problem of Encroachment of Public Land, Director of the Land Policy Study Forum, and the former Secretary General of Agricultural Land Reform Office. Also present were representatives of the Department of National Park, Wildlife and Plant, Forest Industry Organization, RFD, Biodiversity-Economy Based Development Organization, GIZ, and the NESDB.

is, and their right to participate. Ensure that law enforcers and people have a common understanding of what the law says. In the initial draft of the paper, the recommendation was for the amendment of key pieces of legislation, namely the National Park Act and the Royal Forestry Act to accommodate the principle of shared responsibilities in forestry resources management. The justification then was that there was a need to harmonize the laws that still empower public agencies such as the DNP and the RFD and the role of the State as the sole “protector” and “custodian” of the forest. In addition, the bureaucratic framework also needs to be adjusted. This is because it is apparent that they still operate under the old paradigm as evidenced by the increase in the number of court cases on land-use conflicts, particularly on public lands. During the consultation process, many felt that amendment of the law, though desirable, will take a long period of time. Moreover, the issue was more to do with constraints on the part of officials, i.e., that they either do not understand the law, do not practice what they understand or do not try to interpret the philosophy behind the law because it is easier to just follow the law word-for-word.

2. Bridge the confidence-trust gap. For people who are affected by such laws, discontent and mistrust of State authorities can be due both to the questionable legitimacy of public agencies to exercise such authority and the different exercise of power of public agencies. There are numerous communities like *Ban Thung Yao* that still harbor mistrust and discontent towards the State, because despite their proven ability to look after their resources, the villagers’ rights and entitlement to look after their own resources are still not formally recognized.
3. Enable access to the judiciary system. Discontent can also accumulate because of the difficulties in challenging authorities, requiring people to engage in unknown and complex legal territories. While the principle of the law protects the rights of citizens, such rights cannot be enforced because citizens do not have easy access to the judicial system. This necessitates the existence of legal pluralism and alternative dispute settlement mechanisms. Complex legal and judicial systems are of limited value to those who might need protection and these can be habitually abused by the politically powerful. Beyond the laws, the system of justice must be accessible and affordable to the general public. This was a recommendation made earlier by Nabangchang and Srisawalak that it was an essential condition for good governance in land and natural resources management (Nabangchang and Srisawalak 2008). It is also a proposal by the NRF.

The need for concrete action plans

Information provided in the preceding sections illustrate that there are no shortage of plans, but participants in the workshop shared that current plans appear to be more like “staple projects”. What was felt to be lacking are the details of how to implement, the resources to implement the plans, how to monitor and evaluate where the quantifiable targets were achieved and more importantly, the changes the achieved targets brought about in relation to the broader goals. Furthermore, there are multiple ongoing projects involving international development agencies, donor agencies, and public agencies, all of which address similar and related issues such as forest resources, biodiversity, watershed management, poverty alleviation, community participation, etc. Under initiatives such as CARSPA and CBFCM, project sites were identified that represent key ecosystems in the various regions of Thailand. Rather than wait until the completion of these projects to synthesize the findings, there is much to be gained if the responsible parties for these projects, both donors and implementing public agencies, will undertake a discussion forum to identify complementarities, overlaps, and inconsistencies. After all what is expected from these projects are management and financing models that combine environmental with social and economic objectives and that can be implemented and sustained beyond the timeframe of the projects.

Creating economic incentives for natural resources protection and conservation interests: the potential application of PES

Between economic and pro-poor land policies, the land balance is likely to be tipped in favor of the former, given the potential to capture private gains among those in control of the political power and administrative organs. One way of minimizing these unbalanced objectives is to use economic incentives to align commercial interests in the economic exploitation of land and natural resources with conservation efforts that incorporate poverty eradication objectives.

The use of economic incentives both to deter actions that risk creating negative externalities and to induce actions that create positive externalities might be valuable policy instruments to overcome the limitations of command and control measures. Many local communities located within protected areas are presently providing ecosystem services through measures undertaken to protect and conserve the natural resources and from which their livelihoods partially depend. Like *Tha Pa Pao*, many of these communities were awarded with recognition and as a result, benefited from inflows of financial and technical support. Then there are other communities like *Ban Thung Yao* in Lamphun province and *Ban Choeng Doi* in Sakhon Nakhon province that, despite the recognition of their achievement in management of forestry resources, prefer to be left alone to manage their forestry resources in ways that community members feel are appropriate. In addition, there are many other local communities who are at present looking after their own forestry resources and at the same time providing ecosystem services, but are unknown or unrecognized. Among these, some would be involved in civil and criminal court cases for illegal entry (rightly or wrongly) and occupation of public land. Some are overlooked or unrecognized for their contribution in ecosystems services by looking after forestry resources on which their livelihoods depend.

In such situations, the PES concept that seeks to provide economic incentives to communities may be the win-win solution by bringing in additional technical and financial resources for conservation, provide employment and income for the poor, and at the same time, ensure that more environmental and sustainable flow of rents can be captured at the national level. But as the KARN-WS case study illustrates, the biggest challenge for the PES concept to work is how to create effective demand for ecosystem services. This will be easier where there are direct users of ecosystem services and also if those direct users recognize the link between the actions undertaken by the service providers and the incremental tangible benefits. In most cases, such direct links may be technically difficult to establish. Without such clarity, it will be challenging to convince buyers of the expected benefits and their reasons for paying. Given that the potential sites are most likely in ecologically sensitive areas, it is expected that the sites will be areas where there are legal restrictions. Thus, what will be required is also a recommendation made earlier for the amendment of key pieces of legislation, namely the National Park Act and the Royal Forestry Act to accommodate the principle of shared responsibilities in management of forestry resources.

Despite the challenges, the concept of PES is consistent with the idea of introducing economic instruments. It also complements the policy to issue Community Title Deeds because many of the sites where local communities are applying for Community Title Deeds are located within national forest reserves, national parks, and wildlife sanctuaries. In return for collective rights, incentives should be used to encourage communities to jointly protect forest resources from encroachment by outsiders as well as engage in ecosystems rehabilitation and restoration. Given these activities by communities, it is logical that some system of transfer payment be provided in return, but a possible resentment against rewarding local communities is when the legality of their existence within the protected area is questionable. That is why it is recommended that pilot PES projects be initiated for selected local communities that will be granted Community Title Deeds.

Linking reforestation, poverty alleviation and the potential to maximize land allocated under agricultural land reform

To a certain extent, it can be said that reforestation has taken off well in Thailand. Due mainly to the influence of their Majesties, the King and Queen of Thailand, replanting forests captured the interest of private companies, institutions, and individuals for public relations purposes or for pure interest in the common good. On the other hand, reforestation is not only about planting saplings and taking photographs. The effectiveness of reforestation is contingent upon the survival rates, the growth pattern, and the expected benefits as degraded ecosystems are gradually restored. What must also be noted is that there are constraints that reduce the potential to combine reforestation efforts with poverty alleviation goals, as was the experience with some of FIO's earlier initiatives discussed.

One recent promising initiative discussed was the Trees Bank project initiated by the Bank of Agriculture and Agricultural Cooperatives. Within the conceptual framework of the project, planting trees is considered long-term capital investments and the BAAC will accept trees as "assets". After five years, the bank will issue a certificate that can be used as collateral. To expand on this concept, the Biodiversity-Economy-Based Development Organization consulted with the BAAC, as well as FIO and RFD, over the possibility of developing financing mechanisms for reforestation. The proposal is that a CSR Fund be established within the BAAC. Private companies can deposit a CSR budget in this fund to be used for reforestation activities or natural resources conservation projects. This mechanism will help match demand and supply for conservation activities. A potential link with poverty alleviation goals is through the land factor. Currently, the benefit of the Tree Bank initiative to the poor can be limited by the fact that the BAAC requires that farmers have land rights. One possible approach discussed during the workshop was that the supply of land to launch the Tree Bank concept on a larger scale would be in the land reform areas, which represent around 30 percent of Thailand's agricultural acreage. Even before the Agricultural Land Reform Act in 1975, there was a Cabinet resolution that 20 percent of land allocated should be set aside for communal use, which includes community forests. Although the resolution was not strictly followed, there is no reason not to explore the possibility of reinstating this idea in land reform areas. The rationale for this would be both the poverty situation of land reform beneficiaries, the direct and indirect benefits of reforestation of large tracts of land, and the increased potential to undertake this on a continued basis if such activities could be linked to a viable financing mechanism.

The value of data to support decision-making

The importance of data was clearly demonstrated by the experience of *Ban Thung Yao*, while the case of *Ban Pa Kluay* suggests the potential to use findings from detailed economic analysis to support decision-making. In the case of *Ban Thung Yao*, data on the monetary value of the NWFPs provided solid evidence in demonstrating to the villagers the importance of their livelihood on forestry resources. Such data is also substantial proof to the RFD that the villagers can be self-reliant even without any external technical and financial support. The economic analysis of the various management options showed the distribution of costs and benefits and the trade-offs for different stakeholders, and the discussion can go beyond emotional appeals. Having said that, it is recognized that there will still be several barriers, some ideological and some technical. The ideological barriers present a greater challenge than the practical constraints for three reasons: the general concern about placing monetary values on nature; the cultural understanding needed; and adapting traditional ways of life.

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XI

Assessment of the contribution of forestry to poverty alleviation in Viet Nam

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Introduction

In Viet Nam, economic reforms known as *doi moi* were introduced in 1986. These reforms included the elimination of the cooperative's monopoly on agriculture and forestry¹, the introduction of short-term land use rights, and encouragement of privatization and market liberalization. These reforms dramatically improved living conditions and are said to be “one of the greatest success stories in economic development” (ADB et al.. 2003). Viet Nam made great economic progress in recent years, growing an average 8 percent per year. *Doi moi* has had a remarkable impact on hunger eradication and poverty alleviation (World Bank et al.. 1999).

The reality of poverty is measured in terms of the livelihoods of the poor. The situation of being in poverty includes various aspects: limited income; vulnerability in the event of disaster; and lack of opportunity for decision making (ADB et al.. 2004). Poverty has its own peculiar logic and manifests itself in geographic patterns. Most poor people (about 90 percent of all poor in Viet Nam) live in rural areas (Socialist Republic of Viet Nam 2005b; United Nations 1996). The poorest of the poor reside in the central highlands, northern uplands, and along the north central coast. Ethnic minorities are disproportionately poor. Based on this concept of poverty and a cost-based method to calculate poverty indicators and an international poverty line, Viet Nam was seen as successful in reducing poverty. In 1993, 58 percent of the population was poor, and this figure steadily declined to 37 percent in 1998, 29 percent in 2002, 24.1 percent in 2004, 16 percent in 2006, 12.3 percent in 2009, and 10.6 percent in 2010 (Socialist Republic of Viet Nam 2005b). A third of the total population escaped from poverty in less than 10 years (ADB et al.. 2004).

One might ask if this fast growth will help erase hunger and alleviate poverty in the next couple of years while around 90 percent of the poor live in rural areas. The livelihoods of the poor rely heavily on forests and forestlands. In most parts of the country, deforestation and biodiversity loss are occurring at an alarming rate.

The sustainable management and use of natural resources, in general, and of forests, in particular, are fundamental to human survival. Forests provide people with timber, firewood, non-wood forest products (NWFPs), as well as valuable environmental services. Forests play an important environmental role through watershed and water resources protection, soil erosion control, and regulation of climate. They also make great contributions to improving the livelihoods and alleviating poverty among rural and

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¹ In late 1986, the government abolished compulsory grain purchase quotas and instituted free trade at market prices, ended collectivized agriculture, and distributed farmland to individual households (Irvin 1995; Dollar and Litvack 1998).

mountain people (Ha 2009). Presently, 23 percent of Vietnamese communes are poor. These poor communes make up 50 percent of the country's total land area, of which 66 percent is forestland (Dinh Duc Thuan et al.. 2005). The most recent of Viet Nam's Living Standard Surveys shows that poverty incidence is highest in mountainous areas, such as the northern mountains and central highlands, where forestry resources are abundant. According to Sunderlin et al.. (2004 & 2005), the poorest of the poor, especially ethnic minorities, reside in or near forested areas.

