USAID COUNTRY PROFILE

PROPERTY RIGHTS AND RESOURCE GOVERNANCE

THAILAND

OVERVIEW

Thailand is facing the challenges of a transition from lower- to upper-middle-income status. After decades of very rapid growth followed by more modest 5–6% growth after the Asian financial crisis of 1997–98, Thailand achieved a per capita GNI of US $3670 by 2008, reduced its poverty rate to less than 10% and greatly extended coverage of social services. Infant mortality has been cut to only 13 per 1000, and 98 % of the population has access to clean water and sanitation. The country's challenges are to accelerate productivity through: specialization; innovation and technological advances; improvements in the quality of education and workforce training; and investment in basic services and infrastructure, in order to compete successfully with other middle-income exporting countries. At the same time, in order for Thailand to ensure the necessary social cohesion, the growth process has to benefit the poor and other vulnerable groups and protect the environment.

Thailand's efficient, transparent land administration system is a model for other countries. It has issued title deeds to large portions of the country's population, thus contributing to tenure security and developing a robust land market. However, the system has not reached many residents of the rapidly growing informal settlements in urban and peri-urban areas, nor has it addressed the rights of occupants of the country's forestland.

Natural-resource degradation has occurred as a consequence of Thailand's rapid urbanization and industrialization. In addition to forest degradation, the country's water resources are poorly managed, unevenly distributed and increasingly polluted. A comprehensive water law and effective enforcement are needed to address issues of water allocation, fees for water use, and the authority of river basin committees. Similarly, legislation is needed to address the competition for control over forestland among conservation interests, forest communities and mining companies. Finally, land rights need to be addressed in the country's mining law and regulatory framework. All this must be accomplished to avoid natural-resource degradation becoming a serious impediment to Thailand's continued economic and social progress.

KEY ISSUES AND INTERVENTION CONSTRAINTS

USAID formally ended its bilateral assistance program with Thailand in 1995 but continues to provide technical assistance and support through USAID's regional programs. Areas in which the agency and other donors could provide support include the following:

- **Women's land rights.** Despite Thailand's formal legal framework supporting the rights of women to own land individually and jointly control marital property, men – particularly in rural areas – customarily control most of the productive assets, including agricultural land. As Thailand continues to register land and upgrade use-rights, the country has an opportunity to improve and strengthen the rights of women. *USAID and other donors can assist the government by helping to develop programs at local levels to ensure that land registration offices and development programs take affirmative steps to ensure that women's rights to own and manage land are well received. Women's legal rights can be supported and enforced with legal aid services that work with local dispute-resolution forums, such as village elders and committees, district officers and municipal courts.*

- **Forestland rights.** Almost 30% of land in Thailand is classified as forest and has been the subject of contested rights for decades. Conservation interests, forest communities and mining companies vie for control of forestland and resources. In

anticipation of the passage of the Community Forest Act and programs granting forest-dwellers some type of formal long-term rights, the Forest Department has increased efforts to bring land under protected status. The government recognizes the positive role that participatory forestry rights could play in the sustainable management and preservation of forest resources, but legislation is stalled and the impact of community forest programs limited by the lack of a legal framework. *Donors could assist the government in developing and implementing a plan for recognizing longstanding rights to forestland and promoting sustainable use and conservation through the development of benefit-sharing mechanisms. Donors can provide particular assistance with technical support for the development of baselines and socioeconomic assessments, giving particular attention to women and ethnic minorities, and for the design and implementation of appropriate, affirmative interventions to ensure that legislation and initiatives improve and strengthen the rights of these groups.*

- **Water law and resource governance.** Thailand has made progress in developing a governance structure for managing its water resources but still lacks a comprehensive legal framework and cohesion among water governance organizations. In addition, regional water scarcity is rising due in large part to competing uses for the Mekong River and the impacts of increasing climate change. *Donors can provide technical assistance to the government to improve coordination among water management entities, and to strengthen the capacity of local governance bodies, such as water user associations, Tambon (sub-district) Administrative Organizations, and river basin committees. Donors could help to strengthen regional water governance through supporting increased transparency and democratic decision-making processes within the Mekong River Commission and other relevant organizations. Donors could also assess the regional need for, and political and institutional feasibility of, a water-sharing agreement for the Mekong River.*

- **Mining law and natural resource governance**. Thailand's mining law is dated and its provisions do not reflect the constitutional mandate for public participation in the management of natural resources. As investment in the country's mineral sector increases, conflict between mining interests and local communities, as have been experienced in the Northeast, will likely increase. *Donors can help the government manage competing interests by helping to develop a progressive legal framework that supports investment while recognizing the rights of local communities. Donors can also help local communities strengthen their negotiating position with public-awareness building, community organizing, and the development of contracting and negotiation skills to assist them in reaching pro-community agreements with mining companies. Specific attention should be given to developing a foundation for the negotiation of fair and equitable benefit-sharing agreements, with mechanisms to ensure that benefits reach all members of local communities.*

- **Clean Energy Investment Project.** The proposed US $570 million Clean Energy Investment Project plans to develop large-scale alternative energy facilities such as wind farms, dams and biomass operations. Development of these new forms of energy production will necessitate interventions and large-scale construction in rural areas. Access to land and other natural resources (e.g., water) on which local communities depend for their livelihoods will have to be carefully negotiated. The project may also have the potential to provide rural communities with multiple and significant benefits, including: employment; development of new markets; the creation of infrastructure; and opportunities for development of small and medium enterprises. *Donors can help the government ensure that local communities dependent on the natural resources that will be impacted actually benefit from the project. Interventions can begin with support for land-tenure assessments, formal recognition of the land-rights of local communities and community members, and strategies for including local communities in project development plans. Donors can provide local communities and NGOs with capacity-building in areas of land-tenure assessments, natural resources inventories, community organizing and negotiating and contracting skills that will assist them in reaching appropriate, pro-community agreements with investors and developers.*

FOR MORE RECENT LITERATURE:

http://usaidlandtenure.net/thailand

Keywords: Thailand, tenure, agrarian, land law, land reform, property rights, land conflicts, water rights, mineral rights

SUMMARY

Thailand continues its transition into a successful middle-income country and, at the national level, has already achieved many of the Millennium Development Goals in advance of the 2015 target. Despite the challenges of the 1997 Asian financial crisis and the 2004 tsunami, Thailand has made significant progress in reducing poverty. Because of the country's relatively strong economic profile, at the government's request, most international donors have scaled back activities in recent years. However, Thailand faces continuing challenges in the areas of land rights and natural resource governance. The political uncertainty and public protests in 2009–2010 have slowed Thailand's progress and emphasize the need for the government to ensure that the property rights of all citizens are recognized and that local communities participate in and benefit from the sustainable development of the country's natural resources.

Box 1. Macro Indicators

	Year	Score
Population, total	2008	67,386,383
Population ages 0-14: 15-64: 65+ (% of total)	2008	22.0: 70.6: 7.4
Population growth (annual %)	2008	0.6
Rural population (% of total population)	2008	66.7
Population density (people per sq. km)	2008	131.9
Literacy rate, adult total (% of people ages 15 and above)	2007	94.1
Land area: Surface area (sq. km)	2008	510,890: 513,120
Arable land (% of land area)	2005	27.8
Agricultural land (% of land area)	2005	36.4
Permanent cropland (% of land area)	2005	7.0
Irrigated land (% of cropland)	2003	28.2
Forest area (% of land area)	2005	28.4
Nationally protected areas (% of total land area)	2006	19.9
Renewable internal freshwater resources per capita (cubic meters)	2007	3,135.3
Annual freshwater withdrawals, agriculture: domestic: industry (% of total freshwater withdrawal)	2007	95.0: 2.5: 2.5
Crop production index (1999-2001 = 100)	2005	105.5
Livestock production index (1999-2001 = 100)	2005	99.8
GDP (current US$)	2008	260,692,824,977
GDP growth (annual %)	2008	2.6
Agriculture: industry: manufacturing: services, value added (% of GDP)	2007	11.8: 45.5: 36.1: 42.6
Ores and metals exports: imports (% of merchandise exports: imports)	2007	1.8: 5.4
Aid (% of GNI)	2007	-0.2

Source: World Bank, 2009

Almost 40% of Thailand's land is classified as agricultural. Forty-two percent of the working population is engaged in agriculture, and the country is one of the world's largest exporters of rice. In an effort to address high percentages of tenancy and landlessness, the country embarked on a 20-year Land Titling Program (LTP) that upgraded the land rights of and issued title deeds to large portions of the country's population. The LTP also streamlined the country's land administration system, which is renowned for its efficiency and transparency. The LTP is identified as contributing to tenure security and growth of the mature and robust land market. However, the program did not reach many residents of informal settlements in urban and peri-urban areas, which are growing at an annual rate of 20%. In addition, the program did not address the rights of occupants of the country's forestland, a good portion of which has been settled and cultivated by local communities for generations.

