



USAID
FROM THE AMERICAN PEOPLE

USAID COUNTRY PROFILE

PROPERTY RIGHTS AND RESOURCE GOVERNANCE

BURMA

OVERVIEW

Burma is situated in Southeastern Asia, bordering Bangladesh, India, China, Laos and Thailand. The majority of its population lives in rural areas and depends on land as a primary means of livelihood.

Because all land in Burma ultimately belongs to the state, citizens and organizations depend upon use-rights, but do not own land.

Burma's laws grant women equal rights in some respects and also recognize certain customary laws that provide women equal rights in relation to land. In practice, however, the rights of many women are governed by customs that do not afford them equal access to or control over land.

Forcible and uncompensated land confiscation is a source of conflict and abuse in Burma, and protests and fear of "land grabs" have escalated as the state opens its markets to foreign investors and pursues policies to dramatically increase industrial agricultural production.

Burma has rich water, forest and mineral resources. However, a rapid expansion of resource extraction efforts in the past three decades has led to widespread land and water pollution, deforestation and forced relocation.

KEY ISSUES AND INTERVENTION CONSTRAINTS

To help strengthen the implementation and reform of existing law and build corresponding institutional capacity, USAID and other donors might consider focusing on the following high-impact interventions:

- **Support the development of a land policy.** Burma does not have a written policy on land use and land tenure. *Donors could help provide a sound foundation for the development and implementation of a comprehensive land law by providing technical, legal and other support for the development of a formal land policy.*
- **Support the development of a comprehensive land law and related implementing rules and regulations.** The body of law governing land in Burma is expansive, complex and poorly harmonized, with many of the legal instruments dating back to the late nineteenth century. Although the state enacted several major land-related laws in 2012, their effect on preexisting laws is unclear. *Donors could help resolve this ambiguity by providing technical, legal and policy support for the development of a comprehensive land law and for the implementing rules and regulations that would follow it.*
- **Improve tenure security for vulnerable populations.** Populations relying upon customary tenure arrangements, which the government does not recognize, as well as smallholder farmers whose land use

does not align with how land has been classified or who did not report their land use to the government in the past, are vulnerable to being removed from their land without receiving compensation. *Donors could improve tenure security for these populations by supporting the development of: laws and policies that recognize and respect customary tenure systems; and registration schemes that allow for the titling of land under rotational or other customary tenure.*

- **Improve land tenure security for women.** The land rights held by women in Burma are often highly insecure. Cultural norms and practices often marginalize women within their marriages and households, and many women lack awareness of their rights as joint owners of family land or as family members with rights of inheritance. Rights held by women-headed households are particularly vulnerable to loss to male family members, local elites and commercial interests. *Donors could work with the government to protect and improve women's land rights through educational programs and legal literacy campaigns focused on increasing women's knowledge of land rights and land administration procedures. They could also provide support for programs that assist women, their families and their communities with training in communication and dispute-resolution techniques. Additionally, donors could support the development of legal aid organizations and NGOs as well as their efforts to expand their services to include a focus on protecting and improving women's land rights.*
- **Reduce landlessness.** Landlessness rates are significant nationally and especially acute in states with ethnic minority populations. Estimates of landlessness among Burma's rural population range from 30% to 50%. *Donors could help reduce landlessness by supporting the analysis and development of laws and policies to reduce landlessness and an investigation of whether and in what regions land might be available for allocation to households that possess less than an acre of land.*
- **Bring compulsory acquisition policies in line with international best practices.** Burma's laws permit the state to use compulsory acquisition to acquire land for public purposes and for business purposes. The law defines neither purpose in detail, leaving landholders vulnerable to losing their land through arbitrary processes. *Donors could help improve compulsory acquisition policies by providing technical, legal and policy support for the development of a law that embodies minimum international standards for fair and effective compulsory acquisition procedures.*
- **Promote expansion and improvement of community forest user groups.** Community forestry initiatives have strengthened the land rights of villagers, ensuring greater protection from land expropriation, as well as increased village participation in land governance. However, community forest groups have been both slow to expand and – as a result of their neglect of agroforestry strategies, local needs, gender dynamics and marginalized groups – adversely affected food security in villages. *Donors could support the expansion of community forest user groups that encourage sustainable, equitable and participatory strategies in forest management.*
- **Support more sustainable water management.** Freshwater resources in Burma are abundant, but access to water is temporally and spatially uneven. Water quality has rapidly deteriorated as a result of urbanization, industrialization and mining activities, along with a lack of adequate sanitation facilities. Insufficient data as well as vague legislation and overlapping institutional authority have hampered water management. *Donors could help reduce water pollution by facilitating investment in sanitation facilities in both urban and rural settings. Donors could also offer technical assistance to help the government obtain better data on water resources and improve coordination of water management across agencies.*
- **Support regulation of the mining industry.** Burma lacks the necessary laws, regulations and enforcement mechanisms to protect its environment and vulnerable populations against the impacts of mining. Over the past two decades, these inadequacies have led to conflict and widespread environmental degradation in the wake of a rapid increase in large-scale mining. As investment in the country's mineral sector increases, conflict between mining interests and local communities will likely increase. *Donors could help the government manage competing interests by assisting in the development of a progressive legal framework that supports investment while recognizing the rights of local communities. Donors could also help local communities protect their rights and interests through public-awareness building, community organizing and the development of contracting and negotiation skills. 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.*