Viet Nam's territorial area is about 33 million ha, of which 16.24 million ha is planned for three types of forests, namely: special use forest (2,199,342 ha); protection forest (5,552,328 ha); and production forest (8,495,823 ha) (MARD 2010)². Recent data of the Ministry of Agriculture and Rural Development (MARD) show that Viet Nam's existing forest area and forest cover are increasing and contributing to poverty reduction in forested areas. As a result, the forest sector contributed to the national GDP (MARD 2010). Viet Nam's total forest area increased at annual average rate of 164,250 ha, from 12,601,800 ha in 2005 to 13,258,800 ha in 2009 (Ibid.). Forest cover increased at a rate of 0.4 percent per year, reaching 37 percent in 2005 to 39.1 percent in 2009 and 39.5 percent in 2010. All of this is due to support from Program 661, Decision 147 that supports afforestation, and official development assistance (ODA) projects. The increased forest cover contributed to important social objectives, such as rural poverty reduction and income generation, especially for 12 million ethnic minority people living in remote forested mountains in the country. These efforts include forest land allocation and rural employment. More specifically, 3.3 million ha of forests were allocated to households and two million ha of forests were contracted for protection. Reforestation through Program 661 created employment for 4.7 million people (Ibid.). However, the figures of Viet Nam's forest cover and forest reserve as well as information about forest quality and status are not correct. This was raised and discussed by many experts and managers in many workshops, as this is causing many difficulties in planning, land allocation, and forest management for policy-makers, managers, and forest owners.

Between 2005 and 2009, the forestry sector contributed only 1 percent of the national GDP, not including processing and export of forest products. In fact, 1 percent is very a very small proportion compared to the contribution made by agriculture, which is estimated at 14 percent per year. However, forestry contributes greatly to the national economy through the forest product processing industry (for export) and for its environmental values. Furniture exports increased from US\$61 million in 1996 to US\$3.55 billion in 2010 and created about 250,000 jobs per year. Moreover, if the contribution of forestry to environmental services (such as protection of soil,

² Special use forest is primarily for nature reserve, conservation of national standard forest ecology and the genes of forest flora, and scientific research, protection of historical monuments, leisure, and tourism. Together with protection forest, special use forest contributes to environmental protection. Protection forest is primarily used for water resources and soil protection, prevention of soil erosion and desertification, mitigation of natural disasters, climate moderation, and environmental protection. Production forest is used for production and trade of timber and NWFPS. Production forest and protection forest contribute to environmental protection.



Pedro Walpole

Forest resources and small farms provide much of the subsistence needs of rural families but not enough to get out of poverty, given their distance from markets, economic opportunities and social services.

water, and carbon absorption and other services) is fully calculated, the value is much higher, estimated at about US\$29.7 billion (ADB 2009), accounting for 4-5 percent of the national GDP.

Nevertheless, poverty in the key forested regions has not reduced substantially. Therefore, the contribution of the forestry sector to poverty reduction is still limited. Household income generated from forest activities is still modest despite government's efforts.

Poverty reduction is a complex issue and requires cross-sector coordination and collaboration. The government of Viet Nam has increasingly paid attention to the abolition of hunger and poverty and to economic development, since 85 percent of protected areas are located in regions where poverty incidence is highest (ICRAF Viet Nam 2009). The government has also emphasized the tight links between poverty alleviation and forestry conservation by setting a goal to reduce poverty in the country to below 40 percent and to increase the country's forest cover to 43 percent in 2010 and to 47 percent in 2020 (Ibid.). This suggests that policy makers view the forestry sector as one mechanism for poverty alleviation.

Nevertheless, there has never been any thorough research on the contribution of forests to poverty reduction, although there are minor studies done by Sunderlin and Huynh (2004) and Dinh Duc Thuan et al. (2005).

Poverty reduction and forestry in national policy

National poverty reduction strategy

Based on a cost-based method to calculate poverty indicators and an international poverty line, Viet Nam is seen to have successfully reduced poverty. In the 10-year socio-economic development strategy, the government expressed its commitment to job creation, poverty reduction, and social equality. The development strategy toward poverty reduction was integrated in socio-economic development plans for 2006-2010 with the following goals: (i) reducing the households considered poor from 32 percent in 2000 to 15-16 percent in 2010 (based on the General Statistics Office or GSO); and (ii) reduce 75 percent of households that are poor in terms of food (from 11 percent in 2000 to no food poverty in 2010).

In the 1990s, Viet Nam's poverty rate was around 75 percent, which was unacceptably high. It was reduced to 58 percent in 1993 and 37 percent in 1998, 29 percent in 2002 and 24.1 percent in 2004 (Socialist Republic of Viet Nam 2005b). This was further reduced to 19.5 percent in 2005, 14.8 percent in 2008, 12.3 percent in 2010, and 10.6 percent in 2011 (Index Mundi, retrieved 2011).

Doi moi has had a remarkable impact on Viet Nam's rapid economic growth, hence the eradication of hunger and poverty in Viet Nam (World Bank et al. 1999). However, the question put forward now is whether rapid growth can improve this in the near future. A report, Viet Nam Poverty Analysis, by the Centre for International Economics (2002) noted that *doi moi* seemed to have led to structural changes in the economy in which some sectors could expand and develop while some will still contract. It opens up the possibility that unemployment will increase and incomes will fall below the poverty line.

The socio-economic development plan for 2011 to 2015 on the implementation of the associated strategy shows the direction toward fast and sustainable growth, as well as increasing the country's potential to develop. The plan also mentions improving the quality, efficiency, and competency in international integration to make strong changes in the economic structure and promote industrialization and modernization. The plan targets the goals of increasing the average economic development rate at around 7-8 percent per year from 2011 to 2015, decreasing the average poor household rate based on the new standard to 2-3 percent per year, and increasing the forest cover to 42.5 percent (Decision 09/2011/QĐ-TTg).

UNDP (2011) stated that of all the Millennium Development Goals (MDGs), Viet Nam has made the most impressive progress on MDG 1 on poverty reduction. From a poverty rate of 58.1 percent in 1990, the country successfully reduced poverty by 75 percent in 2008 (14.5 percent poverty rate).

However, while overall poverty levels dropped remarkably, wide disparities still exist. For instance, more than half of the ethnic minority groups still live below the poverty line. New forms of poverty are also starting to emerge, such as chronic poverty, urban poverty, child poverty, and poverty among migrants. Tackling these new forms of poverty will require tailored and multi-sectoral approaches that recognize that poverty is more than just a household's income level in relation to a monetary-defined poverty line (UNDP 2011). In the 2010 Human Development Report, the population below the poverty line of Viet Nam in 2000 to 2008 was 28.9 percent. However, during the same period, 30.1 percent of the population are at risk of severe deprivation in living standards and the population at risk of multidimensional poverty is 12.0 percent.

The Asian Development Bank (ADB) also expressed that even though Viet Nam achieved this impressive progress, the poverty rate in the ethnic minority areas was still 52.3 percent in 2006, though considerably reduced compared to 86.4 percent in 1993 (ADB 2011). Recently, the government identified 62 poor districts to receive special support through programs, such as the New Rural Development Program for socio-economic development. This targets communes and villages and works particularly in mountainous areas where ethnic minority groups reside. It has a budget of about Vietnamese dong (VND) 74,000 million (equivalent to US\$4 million) (MARD 2009). The Rapid Poverty Reduction Program under Resolution 30A was also implemented for a year in these 62 poor districts.

Forestry policy

Viet Nam's socio-economic development strategy for 2001 to 2010 set a number of goals for the forestry sector Box XI.1. It should be noted that from 2005 until the present, logging is still banned in Viet Nam. The natural forest is still closed to extraction and timber is only harvested from planted forests, which are production forests.

Box XI.1. Forestry sector goals under Viet Nam's socio-economic development strategy, 2001–2010

The goals for the forestry sector specified in the country's socio-economic development strategy for 2001 to 2010 are as follows:

- Increase the forest cover to 43 percent. In the late 1960s, the forested area in Viet Nam was estimated to be 18.15 million ha, accounting for 55 percent of the total land area of 33 million ha. In the late 1980s, it dropped to 5.7 million ha or 17 percent of the total land area (Collins et al., 1991; De Koninck 1999 in Sunderlin and Huynh 2005). The country's forest cover declined from 43 percent in 1943 to 20 percent in 1993 (Vo Quy 1996). Nonetheless, between 2005 and 2009, the forest area increased significantly from 37 percent in 2005 to 39.1 percent in 2009 with an average annual rate of 0.4 percent (MARD 2010). As of the end of 2009, Viet Nam's forest cover was 39.1 percent (MARD 2010).
- Complete forest land allocation to socialize the forestry sector. The goal set by the plan was to shift from the state's centralized forestry management to social forestry—community forestry and household forestry. Up until 2009, the area of forest land unallocated and managed by the Communal People's Committee was 2.74 million ha.
- Promote forest-based livelihoods.
- Stabilize local people's farming practices.
- Prevent deforestation and forest fires.
- Speed up the progress of commercial plantations to provide raw materials for domestic production and exports.

With these ambitious goals and tasks, together with institutional and policy reforms, the cost to successfully implement the strategy was estimated at US\$400 million per year for 11 years. But investments from the state budget and private sector reached only about US\$50–60 million per year. A series of policies issued by the Government aimed to access the market for financial resources, such as

strengthening incentive mechanisms and encouraging organizations and the private sector to invest in forestry (through land allocation, lease, joint venture and association)³.

Since 1998, the key investment policy of the government in forestry was the afforestation program for five million ha or Program 661. The program almost achieved its target of planting three million ha in the protection forest, but the target for production of forest plantation of two million ha was not met. The implementation of this program has shortcomings, such as a lack of strict regulations on project and budget planning. The program was modified based on the national assessment results (Decision No. 100/QD-TTg). The main amendments included the criteria and classification of forests to reduce protection forest, to increase forestry production, and to improve regulations on land allocation and the forest lease. The government also issued new policies on the development of production forest (Decision No. 147/2007/QD-TTg), i.e., to support forestation activities, to develop forest infrastructure and training.

In 2010, to innovate forestry management, the government established the General Department of Forestry under MARD with the responsibility of developing forest policies. The agencies at the provincial and district levels are responsible for managing forest protection and development activities. However, according to Wode et al. (2009), many forest policies are relatively centralized with complex regulations that limit their application at the local level. The lower level management authority still has to submit its request to higher offices for approval. This situation is constraining the innovation and the effectiveness of the decentralization process. The administrative management and services-providing capacity for the forestry sector at district and commune levels are still limited. The state controls and manages most forest areas in terms of land use, and issues exploitation quotas by command measures instead of economic measures⁴. Furthermore, the development of effective forest policy is constrained by the inconsistency and ineffective cooperation among ministries. Ineffective cooperation among ministries makes it impossible to establish a consistent and reliable information system.

Past and present contribution of forestry to poverty alleviation

Resource use is shaped by the institutionalized patterns of interaction among individuals, households, and formal and informal structures of governance and control. The latter emerges with the communities and from larger political and economic institutions, such as the market (Tran and Rambo 2000). These institutions can either facilitate or constrain the ability of people in the community, as defined by gender, class, age, and social status, to manage their own resources. Over time, the level of contribution of forestry to people's livelihood and the state economy is changing and increasing. The following sections explore how subsistence use of forests and community forestry, commercial and industrial forestry, and payment for environmental services contribute to poverty alleviation in Viet Nam.