The rights of many forest communities are insecure, and encroachment of forestland for cultivation is the leading cause of deforestation and degradation of forest resources. While some areas have developed community forest programs, participatory forest management has not matured in Thailand as an approach to sustainable use of forest resources. At a national level, the country still awaits final adoption of the Community Forest Act, which will give some forest communities the right to enter into contracts with the Forest Department for regulated use-rights.

Natural-resource degradation is a concern in Thailand; urbanization, industrialization, corruption, and population growth strain the country's natural resource base. In addition to forest degradation, the country's water resources are ineffectively managed, unevenly distributed and increasingly polluted. The government's efforts to address

disparities in water allocation, regulate fees for water-use, and establish the authority of river basin committees are hampered by the lack of a comprehensive water law.

Thailand has significant mineral deposits, including gypsum, potash, gemstones, natural gas and petroleum. The mining law and regulatory framework do not address land rights and investors may negotiate directly with landholders for access to land. Local communities with insecure tenure or unrecognized land rights lack the bargaining power and the skills and experience to negotiate with investors to secure local participation in and control of development projects and an appropriate share of the benefits.

1. LAND

LAND USE

Thailand has a population of 67.3 million (2008), 510,890 square kilometers of land, and 3219 kilometers of coastline. The country's economy is heavily dependent on exports, which account for about two-thirds of GDP. Thailand's 2008 GDP was US $260 billion, with 12% attributed to agriculture, 45% to industry, and 43% services. About 42% of the working population is engaged in agriculture. The country's main agricultural products are rice, tapioca, rubber, sugarcane, coconut, maize and soybeans. Half of Thailand's cropped land is under rice cultivation, and the country is a leading global exporter of rice (World Bank 2009; USDOS 2010; *Trading Economics* 2010).

Between 36 and 41% of total land in Thailand is classified as agricultural, and 28–33% is classified as forestland. An estimated 1% of total land is pasture. Twenty-eight percent of cropland is irrigated. The country has four geographical areas: the North, Northeast, Central, and South. The North's mountain slopes are used to grow upland rice, maize and opium. Rice also dominates production in the region's uplands and lowlands; some legumes and other field crops are also grown. The elevated plateaus of the Northeast include forest and grazing land in addition to cultivated land. Primary crops in the region are rainfed rice, cassava and sugarcane. In the large Central plain, which is prone to seasonal flooding, 90% of farms grow rice, and the area is known as the Rice Bowl of Thailand. The South, including the long peninsula stretching to Malaysia, includes the Phuket and Nakorn Si Thammarat ranges. Many of Thailand's large plantations are concentrated in this region and produce rubber, palm oil and fruits. Some rice and horticulture crops are also grown. Most farming families keep some livestock (e.g., buffalo, cattle, sheep and goats) which are primarily grazed in cropping fields rather than on separate pastureland (World Bank 2009; Shelton and Phaikaew 2006; KOT 2006b).

Sixteen percent of the country's land is classified as nationally protected, including national parks and wildlife reserves. Increasing urbanization, industrialization, and population growth are straining the country's natural resource base. Environmental concerns include land degradation, encroachment into forest areas, depletion of water resources, and inland water pollution. Flooding in some urban areas is attributed to rapid urbanization, ineffective implementation of urban land use planning and deforestation. The average annual rate of deforestation is 0.4% (World Bank 2009; ADB 2007b).

LAND DISTRIBUTION

About 89% of Thailand's population is Thai. Other ethnic groups include the Khmer in the provinces bordering Cambodia, the Mon, and northern mountain-dwelling tribes such as the Hmong, Mein, and Karen. Sixty-seven percent of Thailand's people live in rural areas, with most of the population concentrated in the Central plateau, North, and Northeast. About 10% of the population lives below the poverty line; 90% of the poor – two-thirds of whom reside in the Northeast – live in rural areas (USDOS 2010; Ompad et al. 2008; Ahmad and Isvilanonda 2003).

Beginning in the 1970s, the government made several legislative and programmatic efforts to address high levels of tenancy, landlessness and tenure insecurity. The government imposed ceilings on private landholdings and implemented land-allocation programs. But the effort to limit the size of private holdings and distribute ceiling-surplus land to landless and near landless households was not accompanied by the necessary political will or funding ; in the 1975–2003 period, only about 74,000 hectares of private land were redistributed. However, the government was successful in identifying public land for distribution and regularizing parcels of public lands that had been encroached on . In the same period, the state allocated 3.7 million hectares of public land to 1.5 million

beneficiaries, who received either freehold title or use-rights recognized by formal law (Suehiro 2007; Giné 2004; Childress 2004).

Thailand has about 5.7 million farms with an average size of 3.7 hectares. The largest farms are found in the Central region (averaging 4.6 hectares), and the smallest in the North and Northeast (averaging 3.3 hectares). The country has an estimated 7.5 million farming households. About 10% of farming households are landless, and 17% hold under 0.8 hectares. Twenty percent of farm households hold between 0.8 and 1.6 hectares, and 52% hold over 1.6 hectares (KOT 2006b).

The country's urban population has been growing at an average rate of 1.8% (2000–2008). Much of the urban population resides in the greater Bangkok area, which had a 2009 population of about 9.6 million. Countrywide, about 8.5 million urban residents live in informal settlements. In 2001 most urban residents had access to safe water (89%) and improved sanitation facilities (98%). However, the population living in informal settlements has been growing at a rate of 20% per year, straining the capacity of existing infrastructure and resources (USDOS 2010; Ompad 2008 et al.; UN-Habitat 2001).

LEGAL FRAMEWORK

The following five major pieces of legislation constitute the core of Thailand's land regulation and governance framework.

1. *Thailand's Constitution* provides that the state shall adopt land policies, including policies relating to land use, land distribution, town and country planning, and the sustainable protection of land and other natural resources. The Constitution specifically states that land distribution shall be fair and provide farmers with rights to land for farming (KOT Constitution 2007).

2. *The Land Code of 1954*, as amended, is Thailand's primary land legislation. The Land Code identifies various tenure types, including ownership and use rights. The Land Code established a national Land Allocation Committee responsible for identifying land for allocation and reallocation and implementing land reallocation plans for state and private land. The Land Code also identifies requirements for cadastral surveys and land titling and registration. The Land Code set a ceiling on landholdings ranging from 8 hectares of agricultural land to 0.8 hectares for residential holdings. The Land Code imposed ceilings on an individual basis, allowing households to have multiple landholdings by registering various plots in the names of individual family members. Landowners had seven years from the date of the Land Code's enactment to sell or otherwise dispose of ceiling-surplus land (i.e., above ceiling limits). After that point, the state is authorized to purchase any ceiling-surplus land and distribute it to landless and near-landless households. The Land Code permits foreigners to hold land in lesser amounts than citizens. By a 1999 amendment, foreigners investing in the country are permitted to own residential land so long as the land is used as their residence for at least three years (KOT Land Code 1954; KOT Land Code Amendment Act 1999).

3. *The Agricultural Land Reform Act of 1975* was enacted in an effort to address the high rate of tenancy in certain regions of the country, the large number of landless households, and the encroachment of public lands for cultivation. The Act reaffirmed the state's support for the allocation of state and private land to landless and near-landless households. The Act also provided tenants with opportunities to lease or purchase the land they cultivated and allowed for squatters and others who had encroached on state land to regularize their rights. The Act closed a loophole in the land-ceiling provision of the Land Code by setting household-level ceilings (versus individual ceilings). The Act created the Agricultural Land Reform Office (ALRO) in the Ministry of Agriculture and Cooperatives to implement reforms (KOT Agricultural Land Reform Act 1975).

4. *The Land Development Act of 1983* established a national Land Development Committee to help improve the utilization and productivity of the country's agricultural land. The Act authorizes the committee to: engage in land-use planning; develop programs to support farmers; conduct surveys; and create plans for the improvement of soil (KOT Land Development Act 1983).