FOR MORE RECENT LITERATURE:

<http://usaidlandtenure.net/burma>

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

SUMMARY

Approximately 67% of Burma's population lives in rural areas, and the majority depends on agricultural land as a primary means of livelihood. Burma is the poorest country in Southeast Asia, and poverty rates are particularly high in rural areas, where it is estimated that 30–50% of households are landless, and in border regions populated by minority ethnic groups.

Burma's laws dictate that all land ultimately belongs to the state. The body of law governing land is expansive, complex and poorly harmonized, and dates back to the British colonial period. In 2012, the state enacted several high-profile laws whose effect on preexisting laws and systems is not yet clear. These include the Farmland Law and the Vacant, Fallow and Virgin Lands Management Law (VFV Law).

Burma's constitution guarantees women equal rights before the law, and the government claims that women have equal rights to administer property. Customary laws, which govern succession, marriage and inheritance, grant

Buddhist women (the majority of women in Burma) equal rights in property matters. These customary laws and Burma's statutory laws do not always govern in practice, however, and many women are subject to systems that do not afford them equal rights. Furthermore, Burma's newest laws governing land (the Farmland Law and VFV Law) are not gender neutral and appear to lack a mechanism for the joint ownership of property between husbands and wives.

The primary central body governing land in Burma is the Ministry of Agriculture and Irrigation (MoAI), whose departments are responsible for land-use planning, water resources, irrigation, mechanization, settlement and land records, among other matters. The Farmland Management Body (FMB) and the Central Committee for the Management of Vacant, Fallow and Virgin Lands (CCVFV), both established