Community forestry

Subsistence forest use

In Viet Nam, traditional community forestry existed for many generations and is closely linked to the survival and culture of forest-reliant communities (Nguyen 2001; Nguyen 2003). Many communities protected and managed the forests effectively with minimal inputs and funding from the State in comparison to State-managed forestry (MARD 2001). Traditional community forestry is considered one of the best forms of management; it is efficient, cost-effective, and is advocated by local people

³ Financial support from the State's budget to the forestry sector is not sufficient in accordance to plans.

Therefore, arrangements such as land allocation, lease, joint venture and association are considered the best ways to attract capital sources from society to invest in forestry.

⁴ Planning and implementation are still top-down and are not market oriented (Interviews with Mr. Dinh Duc Thuan, Head of ODA Forestry Project Management Board).

(Nguyen 2003)⁵. Therefore, it should be promoted in the current social and economic context. The reasons are two-fold. First, local populations have a greater interest in the sustainable use of resources than the State or corporate managers. They are more aware of the intricacies of local ecological processes and practices, and they are more able to effectively manage those resources through local or “traditional” forms of access (Tsing et al., 1999). Second, the government cannot afford to employ local people to manage forests on a long-term basis and the present state forest management is encountering great difficulties in remote areas (MARD 2001). Experience has shown that communities with a long tradition in forest management are able to use, conserve, and protect the forests well.

Forested areas used and managed by village communities consist of sacred forests, critical watershed⁶ areas, and cemetery forests of ethnic groups. In some areas, forests previously managed by cooperatives were transferred to village communities after the cooperatives were dissolved (MARD 2001). Traditional forests managed by communities can provide timber (though in fairly limited quantity that can be used for building and fuel) and NWFPs. Traditional community forests can provide timber for public structural needs. Forest food sources are most extensively used to help meet dietary shortfalls during certain times of the year. Trees and forests are integral to farming systems. These benefits are shared more equally than those under other forest management systems in Viet Nam (MARD 2001).

Allocation of forest resources rights

Viet Nam established its *doi moi* policy in 1986, which brought about the following changes: (i) it eliminated the cooperative’s monopoly on agriculture and forestry; (ii) it introduced short-term land use rights (up to 20 years for agriculture and 50 years for forestry); and (iii) it encouraged privatization and market liberalization. During the 1980s, a household-based economy increasingly displaced the cooperative-based economy (Le and Rambo 1999). The government shifted responsibility for the management of natural resources away from commune cooperatives and into the hands of individual farm households (Nguyen 1995).

During this period, Viet Nam’s forest sector was gradually transformed from a centrally-managed organization into a socialist one, with forests gradually being managed in a more sustainable manner (Pham 2008). However, this transition was slow and took place over 10 years. Due to the unsustainable use and management of resources, the area of quality forests declined. Forest cover dropped from 43 percent in 1943 to 27 percent of the total land of the country in 1990 (Vo Quy 1996; MARD 2009). From 1980 to 1990, Viet Nam’s natural forest cover decreased by an average of 100,000 ha a year. The main causes of deforestation in Viet Nam are population-driven demand for forest products and agricultural land, and logging of large tracts of forest by the State Forestry Enterprises (ADB 2000). Since 1990, forest area increased due to efforts to afforest and rehabilitate natural forests.

The process of forest land allocation in Viet Nam was carried out since 1968 and through different periods (MARD 2009). The following is an examination of past and current contributions of the allocation of tenure over forestry resources to poverty alleviation.

1968-1982: This was the period of state and cooperative development, and Viet Nam’s economy was centrally managed and all development plans were formulated and implemented from the central to local level. During this period, the issuance of overlapping and inappropriate forest management policies brought little benefit to local people (MARD 2009). They were not provided with long-term rights to forest resources, so there was no incentive to protect the forest further (Scott 2001). The actors in the centralized economy were mainly the government, state enterprises, and cooperatives. Households participated in cooperatives, shared work, and benefited equally. This benefit mechanism between locals and the government was not mentioned in this period. Roles of individuals were not

⁵ Traditional models of community forestry have long existed in Viet Nam. “Traditional models” meant systems of local level forest management were created in a community and not introduced from outside. Introduced models of community forestry are relatively recent. These are systems of forest management presented from outside the communities by the government, international agencies, or local NGOs. These may or may not be super-imposed on pre-existing traditional systems of community forest management.

⁶ A watershed is the whole region that contributes to the supply of a river or lake.

fully appreciated, except for the role of cooperatives. Active participation in economic production was poorly encouraged. Forest types and target groups were not clearly identified. Forest degradation and exploitation increased. Poverty was considered one of “Viet Nam’s enemies,” but the role of forestry in poverty reduction was not recognized or promoted.

1983-1992: During this period, allocation of forest land was based on land use planning. The Ministry of Forestry issued Resolution No. 1171 LN/QD on 30 December 1986 based on regulations to manage three types of forests, such as protection, special use, and production forest. Forest management was decentralized with the shift from state to people’s forestry (social forestry) and there was a gradual movement from the subsistence economy to a market one. Forest land allocation (FLA) and long-term leasing is a vital policy of the Party and the State (Hua 2008). The policy aimed to carry out the forestry socialization program for protection and development of forests and the strengthening of society. They would also combine forest protection with economic and social development, and hunger abolishment and poverty alleviation (Ibid.). Instructions and documents related to the FLA program were issued, including the Land Law issued in 1988. The first forest protection and management law was issued in 1991. Land allocation during this period was divided into two phases. During the 1983-1989 period, 1.9 million ha were allocated to 1,724 cooperatives, 610 institutions and schools, and 349,750 households. From 1989 to 1992, 796,000 ha were allocated to 440,000 households and 5.8 million ha to the State.

1993-2005: The Land Law was revised in 1993, 1998, 2001 and 2003. The 2003 Land Law stipulated that people own the land and the State is the representative to manage the land. The concept of ownership, which was addressed in the Civil Law in 2005, included the right to occupy, the right to own, and the right to determine. The Forest Protection and Development Law was modified in 2004. Decision 327 in 1992 and Decision 556 in 1995 aimed to re-green the uplands. Under Program 327, major funds were allocated to upland provinces. The poor in the uplands benefited from the large investment, working as wage laborers for State enterprises in plantation, protection, and forest cleaning. Instruction 525 issued by the Office of Prime Minister in 1993 emphasized the modernization of agriculture, the strengthening of educational systems, the development of infrastructure, and the provision of safe water throughout the uplands. During the period 1998-2010, the Five Million Hectare Reforestation Programme (5MHRP) was implemented according to Decision 661. This aimed to contribute to the achievement of the Comprehensive Poverty Reduction and Growth Strategy. The 5MHRP aimed not only to reforest Viet Nam, but also to address issues of rural poverty and national socio-economic development.

According to the 2006 report of the Ministry of Natural Resources and Environment, the total area of forest land (11.3 million ha) allocated to households, state forest enterprises, communities, organizations, individuals, and foreign-invested organizations, accounted for 77 percent of the country’s total forest land. The average allocation was 897 ha for organizations and three ha for households (Nguyen 2008). The remaining forest was temporarily allocated to the People’s Committee at the commune and district level.

According to Resolution No. 2159/QD-BNN-KL issued on 17 July 2008, the coverage increased to 38.2 percent. Total forest area was 12.83 million ha (10.28 million ha natural forest and 2.55 ha planted forest). The country’s forest cover reached 39.1 percent in 2009 and 39.5 percent in 2010 (MARD 2011).

FLA to individuals and households

Since the early 1990s, when the policy on forest land allocation to households and individuals was implemented, the government focused on developing family forestry. As of 2005, the State allocated nearly 3.5 million ha of forest land (accounting for 23.7 percent of the whole country’s forest land) to about 1.1 million households (MARD 2010). In 2008, the number of households allocated forest land increased to 1.3 million households with a total area of 3.8 million ha (about three ha per household), constituting 26.2 percent of the total area of forest land. It should be noted that households were allocated all the three forest types: 1.8 million ha of production forests, 1.6 million ha protection forests and 68,277 ha special use forests (MARD 2009).

According to FLA policy, households allocated with forest land are only allowed to use the land. Households allocated portions of the natural forests were allowed to use, rather than own the forests. In cases where households use their own money to invest in plantations, they would own the plantations (Nguyen 2008).

Allocation of forest lands to communities

The revised land law in 2003 did not state that forest land was subject to allocation to local communities. Viet Nam gave legal status to the local village community⁷ in 2004. However, these community forests were badly neglected and significantly degraded (Sunderlin 2004).

The revised forest law in 2004 allows for the allocation of forest land to villages, and the benefit-sharing law offers substantial economic incentives for participating in community forestry. With decision-making power handed over to communities, poor households are now able to use their forestry land—their key asset—to improve their livelihoods, thus helping them stay out of poverty. Before the new law on forest protection and management was passed, the foundation for community forestry in many communities throughout the country was strong in spite of past policy barriers (Sunderlin 2004). Case studies conducted in provinces, such as Ha Giang, Yen Bai, Dien Bien, Son La, Lai Chau, Cao Bang, Hoa Binh, Nghe An, Thua Thien-Hue, Gia Lai, and Dak Lak show that there are hundreds of cases where communities were able to circumvent formal restrictions and implemented their own system of community forestry with or without external support (Forestry University 2002; Vu 2003; Nguyen 2003; Tran 2003; Nguyen 2001; Bui 2003; Vu 2003; Pham 2003; Phong 2003). The communities in these case study sites were able to convince local authorities of the soundness of their approach, i.e., community forest management is one of the best forms of forest management because it is efficient, cost-effective, and is advocated by local people (Do Hong Quan 2003). These studies show preliminary evidence that allocation of forests to communities can lead to improved local management of natural resources.

Communities with allocated lands do not receive full rights, compared to other organizations, individuals, and households⁸. According to Decree 181/2004/ND-CP issued on 29 October 2004 on the implementation of the Land Law, the State allocated protection forests to communities. However, communities were not allowed to allocate protection forest to their members; to change land use rights; to transfer, donate, lease, or mortgage; to act as a guarantee; or to contribute money to invest on the value of land use rights (MARD 2009). Local communities protect the forest together and decisions on forest management are collectively made. The State does not collect money from communities when allocating forest land or production and protection forests. Legally, residential communities are not fully recognized as legal entities, simply because they do not have assets.

As of mid-2009, the total area of forested land allocated to communities was only 191,400 ha, much less compared to the target of 2.5 million ha by 2010 and four million ha by 2020 in the forestry strategy (MARD 2010). Communities were allocated degraded natural forest without supportive policy or investments (Le 2006; MARD 2010). Since community forestry produced generally low returns, it is not contributing significantly to poverty alleviation.

Impacts of FLA policies

According to Pham (2008), there is no research conducted on the impact of the FLA program on poverty reduction, but there are research projects and reviews of the forestry sector by independent experts, research institutes, international projects, and management agencies at all levels. Those research projects were carried out on a small scale, focusing on one location, usually by one organization (Ibid.).

⁷ The village community is a community with the same customs, practices, and traditional attachment to the forest in terms of production, lifestyle, culture, and belief; is capable of managing the forest; and interested in applying for forest allocation.

⁸ In areas where pilot projects are implemented, communities are provided land certificates but do not receive full rights as organizations. Individuals and households do.

FLA as a sound policy (MARD 2009) promoted and brought about changes in forest protection and management. As a result, forests are better managed, and forest users' responsibilities and benefits from forest protection and management are brought together. Thus, favorable conditions were created for forest protectors so that they would feel confident to manage the forests and invest in forest development on the forest lands allocated. And in a number of places, post-FLA policies accompanied FLA that encouraged the local people to participate in forest plantations, contributing to the establishment of regions supplying raw materials (Pham 2008).