5. *The Land Readjustment Act of 2004* governs processes for land re-plotting and development in order to improve land utilization. The Act established a national Land Readjustment Committee charged with developing policy and identifying areas for readjustment. The Act also set the rules for creation of Land Associations made up of landowners in readjustment areas and Provincial Committees to govern the process (KOT Land Readjustment Act 2004).

BOX 2. LAND TENURE INDICATORS

	Score
Millennium Challenge Corporation Scorebook, 2009	
— Land Rights and Access (Range 0–1; 1=best)	0.796
International Property Rights Index, 2009	
— Physical Property Rights Score (Range: 0–10; 0=worst)	7.0
World Economic Forum's Global Competitiveness Index, 2008-2009	
— Property Rights (Range: 1–7; 1=poorly defined/not protected by law)	4.7
World Economic Forum's Global Competitiveness Index	
— Ease of Access to Loans (Range: 1–7; 1=impossible)	3.9
International Fund for Agricultural Development, Rural Poverty Report, 2001	
— Gini Concentration of Holdings, 1981-1990 (Range: 0–1; 0=equal distribution)	0.37
International Fund for Agricultural Development, Rural Sector Performance Assessment, 2007	
— Access to Land, 2007 (Range: 1-6; 1=unsatisfactory access)	…
Food and Agricultural Organization: Holdings by Tenure of Holdings	
— Total Number of all Agricultural Holdings, Year	5,647,490
— Total Area (hectares) of all Agricultural Holdings, Year	19,002,071
— Total Number of Holdings Owned by Holder; Year	4,374,303
— Total Area (hectares) of Holdings Owned by Holder; Year	13,863,364
— Total Number of Holdings Rented from Another; Year	411,410
— Total Area (hectares) of Holdings Rented from Another; Year	1,163,053
World Bank Group, Doing Business Survey, 2009	
— Registering Property-Overall World Ranking (Range: 1–181; 1=Best)	13
World Bank Group, World Development Indicators, 2009	
— Registering Property-Number of Procedures	2
— Registering Property-Days Required	2
World Bank Group, World Development Indicators, 1998	
— Percentage of Population with Secure Tenure	
• Bangkok	77.2
• Chiang Mai	96.5
Heritage Foundation and Wall Street Journal, 2009	
— Index of Economic Freedom-Property Rights (Range 0-100; 0=no private property)	50
Economic Freedom of the World Index, 2008 (2006 data)	
— Legal Structure and Security of Property Rights (Range 0-10;0=lowest degree of economic freedom)	6.20
— Protection of Property Rights (Range 0-10; 0=lowest degree of protection)	6.84
— Regulatory Restrictions of Sale of Real Property (Range 0-10;0=highest amount of restrictions)	7.89

In general, the formal legal framework is recognized as governing land-rights throughout Thailand. Principles of customary law continue to govern in some areas and on some matters – especially those concerning family estates and disputes – in rural districts. Indigenous tribes living mainly in the northern highlands and mountains also recognize customary law. In many cases, tribes have occupied the same land for generations, and, within tribes and neighboring tribes, customary law governs the rights of access and use of the land. The land is, however, subject to the formal legal framework governing land rights. Much of the land occupied by indigenous tribes is classified as state forestland, and while the current law does not grant the tribes automatic rights under the formal law, politicians have called for some form of regularization of collective rights, and the pending Community Forest Bill provides a contractual framework for participatory forest management and attendant rights of forestland access and use (Vejjajiva 2008; Childress 2004; USDOS 2006; USDOS 2008; Liddle 2008).

TENURE TYPES

Thailand's law defines land as either private or public. Private land is owned by individuals, groups, or entities. About 40% of land was held in private ownership in 1994. The balance is public land, which includes: land used by the state; land open to the public; land identified for allocation under land reform plans (also known as public settlement land); and forestland. All land not held in private ownership is considered to be vested in the state (KOT Land Code 1954; KOT 2006b).

Thailand recognizes the following tenure types:

Ownership. Landowners have freehold rights to exclusive use and possession of their land. Land held in ownership can be freely transferred and mortgaged. Ownership rights are evidenced by Freehold Title Deeds (known by the acronym NS-4). About 71% of Thailand's agricultural land is held in private ownership. The

highest percentages of ownership are in the South, where about 83% of land is freehold (KOT Land Code 1954; KOT 2006b; Giné 2004).

Leasehold. Both private and public land can be leased, with the terms subject to negotiation between the parties. Leaseholds terms may be up to 30 years; leases over three years must be registered. Between 11 and 30% of agricultural land is under some form of tenancy. About 25% of agricultural land in the Central region is leased, while only about 2% of land in the South is leased (KOT Land Code 1954; KOT 2006b; Giné 2004).

Occupancy and use rights. Several types of occupancy and use rights are recognized in Thailand. Landholders with an Exploitation Testimonial (NS-3K) certificate and Certificates of Use (NS-3) are usually beneficiaries of land allocations who have made use of their land for a prescribed period of time. Holders of Exploitation Certificates or Certificates of Use have the right to use, possess, sell and transfer their land. The holders can mortgage the land and can apply for freehold title. Preemptive Certificates (NS-2) allow temporary occupation of land, and transfers of rights are limited to inheritance. A Claim Certificate (SK-1) acknowledges possession of land. The certificates are non-transferable, although the land itself can be transferred to another party who then applies for a new certificate. Certificates of Right to Farm (SPK 4-01) are granted to beneficiaries of land allocations. The right to transfer is limited to inheritance. The government has granted Five-Year Usufruct Licenses (STK) for plots up to 2.4 hectares encroaching on forestland. The holder cannot convert the license into a title deed or transfer the land, except by inheritance (UNHCR 2008; Giné 2004; Childress 2004).

SECURING LAND RIGHTS

Private land rights in Thailand are acquired through purchase, lease and inheritance. Formal rights to land can also be obtained through prescription; after 10 years of continued possession and use of land, the occupant has the right to apply for ownership rights. Land is also accessed through government allocations. The state can allocate pubic land, including: degraded forestland; public common-use lands; voluntarily relinquished idle lands; lands outside the boundaries of permanent forests; and land classified as available for allocation by the state. The government can also acquire private land for allocation either by voluntary sale and purchase or expropriation of idle or ceiling-surplus land (KOT 2005a; Childress 2004; Giné 2004).

With the support of the World Bank and AusAid, Thailand conducted a land-administration modernization and titling program from 1984 to 2004. The Land Titling Program (LTP) issued freehold title deeds (NS-4) to eligible landowners who possessed no documents or possessed only preliminary documents, such as Preemptive Certificates and Claim Certificates (NS-2 and SK-1). The LTP also converted the Certificates of Use (NS-3) and Exploitation Certificates (NS-3K) held by some landholders into title deeds (Childress 2004; Giné 2004; Burns 2004).

Roughly 63% of the country‘s 30 million parcels of land are registered, and nearly 90% of land transactions are registered. Thailand‘s land administration system is considered a model for other countries. The system has a mandated performance standard requiring transactions to be concluded within one day, and many are completed within two hours. On average, land registration procedures require less than a day and cost about 1% of the property‘s value (World Bank 2008; Childress 2004; Giné 2004; Burns 2004).

Registered land rights in Thailand are considered secure. Unregistered rights in areas where there is little danger of land expropriation for development or investment are also considered relatively secure. The rights of households occupying land classified as forestland are considered less secure, whether or not the occupants have certificates granting rights to occupy and use the land. In either case, land rights are considered temporary or occupants potentially vulnerable to eviction. In addition, while many residents of informal settlements in urban and peri-urban areas are eligible for regularization of informal rights, the majority of residents do not have long-term rights recognized by formal law (Burns 2004; Childress 2004: Boonyabancha 2005a).

INTRA-HOUSEHOLD RIGHTS TO LAND AND GENDER DIFFERENCES

Historically, Thailand had a matrilineal and matrilocal system under which the female line controlled family property and assets. At marriage, in most areas of the country husbands tended to move to their wives‘ villages. The wives‘ families controlled the family land and were the primary economic decision-makers. A husband‘s property generally passed to his widow, and both sons and daughters inherited land. The youngest or unmarried

daughter who cares for her parents in their old age generally received the largest share of land and property (Tonguthai et al. 1998; SIGI/OECD n.d.; Somswasdi 1992).