BOX. 1 MACRO INDICATORS

	Year	Score
Population, Total	2011	48,336,763
Population Ages (% of Total) 0–14; 15–64; 65+	2011	26; 69; 5
Population Growth (Annual %)	2011	1
Rural Population (% of Total Population)	2011	67
Population Density (People per sq. km)	2010	73
Literacy Rate, Adult Total (% of People Ages 15 and Above)	2009	92
Land Area (sq. km)	2010	653,520
Arable Land (% of Land Area)	2009	17
Agricultural Land (% of Land Area)	2009	19
Permanent Cropland (% of Land Area)	2009	2
Agricultural Irrigated Land (% of total agricultural land)	2007	25
Forest Area (% of Land Area)	2010	49
Nationally Protected Areas (% of Total Land Area)	2010	6.2
Renewable Internal Freshwater Resources per capita (Cubic Meters)	2009	21,071
Annual Freshwater Withdrawals (% of Total Freshwater Withdrawal)		
Agriculture	2009	89
Domestic	2009	10
Industry	2009	1
Crop Production Index (2004-2006=100)	2010	123
Livestock Production Index (2004-2006=100)	2010	142
GDP (Current US\$)
GDP Growth (Annual %)	2004	14
GDP Value Added (% of GDP)
Agriculture	2004	48
Industry	2004	16
of which: Manufacturing	2004	12
Services	2004	35
Ores and Metals Exports (% of Merchandise Exports)	2010	1
Ores and Metals Imports (% of Merchandise Imports)	2010	1
Net ODA (% of GNI)

Source: WB 2012a.

by laws enacted in 2012 and chaired by the head of MoAI, are responsible along with their lower-level branches for approving certain requests for land-use rights.

Burma's land market has grown in the past two decades and has produced a particularly dramatic increase in the number of commercial landholdings. Prices have climbed in both urban and rural areas, due in part to land speculation. While there is some concern that inflated prices will deter foreign investment in Burma's land market, there is also alarm over prospects that increased foreign investment could lead to an epidemic of land confiscations. The law allows the state to use compulsory acquisition to acquire land for public purposes and for business purposes, neither of which the law defines in detail. Although Burma's laws require the state to pay compensation for land it acquires, in practice the compensation often falls short of minimum standards or does not occur at all.

Natural resources are a leading source of conflict, and development projects have often involved Burma's military forces, which have a history of displacing and violently abusing affected populations. Conflict and abuse have also surrounded the military's confiscation of land in cases unrelated to development projects. Of particular concern in recent years is the forceful and uncompensated confiscation of land for commercial agricultural development. As the state pursues an ambitious plan to convert vast amounts of land to industrial agricultural production, farmers are increasingly protesting what they call "land grabs."

Burma has diverse natural forests, including tropical evergreen forests, hill forests and temperate evergreen forests. Forests cover approximately 48% of Burma's land area. Deforestation due to excessive legal and illegal logging as well as traditional practices has emerged as a significant problem for Burma, with the country losing 19% of its forest cover between 1990 and 2010.

Rapid exploitation of Burma's natural resources is threatening the country's agricultural and forest land. Large dam building, oil and gas extraction, mining, logging and large-scale agriculture projects are leading to severe soil and water degradation, as well as the forced displacement of smallholder farmers and minority ethnic communities.

I. LAND

LAND USE

Burma is located on the Andaman Sea and the Bay of Bengal and shares borders with Bangladesh, India, China, Laos and Thailand. It is the largest country in mainland Southeast Asia and has a land area of 653,520 square kilometers, of which 124,400 (roughly 19%) are agricultural (CIA 2012; World Bank 2009; World Bank 2010).

The country's estimated 2011 GDP was US \$50.62 billion (and US \$82.68 billion in purchasing power parity), with 42% attributed to services, 39.3% to agriculture and 18.7% to industry. Key exports include natural gas, wood products, pulses, beans, fish, rice, clothing, jade and gems. Primary agricultural products include rice, pulses, beans, sesame, groundnuts, sugarcane, fish and fish products and hardwood (CIA 2012).

Population estimates vary, as Burma's last reliable census took place in 1931. The World Bank estimates Burma's population at 48 million with an annual growth rate of 1%, though other estimates range as high as 60 million. Access to agricultural land is the most important resource for rural households. Estimates of Burma's rural population vary, and range from 67% (World Bank) to 75% of the population. Fully 70% percent of the population is believed to be involved in agriculture (World Bank 2011a; COHRE 2007; CIA 2012; ADB 2011).