Forest management and protection received great attention from the government, relevant ministries, and departments as well as from the local government (Nguyen 2008). Priority policies and support programs were developed for those who are dependent on forests and ethnic minority groups who live near or around forests. As such, the living standards of local people were improved and their awareness of the importance of forest also increased (To 2008; Vuong 2008; Nguyen 2008). In addition, FLA helped State forest enterprises achieve their goals on the use of labor, capital mobilization, and the use of technology by their cadres and workers, thus improving the efficiency of State forest enterprises, creating employment, and increasing income for workers (To 2008). More specifically, until 2010, the Five Million Hectare Restoration Project created almost 4.7 million jobs, of which 490,000 were for the poor, primarily those living in mountainous areas. The project helped them increase their income and stabilize their livelihoods through contracts for forest protection and tending industrial and fruit trees.

Vuong (2008) provided insights into the FLA program from an anthropological point of view. According to him, FLA created small and medium farms in mountainous areas where ethnic minority people reside. The farm size varied from a few to several dozen hectares. These farm owners mainly engaged in cultivation, animal husbandry, and forest tree plantations. Such a model helped owners diversify income sources to reduce revenue losses. In contrast, farms with trees and animals with a high market value engaged in production and trade. There are still only a small number of farms in mountainous areas because profits from forests are low, except in the area that provides raw materials for the Bai Bang paper pulp industry (Vuong 2002).

FLA contributed to changes from shifting cultivation to fixed cultivation and permanent settlement. Since FLA was established, ethnic groups were provided with knowledge of new techniques in wet rice cultivation. Vuong also emphasized that FLA contributed to the change in the proportion of harvested forests and replanted or rehabilitated forests. This was considered a revolution in agriculture in the uplands of Viet Nam. It changed the components of the traditional ethnic community, making practices more diverse and providing them with opportunities to integrate with other groups of people. At the same time, FLA helped locals improve their cultivation and trade techniques.

FLA's contributions to gender equity were equally important. Prior to and even during the initial period of FLA's establishment, only the name of the household head, the majority of whom were men, was noted on the land use rights certificate (Red Book) (Le 2004; Vuong 2008). Women did not receive individual rights to the land, and the land use rights were mainly given to men. Women were disadvantaged by the lack of policy recognition of women's rights to ownership over resources, such as land (Tran and Le 1997; Ha 1997). When FLA started, both husband and wife were supposed to sign the Red Book together and contributed greatly to gender equity in rural Viet Nam where men were always respected and women were disregarded due to the persistence of patriarchal values.

Box XI.2. Factors constraining FLA's contribution to poverty alleviation

According to MARD (2009), FLA's contribution to poverty alleviation is still limited due to the following factors:

- Vague policies and unclear guidance of policy implementation;
- Insufficient policies on FLA, lack of consistency and synchronicity in the promulgation of policies, lack of support policies after FLA, especially for households and communities;
- Incompatibility with local conditions in each region;
- Lack of coordination among stakeholders;
- Lack of economic incentives;
- Poor quality of forests or access difficulties; and,
- Lack of support after land allocation.

Source: MARD 2009.

Commercial and industrial forestry

Smallholder schemes

Since 2008, the forest land area assigned to households and individuals to develop a forestry economy increased through the State's guideline to "socialize forest jobs and attract a large number of local people to join in forestry for hunger elimination and poverty reduction." The policies spelled out the benefits households could receive from smallholder schemes as follows:

- Households that are allocated forest land with natural forest will receive benefits according to Decision 178, which stipulates in detail the harvesting and benefit-sharing mechanism.
- Households that are allocated forestry land with no forest for forest plantation are provided rice or cash. On average, households receive VND 2-2.5 million per ha (US\$100-125 per ha). Households are also provided the land use right certificate and they are allowed to harvest and benefit 100 percent from their planted forest.
- ODA projects provide support amounting to VND 10 million (US\$500) depending on the project and the region, with remote areas given special favor⁹.

Parallel to FLA, the State developed other policies to support households engaged in forest planting. In 2008, the government promulgated Decision No.147/TTg to support people's participation in developing production forests to replace Program 661. Although this program was implemented in the entire country and was considered successful in some areas where people were allocated forest land and had better livelihoods, it was difficult for those living in poor areas with low education level to take part in the program. This was because the financial support from the government was low, which was VND 2-2.5 million per ha compared to the total real cost of VND 15-20 million per ha. In addition, the government had other support programs, such as providing rice to poor ethnic minority groups so that they could plant forest trees on impoverished swidden fields and offering micro-credit programs with low interest rates through the Bank for Social Policies to support people who invest in forest plantations.

From 1996, the government undertook 15 ODA projects, including loans and free assistance from bilateral and multilateral organizations to: support people to plant small forests and engage in other forestry activities; support FLA implementation; issue land use right certificates; contract forests for protection; and implement agro-forestry models, with an average of VND 2-10 million per ha, depending on the duration for support, time, and geographical conditions (Dinh Duc Thuan 2010).

⁹ Interviews with Head of the Management Board of Forestry Projects, Ministry of Agriculture and Rural Development.

FLA, which grants land use right certificates to households and supports forest plantation both financially and technically, provided opportunities to local people to change their status from employees to owners of their own forest land. This created employment and increased the income of local people over the past years. Monitoring and evaluation were carried out in some projects and Program 661 showed that many areas were successful in developing small forestry models. These are areas where people actively participate in family forestry models, areas with market access, or areas with a clearly planned forestry land fund. It should be noted that up to now there is no official evaluation in terms of contribution to poverty alleviation in the entire country.

Village industries

There are no data available on the number of people working in the timber primary production and processing at the local level. Small-scale processing in areas with forestry potential is not yet developed and therefore did not contribute to poverty reduction. In some communes, there are small timber-cutting shops with most of their activities related to illegal logging. A number of local people who live near rich natural forests, such as the central highlands and south central Viet Nam are engaged in this activity. Small-scale timber-processing activities are often located in populated areas, such as the center of districts and communes, towns, or craft villages in the river deltas. Granting certificates to those shops or the management of their activities was not a focus.

Non-wood forest products (NWFPs)

Many of the rural poor in Viet Nam live in remote forested areas and depend on forest resources for a portion of their livelihoods. This is especially true of the country's ethnic minorities who mostly belong to the "poorest of the poor." It is estimated that the 24 million people residing in the mountainous areas are dependent on NWFPs (MARD 2006). These NWFPs include bamboo, bamboo shoots, rattan, medicinal plants, and animals to meet their basic needs, thus contributing to poverty alleviation despite the high rate of forest conversion and biodiversity loss in most of the country (Sunderlin 2004).

Despite the importance of NWFPs to local people, especially the rural poor, there is insufficient statistical data and officially published figures from the GSO as well as of the Directorate of Forestry on the volume of NWFPs harvested, processed and consumed domestically and exported (MARD 2010). According to the General Department of Customs, the total NWFPs export turnover value in 2005-2009 was over US\$900 million, of which the value of bamboo and rattan products accounted for 70 percent. The percentage of women who were engaged in harvesting of NWFPs was 70 percent (Hoang 2006). It should be noted that medicinal plants of high potential do not receive relevant development support, although Viet Nam spends a lot of money to import oriental medicines from China. The figure shows that the growth of export turnover value over the last five years only met 15-20 percent of the annual growth target as indicated in the NWFP Development Strategy for 2006-2020 (MARD 2010). It is expected to grow annually 10-15 percent on average to reach US\$700-800



Pedro Walpole

Medicinal plants collected from the forests are still popularly used as part of the health care practices of the people, especially in upland villages.

million per year. This will allow NWFPs to make a greater contribution to poverty alleviation through employment creation. According to MARD (2010), NWFPs are expected to become key production goods by 2020.

Bio-energy production

Decision No. 177/2007/QĐ-TTg issued in 2001 by the Prime Minister on the Approval of the Project on “Bio-energy Development till 2015 and Vision up to 2025” emphasizes that bio-energy, a new alternative energy should be developed to replace part of traditional fossil fuel, contributing to energy security and environmental protection. Specific goals for each phase are spelled out in the Decision. Based on Decision No. 1855/QĐ-TTg on the Approval of Viet Nam’s National Energy Development Strategy for 2020 and Vision up to 2050 issued in December 2007, it seems like the goals for bio-energy development do not include an explicit goal for poverty alleviation.

On 19 June 2008, MARD issued Decision No. 1842/QĐ-BNN-LN on the Approval of the Project on “Research on, Development and Use of *Jatropha curcas L.* in Viet Nam 2008-2015 and Vision up to 2015.” The goal of the project is to create a new agriculture that provides a material supplying area and is connected to a diesel oil processing industry. The industry must be of high efficiency and large-scale, so that fallow, barren lands and lands with low agricultural productivity will be used effectively, contributing to improvements in the livelihoods of local people in poor areas as well as to environmental protection.

According to an official of MARD, jatropha was planted in several provinces throughout the country, but no research was carried out on the models so far. Thus, there is no available information on the contribution of bio-energy to poverty alleviation in places where jatropha was planted.

Large-scale plantation establishment

As discussed in Section 2.2, the forest area in Viet Nam increased through the establishment of plantations, predominantly for protection. As a result, a lot of employment was created, contributing to poverty reduction. However, there are no official data to show to what extent large-scale plantation establishment contributed to poverty reduction.

Large-scale forest planting is often done by State-owned forestry companies, including centrally and locally-managed forestry companies, paper-mill companies, foreign development investment companies or joint-venture companies or organizations, military units, forestry cooperatives, and household farms, including small and medium enterprises.

According to the 2006 GSO statistics, the entire country had 2,547 forest farms with an area of 56,276 ha as of 2005. Two-thirds (66.3 percent) of the forest farms are located in the north, and one-third (33.69 percent) in the south. The two regions with most farms are the northeast (786) and north central (759). The average farm size is 22.9 ha, which is four times the average size of forest land per household and two-thirds of the maximum forest land permitted for one household (30 ha). There are 18,862 workers comprising the total labor force and on the average, one farm employs 7.7 laborers, including 3.5 regular laborers (MARD 2010).

According to MARD data of 2008, the entire country has 3,300 forest farms with a total managed area of 61,050 ha. The two regions with the most forest farms are the northeast (886) and north central (859), and the average farm size is 18.5 ha.

Between 2005 and 2009, the number of households engaged in forest farms increased to 2,000 households and the forestry land area managed by these households increased by 353,000 ha. It is estimated that 55 percent of forest farms were granted land use right certificates. The majority of the farm owners are using forest lands allocated to households and individuals for long-term purposes. Some farm owners are renting land from other owners or are leasing land to other users under a fixed price from forest companies (MARD 2010). There are no data on income earned by households engaged in forest farms.

State-owned forestry enterprises/State forestry companies

After Decree No.200/ND-CP on re-arranging State-owned forestry enterprises was implemented in 2009, 157 State-owned forestry enterprises were converted into forestry companies. These included member enterprises or enterprises under management of production forests; 14 one-member limited companies with 100 percent of State capital; three joint-stock companies; four forestry centers; 96 management boards of protection and special use forests. Since 1 July 2010, forestry companies have been completely converted into State-owned one-member limited companies operating under the Enterprise Law (MARD 2010).

Up to 2009, forestry companies managed nearly 2.2 million ha of forests and forest lands. On average, each company manages 15,000 ha of forests, mainly production forests. There are 96 forest management boards managing 1.15 million ha, mainly protection forests.

With regards to the company's efficiency, there are three categories: (i) forestry companies under the management of the Provincial People's Committee; (ii) forestry companies under the management of MARD's General Company; and (iii) and other types of companies.

Employment in forest-product processing and manufacturing

Viet Nam is an important forest-product exporter to almost 100 countries and territories. Between 2005 and 2009, total forestry export turnover value reached US\$11.2 million. Incomes from timber products export reached US\$8.2 million (MARD 2010). In 2010, wood furniture exports reached US\$3.2 billion. The production of chipwood for export is an incentive for forest planting and helps increase incomes for forest planters, especially households engaged in forest plantation (Ibid.). According to MARD official, 250,000 jobs were created from forest-product processing and trade from 2005 to 2009. It is reported that there is potential for poverty reduction through forest-product processing if the government lays down appropriate policies to support small and medium enterprises in areas with potential forestry development.