Within the matrilineal and matrilocal systems, however, male family members often exert primary authority over land and other significant assets. Only about 22% of cultivated land is owned by women. Land allocation and registration practices often reflect male control over productive assets; in many cases in Thailand land is only registered in the name of the male head of household (SIGI/OECD n.d.; Childress 2004; Tonguthai et al. 1998).

Thailand's formal law promotes principles of equality and does not support dominance of either men or women in land ownership or regarding control of land. The Constitution guarantees women and men equal rights and prohibits discrimination on the basis of sex. Under the Civil and Commercial Code, marital property is managed jointly or by one spouse, with the consent of the other spouse. Both women and men have the right to manage their separate property as individuals and have the power to enter into contracts. All land transactions require spousal approval and signature. Formal inheritance law does not distinguish between men and women. When a person dies intestate, his or her spouse inherits first, followed by children, who inherit equally (SIGI/OECD n.d.; Childress 2004; FAO 2010; Tonguthai et al. 1998; Jamnarnwej n.d.).

In urban areas, the principles of formal law that support the equal rights of women and men to own and manage property are most evident. In rural areas, knowledge of the formal law is limited, and men dominate ownership and management of agricultural land. In regions where traditional practice trumps formal law and the youngest daughter who cares for her parents still receives the largest share of property, male family members will likely control the use of her land (SIGI/OECD n.d.; Childress 2004; FAO 2010; Tonguthai et al. 1998; Jamnarnwej n.d.).

BOX 3. LAND AND GENDER INDICATORS

	Score
OECD: Measuring Gender In(Equality)—Ownership Rights, 2006	
— Women's Access to Land (to acquire and own land) (Range: 0-1; 0=no discrimination)	0.0
— Women's Access to Property other than Land (Range: 0-1; 0=no discrimination)	0.0
— Women's Access to Bank Loans (Range: 0-1; 0=no discrimination)	0.0
FAO: Holders of Land Classified by Sex, 1993	
— Percentage of Female Holders of Agricultural Land	…

LAND ADMINISTRATION AND INSTITUTIONS

The Department of Lands (within the Ministry of the Interior) is responsible for land administration in Thailand and operates through a system of provincial and district land offices. The Department is responsible for registering landholdings, issuing land titles and land-use certificates, and conducting cadastral surveys. The Department of Public Welfare, also within the Ministry of the Interior, implements land settlement projects that allocate public land to farmers and poor families as part of the social welfare program. At the subdistrict level the *Tambon* (local government)Administration Organizations in rural areas and municipalities in urban areas often have responsibility for managing local land-use issues and upgrading settlements. Thailand's land administration services are renowned for their efficiency and transparency and are considered a model for the region (Childress 2004; Glenn and Johnson 2005; UNESCAP n.d.).

The Ministry of Agriculture and Cooperatives operates through its departments: the Agricultural Land Reform Office, Royal Irrigation Department, and Land Development Department. The Agricultural Land Reform Office (ALRO) is responsible for: allocating land to farmers pursuant to the Agricultural Land Reform Act; supporting land development in land-reform areas; establishing Agricultural Land Reform Cooperatives; providing credit and production inputs; and developing farm and off-farm enterprises. The Department of Cooperative Promotion is responsible for the allocation of land to landless people and tenants organized in cooperatives. The Land Development Department is responsible for macro and local land-use planning, conducting soil surveys and classifying land for development purposes (KOT 2005b; KOT 2005a).

LAND MARKETS AND INVESTMENTS

The real estate industry in Thailand developed quickly in the 1980s. While the market suffered after the 1997 Asian economic crisis, it recovered well, and the country has thriving land sales, land rental and land credit markets. Mortgages are readily available to support land purchase and investment in most areas. Commercial banks and the Government Housing Bank (GHB) hold 80 to 90% of mortgages, and the GHB had 39% of all

residential mortgages and 48% of new mortgages in 2005. Titled land tends to command a higher price than untitled land. Title holders have increased access to institutional credit, and borrowers receive between 75% and 123% more credit than those without land title (KOT 2006b; Pornchokchai 2007; Zhu 2006; Burns 2004).

In areas such as forests where landholders have limited rights and the formal law prohibits the transfer of land, the formal land market is not functioning, and landholders lack cash for investment.

Some innovative schemes have emerged to extend land rights to larger numbers of people. In some urban and peri-urban areas, for example, developers and prospective residents have entered into land-sharing agreements under which the parties agree to terms such as rights of occupancy and responsibility for development (Burns 2004; Childress 2004).

COMPULSORY ACQUISITION OF PRIVATE PROPERTY RIGHTS BY GOVERNMENT

Sections 41 and 42 of Thailand's Constitution protect private property rights. The state can only expropriate land pursuant to a specific law providing for the public interest, including: national defense; exploitation of natural resources; town and country planning; promotion and preservation of the quality of the environment; agricultural or industrial development; land reform; and conservation of historic sites. The Constitution also allows for expropriation for other public interests that are not specifically identified (KOT Constitution 2007).

Under the Constitution and Expropriation of Immovable Property Act (1987), the government must identify the purpose of the expropriation and the period of time necessary to fulfill the purpose. If the property is not used within the designated time, the state must return the property to the owner or his or her heir (KOT Constitution 2007; Reynolds and Flores 2009).

The state must compensate landowners for takings based on market price, manner of acquisition and economic losses suffered from the expropriation. Other parties with interests in the land are also entitled to compensation based on the injury suffered as a result of the expropriation (KOT Constitution 2007; Reynolds and Flores 2009).

On occasion, the state's expropriation of land for infrastructure and development projects has been subject to criticism from members of civil society. NGOs have protested the expropriations of land for public utilities and the seizure of about 1600 hectares of land used by the Akha indigenous people in Chiangrai Province for construction of a Highland Development Station. NGOs reported that the Akha people had lived on the land for generations and that the state did not consult them regarding the use of the land for a research facility. NGOs alleged that police and armed forest officials moved more than 1000 people and destroyed standing crops in order to construct the facility. The state denied the reports. It is unknown whether the Akha and others adversely impacted by the project received compensation (Praiwan 2006; Akha Foundation 2008).

LAND DISPUTES AND CONFLICTS

The formal judicial system of Thailand is well established. Courts are organized at municipal, provincial, and national levels. The municipal courts and courts of first instance (trial courts that are comprised of general courts, juvenile and family courts, and specialized courts) hear disputes relating to land rights. Court costs are assessed at 2–3% of the value of the claim, and the prevailing party can be awarded costs and attorneys' fees. Cases are generally handled in an efficient fashion, and judgments are enforced, but litigation of complex matters can extend for years, and the adjudicatory process is not considered efficient or cost-effective. The formal court system recognizes alternative dispute-resolution mechanisms and provides alternative forums for mediation and arbitration of claims (IDE 2002; Tilleke and Gibbins 2009a; IDE 2001).

Historically, Thais tended to resolve problems locally through the use of conciliatory approaches; a preference for conciliation, negotiation, and mediation prevails, especially in rural areas. People tend to take disputes – including those concerning land and natural resource access and use – to local leaders, village elders and monks. The Local Administration Act of B.E. 2457 (1914) reflects this preference for local resolution; under the Act, the Chief District Officer of the Ministry of Interior has authority to hear and resolve disputes and the Village Committee is a recognized forum for conciliation (IDE 2002; Somswasdi 1992).

The 2004 tsunami created or exacerbated a number of coastal land disputes. The government created a land committee under the National Poverty Reduction Program to hear and resolve disputes. The committee was dissolved in 2007 due to inactivity caused by the end of the interim (post-coup) government. However, issues in tsunami-affected areas remain, including claims by indigenous groups of displacement and land-grabbing (USDOS 2006; USDOS 2008; Montlake 2005; Buddhathong 2009).

KEY LAND ISSUES AND GOVERNMENT INTERVENTIONS

While the Land Titling Program succeeded in registering about 22% of the total land area, the project was limited to registration of private land, and occupants of forestland were not eligible to participate. An estimated 12 million people live and work on Thailand's forestland; some of these resided on the land prior to its classification as forestland and claim rights to the land under customary law. Programs have been designed to upgrade the 5-year use-rights and Sor Por Kor (SPK) 4-01 certificates (giving possession rights to land allotted by the Land Reform Committee) held by some forestland dwellers to title deeds, and the Prime Minister's Statement of the Council of Ministers at the end of 2008 specifically identified the need to accelerate the issuance of land rights certificates to farmers and communities living on state land that is no longer forestland. The Community Forest Bill of 2007, which is awaiting final approval, is another effort to address issues of the rights of forest communities. The bill gives communities living in the forest prior to 1997 the right to enter into agreements with the Forest Department to preserve and manage the forest, but the rights are subject to Forest Department control (Burns 2004; KOT 2005a; Childress 2004; Giné 2004; Liddle 2008; Vejjajiva 2008).