Burma is the poorest country in Southeast Asia. Roughly 25% of the population lives below the poverty line (calculated as minimum necessary caloric and non-food expenditures), though that rate is declining. The rural poverty rate is 29%, roughly twice the 15% poverty rate in urban areas. Rural areas account for

nearly 84% of Burma's total poverty, and four states contribute the most to the national incidence: Irrawaddy (19%), Mandalay (15%), Rakhine (12%) and Shan (11%). Proportionally, the following states have the highest rates of poverty among their populations: Chin (73%), Rakhine (44%), Tanintharyi (33%), Shan (33%) and Irrawaddy (32%) (IHLCA 2011).

Approximately 17% of Burma's land is arable, 2% is permanent cropland, 0.47% is meadow and pastureland, and 49% is forestland. Approximately 25% of Burma's agricultural land is irrigated (FAO 2011a; World Bank 2012a).

Burma's physical geography varies across its regions, which are divided into the Uplands, the Dry Zone and the Irrawaddy Delta. The Uplands contain hilly terrain that ranges from 1000 to 2000 meters in altitude, and stretch along the eastern, northern and western states of Kachin, Karenni, Karen and Chin, as well as parts of Shan, Mon and Arakan.

Traditional shifting "swidden" agriculture is common in these areas. However, growing population density is forcing farmers to clear increasingly steep hills, where poor soil quality does not support sustained cultivation or allow for appropriate fallow periods. Many farmers in Shan state have preferred to plant opium, a cash crop that they can harvest quickly and use to secure advance credit, rather than rice, which is easily looted and taxed by nearby combatants. Some farmers in the Uplands flat valley areas grow rainfed paddy rice (COHRE 2007).

The country's Dry Zone is a central heartland area that spans Burma's semiarid region. Most farmers in this area are commercial farmers growing cash crops such as sesame, pulses and beans for export. Onions,

BOX 2. LAND TENURE INDICATORS		Score
<u>Millennium Challenge Corporation Scorebook, 2012</u>		
- Land Rights and Access (Range 0–1; 1=best)		0.638
<u>International Property Rights Index, 2012</u>		
- Physical Property Rights Score (Range: 0–10; 0=worst)		..
<u>World Economic Forum's Global Competitiveness Index, 2012-2013</u>		
- Property Rights (Range: 1–7; 1=poorly defined/not protected by law)		..
<u>World Economic Forum's Global Competitiveness Index 2012-2013</u>		
- Ease of Access to Loans (Range: 1–7; 1=impossible)		..
<u>International Fund for Agricultural Development, Rural Poverty Report, 2011</u>		
- Gini Concentration of Holdings, 1981–1990 (Range: 0–1; 0=equal distribution)		..
<u>International Fund for Agricultural Development, Rural Sector Performance Assessment, 2005</u>		
- Access to Land, 2007 (Range: 1–6; 1=landlessness among rural poor is entrenched and pervasive throughout the country)		2.6
<u>Food and Agricultural Organization: Holdings by Tenure of Holdings</u>		
- Total Number of all Agricultural Holdings, 1993		2,924,200
- Total Area (hectares) of all Agricultural Holdings, 1993		6,887,000
- Total Number of Holdings Owned by Holder, Year		..
- Total Area (hectares) of Holdings Owned by Holder, Year		..
- Total Number of Holdings Rented from Another, Year		..
- Total Area (hectares) of Holdings Rented from Another, Year		..
<u>World Bank Group, Doing Business Survey, 2012</u>		
- Registering Property–Overall World Ranking (Range: 1–181; 1=Best)		..
<u>World Bank Group, World Development Indicators, 2011</u>		
- Registering Property–Number of Procedures		..
- Registering Property–Days Required		..
<u>World Bank Group, World Development Indicators, 1998</u>		
- Percentage of Population with Secure Tenure		..
<u>Heritage Foundation and Wall Street Journal, 2012</u>		
- Index of Economic Freedom–Property Rights (Range 0–100; 0=no private property)		10
<u>Economic Freedom of the World Index, 2010 (2010 data)</u>		
- Legal Structure and Security of Property Rights (Range 0–10; 0=lowest degree of economic freedom)		..
- Protection of Property Rights (Range 0–10; 0=lowest degree of protection)		..
- Regulatory Restrictions of Sale of Real Property (Range 0–10; 0=highest amount of restrictions)		..