Table XI.1 shows that from 2005 to 2009, over 130,000 people worked in forest-product processing enterprises in the entire country: 36.5 percent in the northern provinces and the rest in the southern provinces. The forest-product processing enterprises workforce is mainly located in two regions: the Red River delta (61.3 percent of all northern employees) and the southeast (64 percent of southern employees). Men comprised 76.5 percent of the workforce in forest-product processing and manufacturing while 23.5 percent were women (Hoang 2006).

Table XI.1. Total laborers of forest product processing enterprises (2005–2009)

Region	2005	2006	2007	2008	2009
North	36,831	42,808	44,126	48,523	48,290
Northeast	5,224	6,133	8,547	9,921	10,256
Northwest	730	889	859	816	951
Red River delta	25,205	28,445	26,001	28,657	26,965
North Central	5,673	7,342	8,710	9,130	10,120
South	71,804	65,852	74,543	80,808	89,625
South Central	14,360	15,394	15,224	15,023	13,456
Central Highlands	6,886	4,465	6,983	5,761	4,974
Southeast	46,329	39,705	45,146	51,231	62,341
Mekong River delta	4,230	6,289	7,192	8,794	8,855
Total	108,635	108,660	118,669	129,330	137,915

Source: Hoang 2006.

In 2009, the total capital of the forest product processing enterprises nationwide was about VND 26.9

billion, which increased 2.5 times compared to 2005. The largest increase in capital was in the Red River delta and Mekong River delta (over four times), followed by the Central Highlands (3.4 times) and North Central (2.9 times) regions.

The forest-product processing sector has developed rapidly but is also unstable. It suffers from a lack of planning and strategic view, competitiveness, supportive industry, and trade name of products, especially when the Lacey Act of the USA and the Forest Law Enforcement, Governance and Trade (FLEGT) are implemented. This is because the implementation of issuing Forest Stewardship Council (FSC) in Viet Nam has just started and the requirement for importers to declare the country of origin of harvest and species name of all plants contained in their products is adversely affecting Viet Nam's export of its timber products to the United States and European Union countries. This may affect employment in the sector and, consequently, its contribution to poverty alleviation.

Payments for environmental services

Ecotourism

Ecotourism has become increasingly popular during the last decade in Viet Nam. This is primarily because both conservation and development organizations are looking for means of generating incomes from protected areas. It presents an ideal opportunity for tourists from the richer countries looking for new experiences. It is equally important that ecotourism is seen as an opportunity for local people to reap the benefits from this development, thus contributing to poverty alleviation. It is reported that 85 percent of protected areas are located in regions where poverty incidence is highest (ICRAF Viet Nam 2009).

For an ecotourism program to be successful, the implementers need to ensure that the benefits gained have an impact in the host area. All too often, tourism revenue leaks away from the local economy back to the countries from which tourists come from, and local communities end up seeing minimal benefits (Brandon 1993; Koch 1994). However, when carefully planned and managed, an ecotourism development in a tropical forest can provide a sustainable return, much of which can remain in the local community (Horwich 1988). According to the Hanoi Tourism Company (2011), tourism contributed 3.9 percent of Viet Nam's GDP in 2010 and is predicted to reach 13.1 percent by 2020. However, community-based or pro-poor tourism has not been pointed out as a way to enhance economic benefits (which are extending the length of stay; increasing expenditures; increasing linkages to other economic sectors; reforming State-owned tourism enterprises and encouraging more private or joint venture tourism enterprises). This encourages cross-sectoral tourism development while the World Bank Mekong Tourism Development project aims at cross-country development.

According to a Senior Advisor of the Pro-poor Sustainable Tourism at SNV-The Netherlands Development Organization, 99 percent of the poor are excluded from being hired as tourist guides. This is because prior to the new Law on Tourism (effective as of January 2006), to be a licensed tour guide in Viet Nam requires a college degree as regulated under the Tourism Ordinance 1995. This effectively excludes ethnic minority people from formally working as tour guides. Many did and do work unofficially, but this puts them in a relatively insecure position. Although some are treated well by local authorities and tourism businesses, they are still without legal protection. The new Law on Tourism under Article 78 permits local people without a college education but with extensive knowledge of local tourism features to be granted Narrator License to work as local guides. This article should provide many people the opportunity to formally acquire licenses to work as tour guides.

In addition, there is significant imbalance in the distribution of income from tourism between urban and rural areas, even though many tourist resources are located outside rural areas. It was found that many benefits from tourism bypass the majority of people living under the poverty line, especially in high-poverty areas (Nguyen et al., 2007). A feasibility study conducted by SNV in November 2002 indicated a high potential to support Community-based Tourism (CBT) and Ecotourism (ET) development. Both CBT and ET are rapidly growing segments of the travel market that provide opportunities for diversifying tourism products and increasing tourism earnings through creating longer visitor stays. CBT and ET can

be effective tools for rural development that can contribute to poverty alleviation, sustainable resource use, rural infrastructure development, cultural conservation and community-building objectives.

In some pro-poor tourism initiatives, such as the CBT projects funded by SNV in Sapa and other areas, efforts focus on capacity building or supporting local people to host tourists for daytrips or overnight stays. As a result, the contribution of tourism to poverty reduction is not really significant (Nguyen et al.. 2007).

Payments for carbon

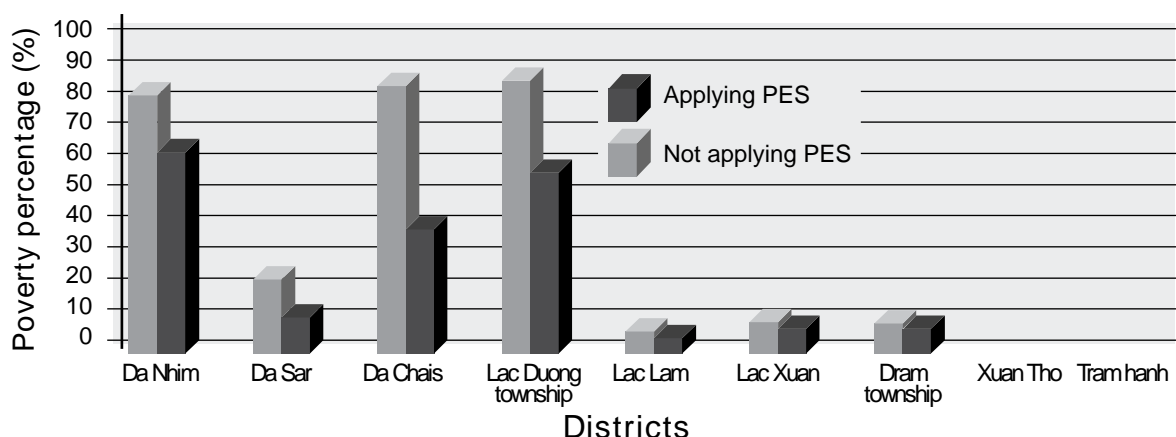
In recent years, PES, reduced emissions from deforestation and forest degradation (REDD) and carbon sequestration have become “hot” issues in academic dialogues as well as government discussions. On 20 April 2008, the Prime Minister issued decision 380/QD-TTg on the PES policy. This is considered to be one of the important legal documents required to mobilize financial resources from organizations and individuals benefiting from forest services to pay those who protect and develop forests. Lam Dong and Son La provinces were officially proposed to be the two pilot sites for the implementation of the PES policy. After two years, the result established a sustainable linkage between downstream forest environmental services (FES) users and FES providers (MARD 2010). Until September 2010, total payments from FES amounted to US\$4.46 million. This fund was paid to 22 forest management boards, forest enterprises and 9,870 households including 6,858 ethnic households (Winrock International 2010). The report of MARD (2010) asserted that the PES policy contributed in assuring the stabilization and enhancement of livelihoods for local people involved in forest protection and development.

On 24 September 2010, Decree No. 99/2010/ND-CP on PES was issued, according to which the target groups receiving payments from FES would be forest owners, agencies, organizations, associations, households, individuals and communities holding the long-term forest protection contracts signed with State organizations.

Tran (2009) pointed out that the implementation of PES in Viet Nam met several difficulties. The overlapping of administrative management and responsibility between ministries increased transaction fees. The government recently looked at PES in terms of taxes and fees, and managed PES through environmental fees.

It was recognized that the income from PES and REDD could contribute to poverty reduction of forest dwellers. In the PES pilot project in Lam Dong province, local households in Da Nhim received an amount between VND 50,000-100,000 per ha per year for forest protection (from Program 661 and other social support programs). Meanwhile, between 6 and 19 March 2010, the pilot PES providers received VND 290,000 per ha per year, much higher than what was previously received in other programs (Winrock International 2010). Figure XI.1 below shows that in the pilot area in Lam Dong province, the application of PES decreased the poverty rate through higher incomes.

Figure XI.1. Influence of PES on poverty reduction in some districts in Da Nhim



Source: PFES: Research pilot project in Lam Dong, Viet Nam from 2006 to 2010, Winrock International 2010

However, Tran (2009) pointed out that the involvement of the poor was limited, the returned fund used for poverty alleviation from the PES budget was low, and contribution to poverty reduction was minimal. To promote the role of PES in poverty reduction, Vu et al. (2008) suggested the need for a clear benefit-sharing system as well as a mechanism for fund allocation to local communities (service providers).

In conclusion, the direct contribution of PES to the poverty reduction process is slight and requires further research. The budget directly contributes to a small part of household budgets, but it does not help households or communities eliminate their poverty status. The payments are not adequate for local people's efforts. But it does help to increase awareness of their responsibilities and consequential benefits from conserving the forests. It also improves participation in forestry activities and indirectly empowers local people in the decision making process related to forest conservation and protection.

With regards to carbon payment, in the case study of Lam Dong, it was considered that the income from this source would definitely contribute to the poverty alleviation effort. Carbon payments have become a recent focal interest among academics and the government due to its relationship with climate change issues. In June 2010, Viet Nam hosted an international conference of the Katoomba group¹⁰ on PES and carbon sequestration. In this conference, knowledge and opportunities on the market for PES and carbon were shared. There is as yet no empirical research available in Viet Nam to show the relationship between carbon payments and poverty alleviation.

Interfaces and gaps between forestry and poverty reduction

In 1986, Viet Nam shifted from a centralized economy to a market-oriented one. The country gained remarkable achievements in agricultural production, especially in rice production. From a country that suffered from rice shortages, Viet Nam is now a leading rice-exporting country. Developments in the agricultural economy are remarkable, such as in rice, tea, coffee, and cashew nut export.

To achieve these, the government relentlessly improved its agricultural policies to encourage economic sectors to join the development process, especially Land Policy (such as Contract 10, Contract 100, and a series of macro-policies placing farmers at the center of the development driving force). This contributed greatly to the national strategy on hunger elimination, poverty reduction, and food security. Viet Nam is acknowledged as one of the most efficient countries to implement such schemes.

Parallel with the agricultural development policy, the forestry sector also experienced a drastic change from centrally-controlled forestry (traditional forestry) to social forestry. The government aimed to attract and encourage as many sectors as possible to take part in forestry by issuing a series of policies regarding land allocation and lease, and national programs such as Program 327, Program 661, Program 100, Program 30A. But forestry policies were not as successful as the agricultural policies. The reason is that the forestry sector did not have appropriate solutions to assist households in the mountains to engage effectively in forestry practices unlike the agriculture programs that benefited wet rice farmers in the delta. FLA is considered completed in terms of the policy but no arrangements have been made to assist households to participate in forestry activities. That the allocated area of forests and forest lands is still large, accounting for more than 50 percent (MARD 2009) is a factor to consider in assessing the potential and actual effectiveness of forestry policy on hunger elimination and poverty reduction (about 25 million local people living near and in forested areas). It is not clear as to whether or not these policies promoted participation in forestry or stabilized the incomes of those who are dependent on forestry.