About 8.5 million people live in informal settlements. In January 2003, the government of former Prime Minister Thaksin Shinawatra implemented the Baan Mankong and Baan Ua-Arthorn initiatives to provide low-income and poor households with secure land tenure and improved housing. The Baan Mankong program, run by the Community Organizations Development Institute (CODI), gives funds to poor urban communities who have demonstrated cohesiveness and responsibility. These communities then plan and implement improvements to their housing, starting with securing tenure, using loans and other support from CODI. Figures from June 2009 show that over 80,000 households in 1300 communities across Thailand benefited from the program. Under the Baan Ua Arthorn program, the National Housing Authority builds and sells subsidized apartments and homes to low-income households. Both programs suffered from corruption by implementing officials but were nonetheless considered evidence of government concern for the working class and poor. Since the military-led overthrow of the Shinawatra government, public dissatisfaction has risen as subsequent governments have failed to deliver on promises to benefit the poor and the working class. The growing discontent led to "Red Shirt" protests of 2009–2010, calling for the return of Shinawatra (Boonyabancha 2005a; Boonyabancha 2005b; Archer 2010; *Bangkok Post* 2010a).

The Prime Minister's Policy Statement of the Council of Ministers identified government priorities for 2009, including actions in relation to land rights. The priorities include government initiatives to: protect and conserve farmland with developed irrigation infrastructure; rehabilitate soil quality; provide land for poor farmers through the establishment of land banks and the acceleration of the issuance of land-rights certificates in the form of community land title deeds for poor farmers and communities living on state land that is no longer forestland; and support agricultural development in the form of agricultural estates. Specific programs relating to these priorities have not been announced (Vejjajiva 2008).

DONOR INTERVENTIONS

With the support of the World Bank and AusAid, Thailand implemented the 20-year Land Titling Program, which ended in 2004. The program included components dedicated to: land surveying and demarcation; adjudication of land rights; issuance of upgraded and new land titles; and improvement of service-delivery within the Department of Lands. During the course of the project, roughly 13 million titles were granted to Thai landowners, and land administration was improved to the point where, currently, most land transactions can be completed in under a day. The program received some criticism for failing to conduct baseline surveys, issuing limited land rights, and excluding forestland (World Bank 2003; Bowman 2004; AusAid 1999; World Bank 1999).

The Asian Development Bank (ADB), as part of its Sub-regional Development Plan for Tsunami-Affected Areas, is working to foster sustainable use and management of land resources and the rebuilding of local livelihoods by focusing on community-based tourism, plantation agriculture, and fisheries. NGOs such as the Asian Coalition for

Housing Rights (ACHR) have supported the rights of tsunami-affected landowners to defend their rights to land or enter into agreements for replacement land or land-sharing (ACHR 2006; ADB 2007a; ADB 2007b; ADB 2008).

2. FRESHWATER (LAKES, RIVERS, GROUNDWATER)

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Thailand's freshwater resources include several large rivers and lakes. The Ping, Wang, Yom, and Nan rivers originate in the northern mountains and form the Chao Phrayn River, which crosses the Central plain and empties into the Gulf of Thailand. The Chao Phrayn provides the country's rice paddies with a critical source of irrigation water. The country's border with Laos is formed by the Mekong River; about 18% of the river's catchment area is within Thailand. The Salawin River runs along the northwestern boarder with Burma (Myanmar) and the Kolok River forms the southern border with Malaysia. The largest lake, Songkhla, covers 1040 square kilometers in the southern Malay Peninsula (WEPA 2006; LOC 2007; FAO 1997).

Thailand's average annual rainfall is estimated at 1500 millimeters, ranging from 1100 millimeters in the Central plain to 4000 millimeters in the South. Drought and flooding are common in the Northeast and Central Regions. The country's total renewable water resources are estimated at 410 cubic kilometers per year (total internal water resources are 210 cubic kilometers). Thailand's total dam capacity is 85 cubic kilometers, about 43% of annual runoff. About 95% of water withdrawals are used for agriculture, with the balance split between domestic and industrial use (WEPA 2006; FAO 1997; World Bank 2009).

Thailand's rapid economic growth has strained the country's water resources as various needs – agricultural expansion, industrial growth and urban growth – compete for water. Between 1996 and 2004, water demand increased by almost 35%. Within Bangkok and surrounding provinces, water withdrawal has caused land subsidence (UNEP 2001).

Water quality countrywide is considered fair, although in urban areas and areas of intensive agricultural operations and industrial development, water sources are often polluted from the discharge of untreated waste and chemicals. Drinking water in Bangkok is supplied by Metropolitan Waterworks Authority and generally meets WHO standards for safety, but open canals crisscrossing the city serve as repositories of domestic and industrial waste and are highly contaminated. Countrywide, contamination of water sources is a growing problem (FAO 1997; UNEP 2001).

Thailand's strong civil society and media have fueled active public debates over water use in Thailand. In particular, dams have been a focal point for disputes over competing water uses and water management (Hirsch 2004; Phuwanich and Tokrisna 2007; FER n.d.).

Regional water shortages in the Mekong River basin affect millions of people in Northern and Northeastern Thailand, as well as in China's Yunan Province, Burma's eastern Shan State and Laos's northern areas. Governance of the Mekong's resources is currently insufficient to address upstream/downstream and lateral riparian issues, including the allocation of water for multiple uses between different countries and within each country. A wide range of civil society organizations has expressed concern over the effects of China's dam construction on the upper Mekong River (the Lacang) on downstream users in northern Thailand and Laos. Many have also voiced concerns over recently revived plans to construct approximately 11 new dams on the Mekong's lower mainstream, citing threats to food security and livelihoods. Research by the Mekong River Basin Commission (MRC) and others institutions indicates that the Mekong fisheries are both highly important to the subsistence and livelihood of downstream Basin residents – and particularly to the poorest of these – as well as highly vulnerable to potential damage from the proposed dam construction (Lee and Scurrah 2009; Save the Mekong 2010; Sunchindah 2005).

LEGAL FRAMEWORK

Thailand's Constitution provides that the state shall enact policies with relation to natural resources and the environment, including water. The state has the authority to: prescribe rules designed to support and develop the sustainable use of water resources; ensure that farmers have sufficient water for farming; mitigate pollution; and

improve conditions affecting the health, welfare and quality of life. The Constitution states that the public shall have an opportunity to participate in the development of policies and rules governing the use of natural resources (KOT Constitution 2007).

Thailand does not have a comprehensive water law and has been in the process of drafting and supporting passage of a water law since 1992. In 2000, the Cabinet recognized the need for: (1) the adoption of a water law; (2) the creation of water management organizations both at national and river basin levels; (3) the establishment of efficient and sustainable individual river basin water use priorities to ensure suitable and equitable water allocation for all water-use sectors; (4) the formulation of clear directions for water provision and development; (5) water-resource development for farmers; and (6) accelerated planning for flood and drought protection, while taking into account the analysis of forecast climate change impacts. The policy supports participation of the public and NGOs in efficient water management and calls for the development of clear guidelines on rights and responsibilities of the various civil and government agencies and groups in national water-management efforts. More broadly, the policy promotes the inclusion of water-related topics at all levels of the educational curriculum (KOT 2006; Wongbandit 2005; Hirsch et al. 2005).

The government has restructured the governance of the water sector and established River Basin Committees, but has not yet enacted a comprehensive water law. Hurdles to adoption of legislation have included: concerns about the lack of stakeholder participation in the process; a lack of political support for a ministry devoted solely to water resources; issues of pricing and revenue collection; and concern over the impact of a fee-based system on the poor. The first draft water law (1993) introduced a water permit system and possible fee structure and proposed to establish a new Ministry for Water Resources. This draft failed for three primary reasons: (1) challenges by some politicians that the law (and particularly the proposal to create a new ministry) was politically motivated; (2) challenges by the media and general public that the public did not participate in preparing the draft; and (3) claims by the NGO community that external interests unduly influenced the draft. Acting on the 2000 Cabinet Resolution to accelerate enactment of water legislation, the Department of Water Resources began a new drafting process in 2002 which included extensive public consultation. After multiple years, this process resulted in compromise legislation which featured a water permit system with specific provisions to reduce or eliminate the financial impact of water use fees on the poor. Although this draft was considered to be widely accepted, it was not adopted at that time. It does not appear that the question of comprehensive water legislation has been vigorously revisited in recent years (KOT 2006a; Wongbandit 2005; Hirsch et al. 2005).