potatoes, tomatoes and other seasonal vegetables are often grown on alluvial soils, and cotton is a common crop in the Dry Zone's northern area. It is estimated that 7–10 acres of average land (or 15–20 acres of poor quality land) are required to sustain minimum standards of living for a family in this area. During slack seasons, many farmers migrate to Rangoon, Mandalay and border areas to find work. In addition to seasonal unemployment, people in the Dry Zone's rural areas face frequent droughts and increasing land degradation in the form of loss of natural vegetation, soil erosion and deterioration of soil fertility (COHRE 2007; Kyaw and Routray 2006; UOB 2005).

Burma's Irrawaddy Delta area has been at the center of its rice economy since the British colonial period. In the Irrawaddy Delta, monsoon paddy cultivation is the most important income source for 25% of households. In households where rice cultivation is not the primary economic activity, members nonetheless practice small-scale or casual cultivation as a secondary source of income. Rice farmers sell about 75% of their crop at market, consume about 20% and reserve 5% for the next season's seeds. Burma is a net exporter of rice and is estimated to export 1.5 million metric tons in 2012, making it the world's sixth-largest rice exporter. Many marginal farmers in the Irrawaddy Delta also engage in fishing or crabbing, but most do not own their own gear or boats and depend on traders for equipment. The region's environment is deteriorating rapidly, and sources of fresh water, crabs, firewood and vegetables are scarce (COHRE 2007; LIFT 2011; Suwannakij 2012).

Burma has an exceptional level of biological diversity and is home to Asia's most extensive intact tropical forest ecosystems. These include delta mangroves, lowland tropical rainforests, teak forests (including the world's only remaining golden teak forests), semi-deciduous forests in the north, and sub-alpine forests in northern Kachin State. Widespread forest loss and degradation due to logging, hunting, mining and other extractive industrial activities has become a serious problem, threatening ecosystems and leading to floods, soil erosion and landslides, which result in sedimentation build-up behind dams and river siltation, ultimately reducing the amount of available surface water. Erosion washes away nutrient-rich topsoil, reducing the land's fertility, which, when combined with the reduced availability of water, stunts agricultural productivity (BEWG 2011; IRIN 2011).

Burma's five main rivers are the Irrawaddy, Chindwin, Salween, Sittaung and Tenasserim. Some of these contain endangered species. Each of these rivers has piqued investor interest in their hydropower and irrigation potential. Livelihoods in rural Burma depend heavily on rivers and streams, many of which are under threat from development of large dams that could result in submersion of agricultural and forest land and the forced relocation of local communities (BEWG 2011).

Government promotion of large-scale monoculture plantations, mostly through military-favored domestic companies, has increased since 2008. These plantations, some of which are threatening ecological integrity, food security and the livelihoods of local farmers, typically grow annual crops such as cassava, sugar cane and paddy rice, and industrial crops such as jatropha, palm oil and rubber (BEWG 2011).

LAND DISTRIBUTION

The World Bank estimates that roughly 67% of Burma's population lives in rural areas. The great majority of this population depends on land as a primary means of livelihood (BEWG 2011; COHRE 2007; World Bank 2011a).

Although reliable census data is unavailable, Burma's government has reported that the country has 135 ethnic groups. Ethnic Burmans constitute around two-thirds of the population. Together, Burma's ethnic minorities constitute about 35% of the total population. The largest minority groups are the Shan (9%) and the Karen (7%), while the remaining groups – which include the Mon, Rakhine, Chin, Kachin, Karenni, Kayan, Chinese, Indian, Danu, Akha, Kokang, Lahu, Naga, Palaung, Pao, Rohyinga, Tavoyan, and Wa groups – each constitute 5% or less of the population (MRGI 2007; COHRE 2007).