In the MDG on national hunger elimination and poverty reduction, the government issued the Central Resolution on "*Tam nông*" (Agriculture, Farmer and Rural Areas). It contains many action plans and policies, in which the forestry development policy is only one part of an initiative to improve rural living standards. Therefore, it is necessary to find out which factors limit contributions to poverty reduction.

¹⁰ This is an international network focusing on market access relating to PES to build up sustainable financial mechanisms, and ecological system conservation and restoration.

As regulated by law, organizations allocated forests must be the representatives of the State for forest products and forest land. These representatives not only have ownership of the forest, but also have rights to its use (Nguyen Tan Phu 2009). There are millions of people living on forestlands under State ownership but are unable or do not have access to forests, thus leading to a conflict of interest between the State and the locals. Therefore, even if the State has policies in place to allocate forests, it is not always carried out and it is not clear who has ownership and forest use rights (Ibid.).

Forestry policies formed in recent years include Decision No. 178/TTg on benefit-sharing between those engaged in forest protection and development; revised law on forest protection and development issued in 2004; and Program 661 on the analysis of forestry growth and the contribution to national GDP, job creation and income from forestry, as discussed earlier in this section. The gap between policies and national poverty reduction is becoming increasingly more obvious with little contribution from forestry compared to its potential, due to the following reasons:

- Although the State has issued various policies on forest protection and development, there has been limited impact in the promotion of and motivation for forest development.
- Legal mechanisms are still State-managed and administrative procedures are complicated. There is a decentralized management mechanism but institutional arrangements are unclear.
- Coordination between management bodies and agencies in planning and implementing policies is poor.
- Due to limited budgets, implementation of policies and programs is not complete.
- Development of forestry policies encounters difficulties in Constitutional provisions and laws on land and forest protection and development.
- Policies do not bring about sufficient benefits for participants in these initiatives, so they do not have a strong commitment to the forest and cannot generate enough income. Consequently, the hunger elimination and poverty reduction strategies which depend on forestry, cannot be achieved.

National case studies

The three national case studies that follow are on traditional forestry, industrial forestry, and PES. The traditional forestry site is in Tham Village, Chieng Sinh Commune, Son La City, Son La Province; the industrial forestry site is in Mong Hoa Commune, Ky Son District, Hoa Binh Province; and the PES site is in Hom Village, Chieng Coi Commune, Son La City, Son La Province. The location and some basic features of the three sites are summarized in Table XI.2.

Table XI.2. Background information on the case study sites

Commune Site	Location	Forestry initiative	Total population	Number of households	Ethnicity	Poverty rate
Chieng Sinh	Son La City, Son La Province	Traditional forestry	10,648	2,591	Thai, Kinh, Mong, and Muong	4%
Mong Hoa	Ky Son District, Hoa Binh Province	Industrial forestry	5,091	1,196	Muong, Kinh, and others	30%
Chieng Coi	Son La City, Son La Province	PES	4,402	908	Thai, Muong, Kinh, Mong	30%

The contribution of traditional community forestry to poverty alleviation in Tham Village, Chieng Sinh Commune, Son La province

Field site

Chieng Sinh Commune, Son La City, lies in the buffer zone of the Da River watershed, where the Son La hydropower plant¹¹ is located. Chieng Sinh is situated 20 km from the Son La hydropower plant. The buffer zone plays a vital role in the larger watershed of the Da River, as the forest in the area helps restore the underground water for the watershed. Further, it is also the resettlement area of the communities displaced by the hydropower plant. If the forests in the buffer zone are not protected, there will be adverse impacts on the watershed with ensuing negative effects on the lifespan of the hydropower plant.

Chieng Sinh is the gateway commune to Son La City. It is located on Highway Six, bordering Chieng Mung, Chieng Ban, Chieng Ngan, Hua La, and Quyet Tam Communes. Chieng Sinh is divided into 17 villages (*ban*) and eight groups (*to*) and covers 2,269 ha, of which 617 ha are agricultural lands and 1,082 ha are used for forestry purposes. Urbanization and development are extremely rapid. It is an agro-forestry community, also engaging in animal husbandry and commercial vegetable production, which seems secondary but presently plays a very important role in household economies. Over the past five years, the average total yield of food produce in the commune is 827 tonnes per year with coffee beans at 23 tonnes per year, soybeans at 18 tonnes per year, fruit at 204 tonnes per year, and vegetables at 1,278 tonnes per year (Chieng Sinh People's Committee 2010).

Chieng Sinh supports a population of 10,648 people divided into 2,591 households. It has an annual growth rate of 6.2 percent and a poverty rate of 4 percent. There are four ethnic minority groups residing in Chieng Sinh: Thai, Kinh, Mong, and Muong. Thais comprise the majority group, accounting for 42 percent of the total population of the commune.

Tham village

Research specifically focused on Tham Village (*Ban Tham*), one of 17 villages in Chieng Sinh commune. Ban Tham was selected due to its average size and because residents earn an average income of US\$420 per capita per year. It is one of the villages most dependent on the supplementary income provided by forest resources, as it is situated close to the forest. Ban Tham is one of the villages where traditional community forests are well-protected without any external financial support.

Ban Tham covers 192 ha, of which 78 ha are forest land, 12 ha are agricultural land, 15 ha are used for vegetable farming, and 70 ha are used to grow fruit trees, coffee, cassava, and corn. Only one rice cropping is done a year due to lack of water resources. Rice production is between 600-800 kg for each paddy (0.18 ha). Ban Tham's population during this study (2011) was 373, divided into 78 households, and 97 percent are Thai, with the rest being of Kinh ethnicity (the majority Vietnamese). Laborers account for 50 percent of the village's total population. The poverty rate is 10 percent¹² and adding to this is poor access to agricultural land and a lack of technical skills in the village, although it is not largely affected by capital sources. It is reported that newly separated households are those that have little land.

According to the elders in Ban Tham, village forests were never allocated to its households. The Ban Tham Agricultural Cooperative was established between 1966 and 1967 and at that time, 120 ha of the village was forest land. During the period in which the cooperative was initiated, the forest was cleared for swidden fields and only 78 ha in the forests were left. Forest protection was a community task completed on a rotational basis. Labor was divided according to the number of members per household

¹¹ The Son La hydropower plant is the largest plant of its kind in Southeast Asia, with a capacity of 2,400 MW, covering an area of 22,400 ha.

¹² According to the Ministry of Social, Labor and Invalid Affair (MOLISA), the poverty line in urban areas was changed from VND 450,000 (US\$ 22.5) to VND 500,000 (US\$ 25) per person per month. In rural areas, it is now VND 400,000 (US\$ 20), instead of VND 350,000 (US\$ 17.5).

but turned out to be ineffective. The reasons were two-fold. First, it would normally take at least two or three days for the forest to be passed over to another household and during this period, the forest was not protected. Second, when the households that were in charge engaged in family activities, the forest was left unattended and other villagers would use this time to cut down trees. As a consequence, the forest gradually thinned.

In 2000, the agricultural cooperative was dissolved and land was re-allocated to the households. On average, each household was allocated 0.1 ha to farm vegetables. At the same time, the village's Management Board (MB) was established. According to informants, the MB operated in a different mode from the agricultural cooperative in the sense that the four principles of grassroots democracy were applied, namely, "People know, people do, people discuss, and people monitor." Villagers were also given the right to speak up and decisions were made democratically. The MB took charge of the village's forest and called for meetings to seek villagers' consensus on how the forest should be protected and how much each villager should contribute to pay for guards. A different mode of forest management was formulated and since then, 78 ha of the forest were allocated to four groups of villagers for management and protection. Each group selects two people to guard the forest. And it is not only the two selected guards, but all members of their families, who are in charge of management and protection. In this way, it is not only the selected men but also women who take part. If a guard does not perform sufficiently, he will be fired immediately, and a new member will be selected. The forest guards' selection criteria are as follows:

- The guard must be a male. It is argued that women are not physically as strong as the men and therefore they cannot walk long distances in the forest as the men can.
- The household must have at least one laborer.
- The head of the household must be middle-aged.
- The household must live close to the forest.

In the same village, two separate strategies for the effective management of forest land were applied, depending on the natural conditions of the forest. Two groups of forestry guards manage 28 ha of land each and are paid in the form of rice contributed by households living close to the forest. On average, each household member annually contributes three kg of rice in December. Each forest guard is paid 600 kg of paddy rice per year. Villagers can contribute in cash in case of drought and wet rice farming is not possible. Guards of the two remaining groups are allocated ponds and vegetable farmlands near their forest. Forest regulations were developed based on the village customary law.

This shows how much power and autonomy the Tham villagers were granted, thus stimulating local people's decisions to effectively protect the resources themselves.

Contribution of the community forest to the wellbeing of villagers

Income and forestry resources

In response to the question on how their efforts to protect their forests make a difference to their livelihoods, the respondents shared that they get almost no cash income directly from the forest. All respondents said that the direct benefits they get include firewood, bamboo shoots and strings, and small poles to make garden fences and trellises. During the *mang lay*¹³ season, the village Management Board gathers a group, comprising one member per household, to go to the forest to collect *mang lay* shoots. The shoots collected by the group are then equally divided among all households in the village. In the past, people went freely to the forest to collect bamboo shoots and cut down trees. This, however, denied households without laborers a share of the *mang lay* shoots.

According to village regulations, each household is allowed to cut 50 small trees to use for garden fences and trellises each year. If a household needs more than 50 trees, they have to buy them at a price

¹³ Mang lay (*Bambusa spp.*) is similar to bamboo shoots.



Fuel wood collected from forests is an important source of energy for rural households.

of VND 1,000 per tree although the market price is VND 5,000 per tree. These trees are not sold to outsiders and the money from the sales is contributed to village funds.

On the importance of forests to the wellbeing of their households, the respondents believed that forests are ‘very important.’ This seems somewhat contradictory but, for many, their incomes come indirectly from the community forest. All the respondents said that the forest provides villagers with water for drinking, animal raising, and irrigation, and also helps improve the micro-climate in the area. All respondents agree that their households experienced improved wellbeing since the start of the initiative, and now over half of their income comes from the forest. They also described that this was largely due to the role of forestry and agricultural ventures. One villager reveals that:

The forest is very important to us. We could have died without the forest. Before 2000, we did not have sufficient water. Therefore, we could not grow vegetables. All households fetched water from a very long distance. The two lakes were very dry. Since the forest was well protected in the last six years, we have had plenty of water for drinking, animal husbandry, and irrigation. We have better rice crops and we have earned a great deal from growing vegetables for sale. On average, a mid-income household produces 1.5 tonnes of paddy per year and VND 40-50 million from the sale of vegetables. Both were not possible in the past when the forest was under the management of the agricultural cooperative.

According to key informants, since the Chieng Sinh cement factory opened in 1997, the village became notably more polluted. All fruit trees and house roofs are covered with cement dust and, in the area where there is no forest, the streams and lakes are so full of nickel that villagers can no longer bathe there. The ones who tried to do so found that the polluted water aggravated their skin. In the area where there is forest, on the other hand, there were less visible effects of dust. The head of the village believes:

The cement factory does not contribute anything to our community other than pollution. We have fought against them for such a long time until finally the city government decided to move part of the city here and moved the cement factory away. The quality of our forest is much richer now. As a leader of the village I feel confident that as long as we have a rich forest, we will have everything. We could combat pollution and even climate change.