The People‘s Irrigation Act of 1937 (as amended) governs the creation of private irrigation systems. The State Irrigation Act of 1942 provides for the creation and maintenance of irrigation systems (KOT 2006a).

Under customary law, water is perceived as an open-access resource that is supported by local-level water management systems. Thailand‘s villages have developed water management systems that acknowledge differences in water availability, geography and water uses. In many cases these traditional systems of water management have merged with or been adopted as part of formal water-resource governance systems managed by River Basin Committees (Sangkapitux et al. 2006; KOT 2006a).

TENURE ISSUES

The version of the draft water law that has been pending for several years provides that water belongs to the public domain and users are entitled to the water on their land. Water rights can be traded except in times of drought, when the government can limit water use. The draft law grants people the right to water for basic domestic uses while promoting: good management; sustainable and efficient use; and development, protection, rehabilitation, and conservation of water resources. The draft law provides for the participation of people in the process of resource governance and for the establishment of water organizations at the national, river basin and sub-basin levels, including water user organizations (KOT 2006 a; Hirsch et al. 2005).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

Until 1989, the institutional administration of water resources in Thailand was fragmented across 38 departments under 10 ministries, one independent agency and six national committees. In 1989, the government created the National Water Resource Committee (NWRC), which is chaired by the Prime Minister and includes members of relevant ministries appointed by the Prime Minister. The NWRC is responsible for: (1) proposing water policy;

(2) establishing guidelines for government agencies, state-enterprises, and other organizations in planning projects for construction or development of water resources and approving and monitoring projects; (3) prioritizing the allocation and control of water usage from different water resources for different needs; and (4) directing, controlling, and monitoring and maintaining water quality (GOK n.d./MNRE; KOT 2006a).

The Ministry of Natural Resources and the Environment has overall responsibility for management of water resources. The Ministry includes the Department of Water Resources, Department of Groundwater Resources and the Department of Pollution Control. The Department of Water Resources is responsible for administrative management, development, conservation, rehabilitation, control and oversight of water resources. The Department's tasks include: recommending water policies and master plans; developing a water resource database and GIS network; developing or making recommendations for improving and rectifying laws, rules and regulations regarding national water-resource administrative; disseminating and promoting the transfer of technology to conserve and develop water resources; and cooperating with foreign countries and international organizations regarding water resources. The Department of Groundwater Resources has similar duties relating to groundwater (GOK n.d./MNRE).

The Ministry of Agriculture and Cooperatives is responsible for management of irrigation-water resources and infrastructure development. The Royal Irrigation Department is established at the national level, with regional irrigation offices covering the river basins. Each of the 25 river basins has a River Basin Committee whose members include government officials, state enterprise representatives, elected representatives of local government units, water user groups, and stakeholders who work or live in the river basins. The committees are responsible for: (1) providing input on NWRC policies, plans and projects; (2) formulating water resources management plans; (3) prioritizing water allocation; (4) monitoring and evaluating performance of relevant agencies; (5) compiling statistics, data, comments and recommendations regarding water resources management; (6) conciliating conflicts; and (7) conducting public relations, receiving comments and promoting understanding among the general public of the committee's performance. The Department of Water Resources provides technical and financial support to the River Basin Committees. Implementation of water management plans is undertaken by district and *Tambon*-level (subdistrict) offices (KOT 2006a; Hirsch et al. 2005).

At the village level, rules regarding water access vary. In some villages, surface and ground water are open-access resources, and access is not regulated. In most irrigated areas, water user groups manage the access to and allotment of irrigation water. In other villages, local leaders are responsible for managing water resources and mediating conflicts (KOT 2006a; Sangkapitux et al. 2006).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

The government has identified the following challenges in the water sector: at the national level, (1) the country continues to lack a legal framework governing water resources; (2) work by water-related agencies is not coordinated; (3) the budget is ineffectively implemented; and (4) information about water resources development is poorly managed. At the basin level, the sector suffers from: (1) lack of a legal and institutional framework; (2) insufficient efforts to encourage public participation in large-scale projects; (3) absence of a system of conflict management; and (4) a lack of a sense of ownership and shared responsibility for using, managing and conserving water resources (KOT 2006a).

Beginning in 2003, the government has at various times proposed the development of a National Water Grid. Through the construction of a network of pipelines, tunnels and canals, the grid would transfer water from water-rich areas to water-short regions and increase the amount of irrigated land nationwide. The project is controversial because of its estimated price tag (US $5–10 billion), construction time (5–23 years), technical feasibility and anticipated adverse environmental and social impacts. The project has not proceeded, although there is consideration of smaller projects to link water basins (Hirsch 2004; Lee 2007; *Bangkok Post* 2010b).

Thailand is a member of the Mekong River Commission and signatory to the 1995 Mekong River Basin Agreement, which provides for joint management of the shared river resources and development of the river's economic potential. Other members are Laos, Cambodia, and Vietnam. The agreement does not address water sharing. The Commission's goals are to: (1) promote and support coordinated, sustainable and pro-poor development; (2) enhance effective regional cooperation;(3) strengthen basin-wide environmental monitoring and

impact assessment; and (4) strengthen the Integrated Water Resources Management capacity and knowledge base of the commission bodies, national Mekong committees, line agencies and other stakeholders. Civil society organizations and donors called into question the Commission's transparency and its ability to assess and respond proactively and in a timely manner to the social, ecological and economic needs of member countries, and have criticized the Commission for its overemphasis on hydroelectricity and dam construction. The Commission's capacity is also limited by the fact that neither China nor Myanmar, the two upper riparian countries, are members (MRC 2010; Lee and Scurrah 2009; Save the Mekong 2010; Sunchindah 2005).

DONOR INTERVENTIONS AND INVESTMENTS

USAID funded the Thailand Post-Tsunami Sustainable Coastal Livelihoods Program that is working to reestablish sustainable coastal livelihoods and build local governance capacity. Through regional programs, the agency has also funded programs to build capacity of local watershed managers, improve watershed management and provide a drinking-water purification system to communities. USAID funded a project that improved water delivery at 225 waterworks countrywide, servicing an estimated 11.3 million people. The agency also funded a study of sustainable livelihoods and water management in the Lower Songkram Basin. The purpose of the study was to learn how to help communities relying on key water-basin resources to sustain livelihoods as water-resource availability fluctuates due to climate change (USAID 2010; USAID 2009; USAID 2008; Wolff 2007).

ADB is working with the Government of Thailand to pilot an integrated water-resource management program. The goal of the project is to improve the conservation, management and planning of the country's water and related natural resources (such as forests and aquatic zones). The project seeks to protect local residents' livelihoods while promoting sustainable use of the natural resources. ADB's Water Financing Program 2006–2010 will provide the Ministry of Natural Resources and Environment with technical support to help create an integrated water management plan for the Yom River basin (ADB 2007b.)

The Japan International Cooperation Agency (JICA) has been funding a 3-year program (through 2010) providing technical support to the Royal Irrigation Department on irrigation-water management for sustainable development and the use of computers for efficient water management. Urban water supply and sanitation projects are being funded by multiple donors including Germany, Japan, Italy, Spain, and UNICEF (AiDA 2009; JICA2008).

3. TREES AND FORESTS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Thailand's forest coverage has fallen from about 70% of total land area in 1900 to about 28% in 2005. Thailand has 10 different types of forest, including tropical evergreen forests that are comprised of rubber, hardwoods, bamboo and wicker. The tropical forests are found countrywide but are in greatest abundance in the southern and eastern parts of the country. Coniferous forests are found primarily in the mountainous northern areas. In the hill regions, evergreen forests include pines and shrubs mixed with orchids and wild roses. The mixed deciduous and dry dipterocarp forests in northern and central valleys are less dense than evergreen forests and include teak, bamboo and redwood. Mangrove forests are found along river estuaries and many coastlines. Rubber plantations cover an additional 1.96 million hectares. Thailand has an extensive network of protected areas, covering roughly 8.47 million hectares in 2001 (Giné 2004; FAO 2005; ITTO 2005; Thailand's World 2010).