Most of Burma's minority ethnic groups live in the country's border regions, where poverty is most acute. These same areas: hold most of Burma's valuable natural resources; are most affected by the country's decades-long civil war; and account for the greatest share of small and marginal landholdings. Less than 5% of the households in eastern Shan State have farms larger than 5 acres. In Kachin State and Chin State, only 25–28% of households have farms larger than 5 acres. According to one 2009–2010 study, the average farm size in Burma is 6.7 acres (Ash Center 2011; Hudson-Rodd 2004; MRGI 2007; BEWG 2011).

Estimates of landlessness among Burma's rural population range from 30% to 50%. According to government reports, the incidence of landlessness varies by region. The proportion of landless households is highest in Bago Region in lower Burma, Mandalay Region in central Burma (where five townships have a landlessness rate of at least 99%) and Rakhine State in western Burma. Other heavily affected areas include Kachin State, where more than 50% of the population is landless, and Mon State, where six of ten townships have a landlessness rate of at least 95%. Increasing numbers of people have been displaced from their land in Shan, Karen, Rakhine and Chin States as Burma's military has established bases in these areas (MSU and MDRICESD 2013; *Reuters* 2012; COHRE 2007; Hudson-Rodd 2004).

Burma's average farm size (6.7 acres) is moderate by Southeast Asian standards and low by international standards. Farm size varies considerably across states, with the largest average sizes found in Irrawaddy (11.2 acres) and Yangon (9.3 acres) and the smallest in Chin State (1.7 acres) (IHLCA 2011).

Evolving dynamics in the agricultural sector are changing the distribution of land in Burma. Government allocation of land to commercial agriculture companies is on the rise, but is unfolding differently across the country. In general, the government is able to grant large concessions in areas under its political control, which include the central Dry Zone, Yangon Region and Irrawaddy Region.

As mentioned above, the government has promoted the establishment of large-scale monoculture plantations in recent years. Acreage for rubber, Burma's most widely planted industrial crop, more than doubled from 2004 to 2009. While most rubber production is in southern Burma, especially in Mon State, major expansions of large-scale rubber plantations have taken place in Kachin State, northern Shan State and the Wa autonomous region, often to the detriment of small-scale upland farmers who are displaced from their land (BEWG 2011; Woods 2011).

Oil palm plantations, for which companies burn and clear-cut land, are centered in Tenneserim (or Tanintharyi) Division in southern Burma. Businessmen from Burma own the majority of oil palm plantations, while the military and smallholder farmers cultivate a very small percentage (BEWG 2011; Woods 2011).

LEGAL FRAMEWORK

Burma's current legal framework is the product of several distinct periods in the country's history, including the British colonial period (1886–1948), post-colonial independence (1948–1962) and decades of military rule (1962–present). Because many of the laws from these periods are still in effect, the body of law governing land in Burma is expansive, complex, and characterized by vague, conflicting and overlapping provisions. Laws affecting land in Burma are also poorly harmonized, as legislation is typically sector-specific and does not cross-reference or take into account other relevant and preexisting acts. One survey of the legal framework found that in 2009 at least 73 active laws, amendments, orders and regulations had a direct or indirect bearing on housing, land and property rights. Although the government repealed a number of statutes in 2012, ambiguity and confusion in the land laws remain (Displacement Solutions 2012; Leckie and Simperingham 2009).

Burma's constitution was adopted in 2008 and came into force in 2010. While it requires all other laws, rules, regulations and policies to comply with its provisions, it also established a republic in which states,

regions, divisions and zones have authority to enact their own laws so long as they do not conflict directly with the constitution or national laws, rules and regulations (UOB Constitution 2008a).