Social structure, infrastructure, and education

Some members were asked what impact the initiative has had on the social structure, infrastructure, and education in their community. The response of the village related that the money collected from the sale of small trees to the villagers and fines paid by violators was put in the village fund. The fund is reported to the public every quarter and is spent on the maintenance of village roads, schools, and the health clinic. Although the contribution is not large, it contributes to infrastructure and education. One trader in the village says:

“The key to the success of the new mode of forest management is having democratic, reliable, and committed MB members. In the past, although the forest was under the management of the cooperative, no one took full responsibility for it. Consequently, the tragedy of the commons occurred. For the last six years, things changed for the better. The forest is better protected and managed. When an incident such as a forest fire occurs in the forest, the households unite to deal with the situation together. It does not matter whether they are rich or poor, everyone is happy to contribute.”

The village set up a scholarship program, the Study Encouragement Society, a few years ago. Each household contributes VND 150,000 to the society. The fund was set up for those who perform at an exemplary level in school. At the time the fieldwork was carried out, the village had two students at the Tay Bac University. Prior to this, the village did not have any member enrolled at the university.

Challenges villagers are currently facing

Majority of villagers claim that they are facing threats from neighboring communes (such as Chieng Ngan, Ban Co, and Ban Ban). It is reported that people from those communes go to Ban Tham’s forest to collect bamboo shoots and firewood that they can sell. They even use flashlights to look for bamboo shoots. Internal threat is also a concern, with several residents collecting bamboo shoots and firewood at times. Unlike outsiders, internal violators collect bamboo shoots and firewood for domestic purposes rather than for sale.

One of their fears about the future is the possibility that their forest will not be protected and it will completely disappear. Some even believe that if the forest is allocated to households for protection and management, it will shrink much faster. Without the forest, life will become much harder and the effects on environmental destruction will be severe. Flash floods, tornados, and tsunamis will be much more likely and villagers will suffer from water shortage. Another concern is that although trees are replanted in place of those cut down, the survival of planted trees is still falling, mostly because newly planted trees are often trampled on by cattle. It is proposed that grazing in the forest be banned.

What can be done to improve the contribution of the initiative?

The respondents recommended the following to further improve the contribution of their efforts:

- Increase awareness with the slogan “As long as we have forest, we have water and we have everything.”
- Environmental education programs should be launched in primary, middle, and secondary schools.
- The entire village should manage the forest.
- More trees should be planted in place of those cut down using tree species that are of high commercial value in the market.
- Grazing in the forest should be banned entirely.

The contribution of Viet Nam Forest Corporation (Industrial Forestry) to poverty alleviation in Mong Hoa Commune, Ky Son District, Hoa Binh province

Field site

The Viet Nam Forest Corporation (VINAFOR) was selected as the site for understanding the impacts of industrial forestry in a local community. VINAFOR is a State-owned company under the MARD and operates under the Enterprise Law of 2010. The company is mainly focused on forestry trade from afforestation to processing, export and import of wood products, including household wood products and plywood.

Hoa Binh Forestry One-member Limited Liability Company is a subsidiary directly under VINAFOR, located in Mong Hoa Commune, Ky Son District, Hoa Binh Province. It was established in 1998 after the implementation of the policy on re-arranging State-owned forestry enterprises according to Decision 187/CP. This brought about the introduction of activities related to forestry development and provided materials for the Thai Nguyen plywood factory and other wood processing factories.

Planting in the company's plantations is done through contracts with villagers of Mong Hoa Commune. The Hoa Binh Forestry One-member Limited Liability Company enters into contracts with the villagers of Mong Hoa commune to plant in the company's plantation according to the cycle of planted tree that lasts six to seven years. Villagers are provided the inputs, such as seedlings, fertilizer, and fees for labor days and forest protection. In return, villagers are responsible for forest plantation and protection for the entire contract duration. During the contract lifetime, the forest is considered the villagers' asset and therefore they have the responsibility to manage and protect the forest and have autonomy to either find markets for their timber themselves or sell it to the company at the market price. Over 70 percent of the population belongs to the Muong ethnic minority and more than 60 percent of the households rely on forestry for their main source of income. Income generated from the plantations contributes to over 80 percent of the total income of households in the commune.

While the forest is primarily used for production, it also plays a vital role in protecting the Da River Basin, which is only three km away from the Song Da hydroelectric plant.

Mong Hoa is a northern, mountainous commune of Viet Nam, three kilometers from the center of Ky Son district. The transport system is good as the commune is along National Road 6A. It covers an area of 1,866 ha, in which forestland accounts for over 70 percent. Mong Hoa commune has 17 villages with 1,196 households and 5,091 inhabitants belonging to various ethnic minorities: Muong (73 percent), Kinh (27 percent), and other ethnic groups (0.3 percent).

The main source of income in the commune is through contracting with Hoa Binh Forestry Company to afforest state land leased for 50 years. This accounts for more than 80 percent of the total household income of 1,196 households. However, under the new national poverty line¹⁴, around 30 percent of households in the commune are still considered poor.

Contribution of the community forest to the wellbeing of villagers

Before 1998, the state owned and managed all forestry land in the commune, though this proved to be ineffective as land was left bare. In 1998, the Hoa Binh Forestry Company was established under the guidelines of the government and Decision No. 187/CP. It reorganized the systems, merging forestry farms into the State Forestry Company to operate as a limited liability company under the Enterprise Law.

According to government guidelines, the state enterprise initiative will have a positive impact on forestry development in Ky Son District. This is with a particular emphasis on planting new forests in barren

¹⁴ The Prime Minister approved a higher poverty threshold for the period 2011 to 2015. In urban areas, the poverty line is VND 500,000 (US\$ 25) per person per month. In rural areas, it is now VND 400,000 (US\$ 20) per person per month.

areas, commercial afforestation, and developing forestry businesses. Those residents who do not own land will sign a contract to receive company forestland for afforestation. On average, the share of a household is between 10 and 20 ha, depending on working ability and regardless of their socio-economic status. The company will be responsible for providing the financial support with low interest rates to obtain materials, such as seeds, fertilizers and new technology. They will also ensure the efficient care and protection to the forest and people, especially during the period when trees are not yet mature to ensure people's livelihoods. Sources of capital for some infrastructure development programs of the government, such as Programs 134 and 135, helped develop rural roads to reduce forestry costs.

Since 1998, Hoa Binh Forest Company has made vital contributions to the increase in awareness of forestry issues. It has successfully increased participation in the initiative, and now many people in the commune are reaping benefits from the land, capital, equipment and technical support they receive. Overall, there have been some noticeable positive impacts on living standards in Mong Hoa.

Company policies regarding support offered to the Mong Hoa people are very specific. One contracted villager of Mong Hoa commune said:

My family has three members. I received 30 ha of forestland from the company for afforestation with a cycle of seven years. The trees, the majority of which are acacia and eucalyptus, reach their maturity in Year 7. I am now at the second cycle. The company encourages us to renew the contract, since we have experience from the first cycle. After seven years, the gross profit is approximately VND 1.2 billion and the net profit is around VND 600 million (equivalent to US\$30,000). The net profit for each ha for seven years will amount to an average of US\$1,000. The company buys all the raw materials to be harvested from the plantation at current market prices. If we find the price offered by the company lower, we can sell the products to external markets.

Some contracted farmers further related that during the first two years of the cycle when the canopy is not yet closed, they plant cassava. Technicians of the company help them grow cassava in such a way that when they harvest the cassava, it does not affect forest trees. In addition, they still have rice paddy fields to grow rice so that they have sufficient food to eat while waiting for the trees to reach their maturity.

With the contracts signed and forestland distributed, the company created jobs for about 1,000 households and more than 3,000 workers within an area of 2,000 ha. Indirectly, company policies encouraged the growth of thousands of hectares of forest in its location near the Da River hydroelectric plant. This has a contribution to water regulation, soil conservation, and other environmental values. There has been an increase in crop and vegetable production, thus securing food supply in the commune. Mr. Tho, a leader of the commune People's Committee believed:

Company policies on forest development clearly improved the life of people in the commune. Before 1998, villagers' incomes were small and depended on swidden agriculture. Since 1998, most people in the commune have stabilized their income by switching to forestry as it was their main source. People said that before 1998, looking for firewood was difficult because all forest land was managed by the State enterprise. Now, this area is managed and traded among villagers, and we do not only have sufficient firewood for animal husbandry development and but also for sale in the market.

When contract farmers of Mong Hoa were asked if the operation of the company contributed to the improvement of basic services in the community, they all said that the company constructed and paved the roads in the village for forestry purposes that the villagers are also benefiting from. In addition, they are provided both input and output services for forestry production as well technology transfer.

It was reported that the company has 30 staff members who either hold bachelor degrees or were graduated from vocational schools. Each is paid US\$175-200 per month, which is in accordance with

the State Corporate Law. The majority of the company's staff members are not from Mong Hoa. They come from other areas north of Viet Nam. The company does not have any workers; instead, it contracts farmers to plant trees for the company.

Challenges villagers are currently facing

The establishment and renewal of state forestry enterprise in Hoa Binh Forestry Company brought remarkable benefits, with the shift from centralized state forestry management to the market economy and the mobilization of organizations, residents, and communities to participate in managing and developing forest resources. Through this, forest lands will be used more effectively, employment will be created, and the local people's income will be increased, thus, contributing to reducing poverty. However, this model needs to be more sustainably developed. Both the company and local people still face difficulties and challenges:

- The area of forest land managed by the company is relatively concentrated, but the area of forest land allocated by the State to residents for 50 years is small and fragmented due to a lack of planning at the local level. This leads to low efficiency of use and investment.
- Forestry policies are not sufficiently synchronized to provide a motivating power for development. For instance, there should be policies on finance, investment, taxes, etc. to link to forestry policy.
- At present, local people as well as the company leaders do not have access to the State's information and policies on FSC, PES, REDD plus programs, etc. Particularly with regard to FSC, the corporation is in the process of recruiting consultants and applying for FSC for the total area of forest owned by the corporation. They are also eager to participate and implement those activities to increase the value of their forest products.

What can be done to improve the contribution of the initiative?

For the company's forest policy to be implemented effectively and sustainably in Mong Hoa commune, the following recommendations should be taken into consideration:

- The company's wood-product processing plant for export in the commune is under construction. As such, local people desire that their children need to be given vocational training so that they will be hired to work for the plant in the future.
- To make local people feel secure to participate in forest planting, which is associated with households, the company should have a stable policy on land allocation for a longer term beyond the normal tree growth cycle of seven years.
- The State as well as the corporation should have policies ensuring stable outputs to support forest planters because planting forests has a long cycle associated with big risks.
- On capital sources and interests, the State should have a policy supporting low interest rates in favor of forest planting.
- The government should work out an insurance policy for forestry as soon as possible. Due to adverse impacts caused by climate change, the risk in planting forests in areas where forest fires usually happen would be difficult to manage given the available equipment.

The contribution of payments for forest-related environmental services to poverty alleviation in Hom Village, Chieng Co Commune, Son La province

Field site

Hom village supports a population of 1,361 people divided into 274 households. The village lies along Highway 6 leading to Thuan Chau District of Son La, making trade markets easily accessible. The village's total land area is 596 ha, of which 18 ha is agricultural land, 228 ha is used for coffee plantation,

338 ha is allocated forest, 6.6 ha is residential land and 3.7 ha is pond area. In the past, the land used for coffee plantation was planted with mulberry for silkworm production, until people found that this activity was not highly profitable. Based on the advice of agricultural extension workers, they shifted to coffee plantation. Villagers' income sources are mainly coffee production, fruit trees, and agriculture. In 2010, local people received high incomes from coffee, despite unfavorable weather conditions, and yields are expected to be higher in 2011. The area used for coffee plantation has been counted as forest area when calculating for PES for local forest owners.

In Hom village, there are 136 forest owners, divided into two groups: the household group and the community. The total amount of money from the PES fund distributed to forest owners in the village was VND 77,196,829 (equivalent to around US\$3,899) (Department of Forestry, Son La Province 2010). The question raised here is whether or not the PES payment has truly contributed to the economy of 1,361 local people of this village.