Much of Thailand's rural population is either wholly or partially dependent on forests for their livelihoods. Rural communities use the forests for grazing livestock and cultivation, fuelwood and wood products. Non-wood forest products include fruits and nuts, honey, wildlife and medicinal plants. Forests also have religious and cultural significance in Thailand. The Forest Tradition in Buddhism uses forests for monastic training, and some communities identify forest spirits and trees linked to family members, requiring preservation of forest areas (AFN 2006; Satoyama Initiative 2009; Fisher and Hirsch 2007).

Threats to Thailand's remaining forests include: illegal logging; conversion into agricultural land; forest fires; squatting by refugees from neighboring countries; and conversion for use for development of infrastructure (ITTO 2005).

LEGAL FRAMEWORK

Thailand's Constitution provides that communities have the right to protect their traditions and to participate in the management, maintenance, preservation and exploitation of natural resources, the environment, and biodiversity in a balanced and sustainable fashion.

Formal legislation governing the forest sectors includes: (1) The Forest Act of 1941, which governs the management of state forests, regulates logging and sets procedures for licenses and royalty payments; (2) The National Parks Act of 1961, governing the designation, management and protection of National Parks; (3)The National Reserved Forests Act of 1964, governing the designation, management and protection of National Reserved Forests; (4) The Commercial Forest Plantation Act of 1992, which requires the registration of commercial forests and regulates the cutting and sale of timber in commercial plantations; (5) The Forest Plantation Act of 1992, which facilitates the creation of private-sector plantations on degraded forest; and (6) The Community Forest Bill of 2007, which gives forest-dwelling communities who can prove they lived in the forest prior to 1997 rights to preserve and manage forest land under strict guidelines. Forest communities must be registered and must develop an approved forest management plan. The bill has been criticized by forestry officials for granting communities rights to sensitive forest areas, and by local communities and NGOs for restricting current forest access and use. As of 2010, the bill was awaiting royal assent (KOT Constitution 2007; Glenn and Johnson 2005; ITTO 2005; Liddle 2008; Reynolds and Flores 2009).

TENURE ISSUES

The state owns all forests in Thailand. Trees on private land are considered private property (ITTO 2005; FAO 2005).

Under the Forestry Act, there are two levels of restriction and licensing for forest use. Under Category A (General Restriction), timber can only be logged by license or concession. Under Category B (Strict Restriction), logging is not permitted except by special permission from the Minister in charge of executing the Forestry Act. Licenses can be transferred with permission of the same Minister. Licenses can be revoked if the licensee is in violation of the Act. The government can terminate concessions to construct public infrastructure, to conserve the environment or for other public purposes (KOT Forestry Act 1941).

In 1989 the government banned commercial logging in an attempt to protect against forest degradation and flooding. In 1996, all logging licenses in mangrove areas were also revoked. The state allows parties to obtain low-cost long-term rentals to use degraded forestland for cultivation or to establish tree plantations. The regulations do not permit logging in natural forests (ITTO 2005; Bhusal et al. 1998).

Despite formal restrictions on forest use, including a continued ban on commercial logging, encroachment and farming on lands classified as forest are widespread in Thailand. A series of government policies limiting forest encroachment have largely been unsuccessful. By the 1980s, communities permanently occupied roughly 20% of official forest reserves. In some cases, communities occupied the forest land prior to the state classification of the land as reserve forest. The government launched a program in 1981 to grant 5-year use licenses (STK) recognizing cultivation rights within the forests. These certificates cannot, however, be converted into a title deed or Certificate of Use and can only be transferred by inheritance. If licensees violate the terms of the license, the state can take the land without payment of compensation. The licenses are criticized by licensees and observers as potentially increasing insecurity of tenure because they are granted for very short terms and give the state the authority to monitor land-use and seize land (USDOS 2006; USDOS 2008; Childress 2004; Giné 2004; *Bangkok Post* 2010c).

While the Constitution states that traditional and local communities have the right to participate in natural-resources management, the details on how this shared management relationship would work and what resources local communities have the right to manage are still under debate. There is no special policy in Thailand distinguishing the rights of indigenous peoples, who live largely in the northern highlands and occupy traditional holdings that lie within classified forests. Disputes between forestry officials and these groups are common. Some observers believe that one result of the land titling program has been the loss of unprotected common property resources. As the pressure to grant farmers title to forestland increased, the Forest Department attempted to consolidate its authority by classifying more forest as protected areas or tree plantations. The Forest Department's

effort to expand its control has the potential to further marginalize those communities that have depended on community rights to forestland (Vandergeest 2001; Liddle 2008; Childress 2004).

Community forest management has been slow to develop in Thailand. Efforts to draft and adopt legislation governing participatory forestry began in the 1990s, and the Community Forestry Bill is still awaiting final approval. In the interim, an estimated 328,000 hectares are under some form of community forest management. NGOs have helped communities work with Forest Department officials to reach agreements on designating areas of forest conservation, areas of forest for permissible uses, settlement land and agricultural land. The terms of the Community Forestry Bill, which will restrict community forest management to certain communities and designated activities, may result in the termination of some projects and community rights to forest resources (Liddle 2008; AFN 2006).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Ministry of Natural Resources and the Environment (MNRE) is responsible for: assessing the country‘s natural resources; providing for the protection and sustainable use of the natural resources; and developing plans for equal benefit-sharing. The Royal Forest Department (RFD), previously attached to the Ministry of Agriculture and Cooperatives, is now under MNRE. The RFD has oversight authority over the country‘s forests (excluding protected areas) and has primary responsibility for: management of forest conservation; logging; forest product collection; utilization of forest land; and enhancement of public participation. The National Park, Wildlife and Plant Conservation Department is responsible for conservation and management of flora and fauna, especially in protected forest areas. The department is also responsible for community forest management programs within its jurisdiction (AFN 2006; KOT n.d./MNRE).

The Watershed Conservation Management Office (WCMO) is attached to the Department of National Parks Wildlife and Plant Conservation and is responsible for watershed rehabilitation through reforestation, development of land-use plans to reduce the practice of shifting cultivation, and conflict management. WCMO officials support NGOs in implementing community forest management projects in watersheds (AFN 2006).

The subdistrict-level Tambon Administrative Organizations (TAO) have authority over community forests and buffer-zone management, small-scale forest plantations, and local responsibility for forest and forest fire protection (AFN 2006; ITTO 2005).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Thailand‘s forest sector has been challenged by the pressure on forestland for cultivation and collection of forest products and the lack of an established framework for participatory forest management. The Prime Minister‘s 2008 Policy Statement of the Council of Ministers identified government priorities for 2009 as follows: protect and conserve forests; expedite the declaration of protected forest; determine areas for and promote reforestation; develop community forests; promote the cultivation of commercial forest in appropriate areas; and suppress deforestation (Bhusal et al. 1998; Vejjajiva 2008).

The government has made several efforts to support participatory forest management. In addition to the development of the Community Forest Bill, the Thai Working Group of Community Forest Management was formed and includes representatives from the Royal Forestry Department, the Watershed Conservation Management Office, the Department of Local Administration, and NGOs. The purpose of the group is to strengthen collaboration among stakeholders responsible for and living in forests, and to develop and refine methods for establishing partnerships between local communities and local government regarding forest management (AFN 2006; Liddle 2008).

The government has been supporting forest restoration projects in highly degraded forest areas. The Forest Restoration Research Unit (FORRU) of Northern Thailand‘s Chiang Mai University, in collaboration with Doi Suthep-Pui National Park Headquarters and Britain‘s Horticulture Research International (HRI) adopted a framework species method to restore seasonally dry forests to degraded watershed sites in the mountains of Northern Thailand. Planting mixtures of 20–30 selected native forest tree species succeeded in restoring forest ecosystems within 3 to 4 years (Blakesley and Elliott 2003).

DONOR INTERVENTIONS AND INVESTMENTS

The International Tropical Timber Organization (ITTO) and Japan, Switzerland and Australia have been supporting the government's investment in a forest resource monitoring system (THAIFORM). The system includes techniques for establishing monitoring points, collecting and processing field data, and conducting GIS analysis. The system is designed to generate monitoring information to support informed policy decision-making by the National Park, Wildlife and Plant Conservation Department and other agencies involved in forest conservation and sustainable forest management. The specific project objective is to set up a national monitoring system to provide change and trend data on timber and non-timber forest resources. When linked with socioeconomic information, this data will provide a basis for policy decisions and for measuring progress toward sustainable forest management. The Australian Government's Overseas Aid Program (AusAID) is also providing support for capacity building within the Royal Forestry Department, and JICA managed a 3-year project (ending in 2010) that provided technical support to the Royal Forestry Department on reforestation techniques, including: nursery management; reforestation; tree-farm management; sustainable utilization of wood from tree plantations; and timber market information management, in order to encourage local people's reforestation activities in the context of community-based forest management (ITTO 2004; AiDA 2009; JICA 2008).