The constitution contains numerous provisions relating to land. It reconfirms that the government owns all land, stating that “the Union is the ultimate owner of all lands and all natural resources above and below the ground, above and beneath the water and in the atmosphere in the Union.” It grants citizens the right to settle and reside anywhere in the country, establishes the right of private property and inheritance, and provides that the state shall protect lawfully acquired moveable and immovable property as well as the privacy and security of home and property (UOB Constitution 2008a, *Art. 37*).

After several parliamentary votes and months of debates and consultations, the parliament adopted the Farmland Law in March 2012. The law defines rights and responsibilities relating to tenure and establishes a hierarchy of management over farmlands (Displacement Solutions 2012).

The Farmland Law affirms that the state is the ultimate owner of all land and creates a private-use right that includes the right to sell, exchange, inherit, donate, lease and “pawn” farmland. It also establishes a system of registered land-use certificates (LUCs) (further discussed below). Although this law provides that Farmland Management Bodies are to issue LUCs to farmers and that Land Records Departments are responsible for registering land rights and collecting related fees, mechanisms for realizing this scheme are not yet in place. The law: does not describe the process farmers should use to apply for LUCs and register their rights; provides only a very basic description of the government entities involved in the process; and leaves the details of implementation for the executive branch of government to define (Oberndorf 2012; UOB Farmland Law 2012b).

The Farmland Law effectively replaces the 1963 Tenant Farming Law and the 1963 Protection of Peasants’ Rights Law, and repeals the 1953 Land Nationalization Act, the Disposal of Tenancies Law and the Agriculturalist’s Rights Projection Law. It also covers: conditions under which farmers can retain farmland use-rights; the state’s power to rescind such rights; the process for settling certain land-related disputes; and basic requirements for compensation in the case the government acquires the land for public purposes (Htun 2012; UOB Farmland Law 2012b).

The Foreign Investment Law of 2012 governs foreign investment in land-related projects. It creates the Myanmar Investment Commission, which is charged with examining and accepting investment proposals, issuing permits and suspending the permits of investors who fail to abide by the law’s provisions. The law grants substantial tax relief to foreign investors, including a five-year tax holiday for businesses involved in the production of goods or services, or in business deemed by the Commission to be beneficial to the Union. As discussed further below, the law restricts foreign investor involvement in certain sectors, such as agriculture. In drafting the Foreign Investment Law, the legislature appears to have left many of the details for its implementation— particularly with respect to investments involving land – in the hands of the executive branch (UOB Environmental Conservation Law 2012a; Oberndorf 2013; Mayer Brown 2012).

The Vacant, Fallow and Virgin Lands Management Law of 2012 (VFV Law) governs the allocation and use of virgin land (i.e., land that has never before been cultivated) and vacant or fallow land (which the law characterizes as for any reason “abandoned” by a tenant). As described further below, the law establishes the Central Committee for the Management of Vacant, Fallow and Virgin Lands (CCVFV), which is responsible for granting and rescinding use rights for such lands. The VFV Law also lays out: the purposes for which the committee may grant use-rights; conditions that land users must observe to maintain their use rights; and restrictions relating to duration and size of holdings (Htun 2012; Oberndorf 2012).

The Land Acquisition Act of 1894 (further discussed below) provides the basis for the state to acquire land for public and other purposes. Its provisions address: required notice; procedures for objecting to

acquisition; land valuation methods; the process for taking possession of land; the process for appeals; and rules for the temporary occupation of land (UOB Land Acquisition Act 1894; Displacement Solutions 2012).