Son La Province has successfully completed the process of fair allocation of forest land. In Hom village, local people who are allocated forests for protection and development have the right to collect firewood from the forest for their domestic consumption. In addition, if they need wood for building their house, they can ask permission from the forest protection division located in the commune. As all forests are now allocated, people are more able to recognize the consequential benefits, responsibilities, and rights over forestry resources. This positive assessment is shared by the head of a poor household:

Now I have to protect our forest from people who plan to steal the wood. This forest is our family forest, so we have to keep it. I can collect firewood that is enough for what we need. Since our house is very near the forest, we have to protect the trees; otherwise, if it rains, our house will be damaged. In addition, we have to protect the forest since, if we lose one tree, we will be fined. Once a month, I have to selectively cut down bushes so that the trees can develop well.

Local people recognize the benefits the forest brings and these are not solely financial benefits. None of the interviewed villagers mentioned the economic interest that they can get from the forest; instead, they cited sources of firewood for daily consumption, wood for house building, etc. It is probable that this function of the forest is considered too ordinary for the local people, so nobody talks about it until there will be a deficiency. However, a number of respondents mentioned other benefits obtained from protecting the forest. A teacher in the village said:

Through media coverage, climate change is no longer a strange concept to local people. I will never convert my forest land into coffee plantation as I heard on the radio about the causes and effects of climate change many times. I know that if I cut down my forest, nothing can prevent the big hard rock rolling down to the village from the mountain. If it happens, we will lose our farm land. Also, cutting down the forest will contribute to climate change and will have negative impacts on our life.

Living in an area where most of the land is forest, there is no doubt that it brings many benefits to locals both directly and indirectly. Before the PES program, this village was also involved in the forestry protection and development program, Program 661. In comparison, PES, according to officers, provides more benefits. Local people receive VND 120,000 (US\$6) per ha of forest from the PES fund per year, compared to VND 50,000 per ha per year from Program 661. However, the income received for the production of coffee and fruit from PES is still too small. For some, the amount they receive can only buy a pack of seasoning or salt. Some people even have forgotten how much they got given that the amount was so small, and they have used the money to buy junk food for their children. Mrs. Bun said:

I received VND 12,662 (equivalent to US\$0.6) for protecting my forest in 2010. I have one ha of land, but received payment for only 10 percent of this. According to the forestry officer,

this is because only 0.1 ha of my forest is mature enough to be considered for payment. I will have to develop the rest of the forest further to get a VND 108,000 (US\$5.2) per year. It seems impossible to ask a poor woman, the head of my household, to do so as it takes much time and effort to develop forest. My family requires much more than US\$6 per year to maintain sufficient living conditions.

Mrs. Bun's household received the smallest amount of PES payment in the village. In comparison, Mr. Lan, who possesses 25 ha of forest, received payment for eight hectares of his land and was given no explanation as to why he did not receive the full sum.

It is calculated that for each ha of forest converted to growing coffee, people can get at least VND 30 million (equivalent to US\$2,000) per year. The income from coffee-growing is seen to be much more than that what is generated from PES payments. This explains the trend to convert forest into coffee land. Mrs. Xuan, a trader in the village recalls:

I am from a rich household in Hom village. I own two shops near the road, one ha of coffee plantation, 200 ha of forest and 100 ha of wet rice land. My family earns money from various sources such as shops, selling pig meat, trading silkworm, selling coffee, and other services. In 2009, my net income from coffee was VND 8 million (US\$40), but I expect to earn a net income of VND 50 million (US\$2,500) in 2011. I converted almost all of my 200 ha of land to grow coffee. Coffee plantation also functions effectively to protect the water supply. I still keep a small area of forest in the highest area of my land, under which I grow coffee, so that the trees can keep water for the coffee. Other people have seen my forest develop very well. I heard about the PES payments, but I did not mind given the size of payments and as the profit from coffee is so much higher.

Most of the people interviewed said that the PES payment is too small relative to the effort that local people have to make for forest development. Some mentioned that villagers in a neighboring commune cut down forest trees to grow coffee. They now are facing flash floods in the rainy season and suffer from a lack of water in the dry season. They also have to buy drinking water at a price of VND 55,000 per cu m.

In 2010, Hom village owned 366 ha of forest and received VND 50 million from PES. Hom community is the owner of the 366 ha of forest, thus the payment for forest service will go to the community budget. Based on the discussion and agreement of the whole community during their meetings, this money was spent on building irrigation canals to support the rice fields, and purchase of plastic chairs and drums for the village meeting hall.

But in specific cases, PES clearly does not contribute to local people's economies. All those interviewed agreed that PES payments were too small to encourage them to plant and protect forests. In some cases, it is said that PES causes people to be much busier and therefore more tired as they have to watch over the forest and cut trees more regularly. Members of the women association of Hom village agreed to take care of 18.56 ha of forest. In March 2011, they received VND 1,500,000 (US\$75) for PES payment for taking care of the forest for the entire year of 2010. Recently, some people who managed small forest areas tend to want to return the forest to the community since they feel that it is hard to take care of the forest.

In conclusion, PES until now has not strongly proven its contribution to local livelihoods. At present, it is hard to determine whether PES contributes to poverty reduction but it is possible to say that it can partly support local people in poverty avoidance and raise the awareness of local people about the importance of forest protection and development.

Challenges and difficulties

PES implementation meets many challenges at all levels, from the province to the commune. First, at

provincial level, implementation is still not clear and there are no detailed circulars and guidance given to local staff in terms of payments. There is no guidance for financial mechanisms from the provincial Department of Finance either.

Second, cooperation between agencies and departments is poor, with no regulations in place for partners or buyers who refuse or are late to pay PES. Suoi Sap hydro power plant is an example of such a company that keeps delaying payments.

Third, it is sometimes not clear who the real owners of the forest are. The survey completed in 2005 is now outdated and the plots of land might have changed or were transferred to other people. In some cases, the owner dies without leaving a will. This has caused difficulties for forestry officers in identifying plots and owners.

Fourth, low incomes from PES have discouraged local people from protecting the forests. Now, some want to shift to other higher value commodities, such as coffee and fruit.

Fifth, the formula developed by MARD on calculating how much money a forest owner will be paid based on the forest type is very difficult and complicated. It does not differentiate between rich forest and poor forest. This kind of application, on the one hand, has brought benefits to those forest owners whose forests are not really rich. On the other hand, it does not correctly evaluate the efforts of owners whose forests are better. It therefore can create inequality in paying the PES, creating conflict among villagers.

What can be done to improve the contribution of the initiative?

- A detailed survey of the forest area and classification should be completed to ensure that no one will be taken out of the PES program and the area of forest that they protect matches the area on the certificate.
- Owners will be required to exert further efforts in the care and protection of newly planted forests, and there should be a mechanism to support them financially.
- To avoid locals from converting their land to grow coffee and rice, awareness needs to be raised to improve attitudes and behavior toward the forest.
- The formula for computing for PES should be reconsidered to provide owners with a fair payment corresponding to the effort in protecting the forest.

Outlook for forestry and poverty alleviation

As discussed in Section 2, the socio-economic development plan 2011-2015 on the implementation of the associated strategy, set the goals of increasing the average economic development rate from 2011 to 2015 at around 7-8 percent per year; reducing the poor household rate based on the new standard, down to 2-3 percent per year; and increasing the forest cover to 42.5 percent (Decision 09/2011/QĐ-TTg). Viet Nam is a middle-income country and by 2020, it will be an industrial country. It is also estimated that the population of Viet Nam will reach 100 million people by 2020. Rapid population growth and economic progress will dramatically increase demands for forest products as well as forestry services (MARD 2007).

Viet Nam's forestry development strategy 2006-2020 lays down the goals for up to 2020 as follows: (i) establish, manage, protect, develop, and sustainably use 16.24 million ha demarcated for forestry; (ii) increase the country's forest cover to 43 percent in 2010 and to 47 percent in 2020; and (iii) ensure the more active participation of economic sectors and social organizations in forestry activities. These goals are intended to make forestry contribute more to the socio-economic development process, environmental protection, biodiversity conservation, poverty reduction, and livelihood improvements in mountainous areas and to national security.

In short, the forestry sector is committed to focus on three areas: (i) ensuring forest protection and development to increase forest cover to 47 percent in 2020 as well as forest quality; (ii) increasing the gross forestry output value, including forest-product processing and environmental services to contribute more to the national GDP; and (iii) increasing the poverty alleviation potential of community forestry, environmental services, household farms, the furniture industry, and afforestation projects.

The potential for forestry and poverty alleviation in Viet Nam looks very bright. It is hoped that implementation of the strategies and policies mentioned above will be carried out in a well-coordinated manner in contiguous areas, rather than in piecemeal and isolated instances so that poverty reduction, forest protection and development can all take place in ways advocated in this report.

Recommendations to improve the contribution of forestry to poverty alleviation

As the case of Viet Nam in this study illustrates, the level of contribution of forestry to poverty is differentiated depending on the macro-structures of state and economy, and forms of management of natural resources. The study assessed the contribution of forestry to poverty alleviation over the country's history as far back as the cooperative period. The research findings show that the contribution of forestry to poverty alleviation tends to be increasing, especially after the *doi moi* era.

During the *doi moi* period, the forestry sector attained important achievements, the most important being the shift of the forestry sector development approach from State-based forestry development to social forestry development with the participation of a wide range of stakeholders, including households and private enterprises that play major roles in forest plantation and forest product processing. From 2005 to 2009, many breakthrough policies were put in place in the forest sector. Forestry projects were effectively implemented. Program 661 and ODA projects played very important roles in raising the awareness of government agencies as well as the entire society on the important roles of forests and their resources. In addition, the country's forest cover and the total forest areas remarkably increased in the period 2005-2010. The goals of poverty reduction and improved livelihoods of the rural population in mountain areas were largely met, with a significant decline of the poverty rate from 2006 to 2009 in provinces where forest resources are abundant. Environmental protection, biodiversity conservation, and environmental service were also pursued.

However, the contribution of the forestry sector to poverty reduction is still limited. Forestry growth is still low and unsustainable. Forest potential is not properly exploited, particularly in the case of timber, NWFPs, and environmental services. Plantations and natural forests have very low yields and low quality that cannot meet the demands for socio-economic development. Poverty in key forestry areas is still high. Household income generated from forest activities is still modest despite a great deal of effort made by the government.

For forestry to further contribute to poverty alleviation, the government should continue to focus on poverty reduction. Community forestry, eco-tourism, NWFPs, industrial forestry, and PES should all be pursued equally. This is due to the fact that Viet Nam's forest land is fragmented and people who live in and near forests are ethnic minority groups and are poor. They have limited access to capital sources and technology. Therefore, one single initiative will not work for specific communities.

The following should be taken into consideration:

1. Review, plan, investigate and update forest resources employing new technology and international standard methods.
2. Mobilize capital sources to complete forest land allocation and for lease to organizations, households, poor communities so that they would have productive materials.
3. When carrying out planning and allocating forest land to households or communities for

plantation, attention should be paid to the development of each timber product (small timber, large wood, planks, fiber, pulp, etc.) to link with the development of small and medium private enterprises and restructuring of state forest companies, so that they could operate more effectively under the market mechanisms to support households or communities in marketing and purchase of forestry products.

4. Complete the development of the Sustainable Development Forest Plan in all provinces in the country. Each forest owner needs a concrete plan. As such, concrete solutions toward improving natural and planted forest quality, effectively managing and bringing into play the values of natural forest, working out solutions on seedlings and technological advances to improve planted forest productivity as well as values of forestry production.
5. Accelerate review and planning development of ecotourism areas and regions for NWFPs development, exploitation and processing of small forest products in communities, and develop credit policies for specific development goals.
6. Quickly develop specific and detailed plans to implement effectively PES and specific action programs for REDD plus.
7. Continue to promote international relations, management and effective use of ODA funds in forestry. Forestry ODA programs or projects must take the lead in implementing policies as well as technical solutions, organization, and management of national forestry activities.

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