The Regional Community Forestry Training Centre for Asia and the Pacific (RECOFTC), a Bangkok-based NGO, is a leading advocate for community management of Thailand's forests and the rights of forest people. RECOFTC has been actively engaged in developing the Community Forestry Bill and supporting community forest management projects (Liddle 2008).

4. MINERALS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Thailand is a leading producer of cement, feldspar and gypsum. Other minerals mined include construction materials such as cement, dolomite, gypsum, kaolin, limestone, marl, potash, and silica sand and metals, including gold, copper, steel and zinc. Thailand also has reserves of coal, natural gas and crude petroleum and 17 different types of gemstones (Shi 2010; KOT n.d./DMR; Yuwaprecha and Naraphirom 2005).

Thailand was one of the world's largest producers of gypsum in 2008. Overall, minerals accounted for almost 2% of all merchandise exports and 5% of merchandise imports in 2007. The country's mining sector has been adversely affected by the global financial crisis and the slow recovery of private investment, but growth is expected in the coming years, especially in the petroleum subsector. In 2008, a dozen oil fields were producing crude petroleum, increasing production by 7%, and a major new operation located off the coast of Songkhla in the Gulf of Thailand began producing natural gas (Shi 2010; KOT n.d/DMR n.d.; Johnston 2010; Yuwaprecha and Naraphirom 2005).

Thailand's mineral reserves are found throughout the country. Tin, tungsten, lead and zinc are mined in the Western regions. Gemstones are found primarily in the Chantaburi and Trat provinces in the Eastern region, and most gold is mined in the Southern and Eastern regions (KOT n.d./DMR).

Mining operations are conducted by public and private entities. The state's Electricity Generating Authority of Thailand (EGAT) and several private businesses operate the coal exploration and mining businesses. Oil and gas operations are owned by the Petroleum Authority of Thailand (PTT), PTT Exploration and Production Co. Ltd., multinational oil companies and joint ventures between public and private companies. The largest onshore oil field at Sirikit is operated by Thai Shell Exploration and Production Co. Ltd, and the leading offshore oil field is operated by Chevron Offshore Ltd. Together, the two operations account for almost half the country's total production of crude petroleum (Shi 2010).

Thailand has an estimated 21,500 artisanal and small-scale miners, primarily mining gold and gemstones. Artisanal and small-scale miners generally operate in the informal sector, using simple tools and equipment. The conditions are often harsh, and damage to the health of the miners (including children) and the environment is common. In an amalgamation gold recovery operation located at a small-scale mining operation in Phichit Province, for example, high levels of mercury contaminated surface soil, plants and agricultural products (CASM 2010; IIED 2002; Pataranawat et al. 2007).

LEGAL FRAMEWORK

The Minerals Act of 1967 (as amended), governs the exploration, exploitation, and trade in minerals other than petroleum. Rights granted under the Minerals Act do not include rights to land. The Mineral Royalty Rates Act of 1966 sets the royalty rates to be assessed for different kinds of minerals. The Petroleum Act of 1971, as amended, regulates exploration, production, transportation and sale of petroleum resources (Tilleke and Gibbins 2009b; Chandler and Thong-ek Ltd. 2001).

The Enhancement and Conservation of Natural Environmental Quality Act (1992) requires mining operations to submit environmental impact analyses to the Office of Natural Resources and Environmental Policy and Planning under the Ministry of Natural Resources and the Environment (Tilleke and Gibbins 2009b).

TENURE ISSUES

Thailand‘s mineral resources are owned by the state, and licenses are required for exploration and extraction of minerals. The following licenses are available.

1. *General prospecting licenses* are non-renewable, non-transferable 1-year licenses issued by the Local Mineral Resources Office.

2. *Exclusive prospecting licenses* are also granted for one year, but are renewable and give the licensee exclusive rights of exploration in a given area (up to 1250 *rai*, or approximately 200 hectares).

3. *Special prospecting licenses* are used for large projects or exploration for high-value minerals. The licenses are granted for 3-year terms, are renewable for two years, and must be accompanied by an offer of special benefits to the government. The license is issued for areas up to 1600 hectares.

4. *Mining leases* are granted for periods up to 25 years. The mining operator is responsible for obtaining the surface rights to the land, either by a lease agreement or land purchase. Applications must include a work plan, evidence of sufficient capital, an environmental impact assessment, evidence of surface rights, and evidence of technical capability. Approval of the Forest Department is required for any operation impacting forestland.

   (KOT Minerals Act 1967; LOC 2007; Chandler and Thong-ek Ltd. 2009; Tilleke and Gibbins 2009b).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

Several ministries have responsibility for the minerals sector. The Department of Mineral Resources (DMR) within the Ministry of Natural Resources and the Environment is responsible for preservation and administration of mineral resources. Specific duties include: (1) recommending areas, policies, and plans for management of mineral resources; (2) enforcing minerals legislation; (3) recommending changes and updates to the legal framework; (4) conducting surveys and cooperating with foreign and international organizations regarding geology and mineral resources; and (5) setting geological and mineral standards (KOT n.d./MNRE).

The Department of Primary Industry and Mines (within the Ministry of Industry) and the Department of Minerals (in the Ministry of Natural Resources and the Environment) are responsible for administering the Minerals Act. A Mining Council, established in 1983, serves as an intermediary between mining companies and the government; all entities applying for mining rights or operating in Thailand must be members of the council (Tilleke and Gibbins 2009b; Wu 2006).

The petroleum industry is governed by the Department of Mineral Fuels and Petroleum Committee (DMF), under delegated authority of the Ministry of Energy. The responsibilities of the DMF are: the promotion of petroleum exploration and exploitation; enhancement of domestic petroleum supply; and acceleration of petroleum development in overlapping claimed areas. All petroleum activity in the country must have the approval of the Minister of Energy and is subject to the authority of the DMF (KOT n.d./DMF; Tilleke and Gibbins 2009b).

Thailand is a member of the Coordinating Committee for Geoscience Program in East and Southeast Asia (CCOP). CCOP is an independent intergovernmental organization founded under the United Nations Economic and Social Commission for Asia and the Pacific (ESCAP) in 1966. Other member countries are Cambodia, China, Indonesia, Japan, Korea, Malaysia, Papua New Guinea, Philippines, Singapore and Viet Nam. CCOP's mission includes capacity building, technology transfer, exchange of information, and creation of institutional linkages (Short et al. 2005).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Thailand has made efforts to encourage foreign investment in the minerals sector. Mining projects that are promoted by the Board of Investment under Thailand's Investment Promotion Act can receive exemptions from or reduction of customs duties, suspension of income taxes, and other incentives. The Department of Mineral Resources: provides free mineral-resource maps and information regarding resources; conducts surveys; and provides technical support for mining operations (Chandler and Thong-ek Ltd. 2009; KOT n.d./DMR).

DONOR INTERVENTIONS AND INVESTMENTS

Thailand relies heavily on coal, natural gas and imported petroleum to meet its energy needs. The country is also one of the most carbon-intensive economies in Southeast Asia. The World Bank and government of Thailand have announced plans for a US $570 million Clean Energy Investment Project that develops sources of alternative and renewable energy, including wind, solar, hydro and biomass options. All of the options are land-based, and their development will require access to the land and other natural resources (e.g., water) required for energy production. The project will be implemented by the Electricity Generating Authority of Thailand (EGAT) and Provincial Electricity Authority and is expected to be approved in 2011 (World Bank 2010).

A number of local NGOs, including the Udon Thani Environmental Conservation Group and the Foundation for Ecological Recovery, were successful in organizing local residents to protest the development of a potash mine in Udon Thani Province. The Canadian company that held the potash concession planned to mine beneath agricultural and residential land. Communities protested that they had not been consulted about the operation and that the environmental impacts, including anticipated subsidence and salt contamination, had not been adequately studied. The exploration licenses were subsequently sold and the project is awaiting new investors (*Mining Watch* 2002; FER n.d.; Pitsuwan 2009).

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