There are potentially dozens of other laws that relate directly or indirectly to land management, land use and land as property in Burma. Chief among these are: the 1882 Transfer of Property Act, which governs the sale, mortgage, lease, exchange and gift of moveable and immovable property; the 1879 Land and Revenue Act, which governs assessment and collection of land taxes; the 1899 Lower Myanmar Town and Village Act, which governs the land rights in towns and villages and provides for certain rights (such as the right to cultivate and right to sell) relating to hereditary and government lands; the 1893 Partition Act, which governs partition of immovable property; the 1909 Registration Act, which governs the registration of dwellings and instruments of immovable property; and the 1963 Protection of the Right of Cultivation Act, which under certain circumstances protects cultivators against confiscation of their land and their farming implements. Although an analysis conducted in 2009 found these laws to be still in place, it is not entirely certain that that is the case as of 2013 (Leckie and Simperingham 2009; Displacement Solutions 2012).

For certain matters in Burma, customary laws apply with the force of formal law. According to the 1898 Burma Laws Act, which appears to be still in effect, Buddhist, Muslim and Hindu customary laws govern matters of succession, inheritance and marriage for their respective adherents. The Buddhist Women's Special Marriage and Succession Act of 1954 codifies some Buddhist customary law on these issues as well. For Christians, rules of succession, inheritance and marriage are governed by the Christian Marriage Act, the Burma Divorce Act (which applies only to Christians) and the Succession Act of 1925 (Sen 2001; Leckie and Simperingham 2009; Gutter 2001).

Although the law recognizes customary practices regarding succession, inheritance and marriage, the laws of Burma do not recognize the authority of other customary land-use practices. Earlier, the British had recognized the authority of a few such practices for certain Upland areas in northern and western Burma. For example, the Kachin Hills Manual respected the customary authority of Kachin headmen to rule on land uses within the community, and the Chin Hills Regulation of 1896 and the Chin Special Division (Extension of Laws) Act of 1948 recognized the Chin's customs. Today, however, Burma's statutory laws do not recognize customary land-use practices (BEWG 2011).

TENURE TYPES

The state is the ultimate owner of all land in Burma. All private tenure rights are essentially *usufruct*, meaning that individuals and other entities may use land but cannot own it, and tenure rights vary depending on the type of land involved (UOB Constitution 2008a).

Between 1850 and 1988, Burma adopted a multitude of laws that combined to create a complex assortment of land classifications. The extent to which the land classifications may have been simplified as the result of the enactment of several new laws in 2012 is unclear. At least 12 categories, some of which have changed, existed as of 2009: freehold land, grant land, agricultural land, garden land, grazing land, culturable land, fallow land and waste land, forest land (discussed later in this profile), town land, village land, cantonment land and monastery land (UN-Habitat n.d.).

Freehold land. Freehold land equates roughly to 'ancestral land,' existing mostly in urban areas and rarely in small towns and villages. Freehold land is transferrable, not subject to land revenue taxes and can be taken by the state only pursuant to laws on compulsory acquisition (UN-Habitat n.d.; Leckie and Simperingham 2009; Displacement Solutions 2012).

Grant land. Owned and allocated by the state, grant land is common in cities and towns, but rare in village areas. The state may lease grant land out for extendable periods of ten, thirty, or ninety years. Grant land is transferable, is subject to land tax and may be reacquired by the state during a lease period

in accordance with laws governing compulsory acquisition (UN-Habitat n.d.; Displacement Solutions 2012).

Farmland. The Farmland Law of 2012 repealed the Disposal of Tenancies Law and the Land Nationalization Act, both of which defined agricultural land. Farmland appears to have replaced the ‘agricultural land’ classification, and includes: garden land; paddy lands; dry land (*ya*); alluvial land (*kiang*); perennial plant land; coastal land (*dhani*); shifting cultivation land (*taungya*); alluvial islands; and land for growing vegetables and flowers (UOB Farmland Law 2012b; Oberndorf 2012; UN-Habitat n.d.).

As of the enactment of the Farmland Law in 2012, those seeking farmland use rights must obtain permission and a land-use certificate (LUC) from the state. Farmland is transferable through sale, lease, inheritance and donation, with the condition that transfers must be registered with the state. Farmland rights may also be “pawned” as security for a loan, with the condition that the loan can only be used to finance agricultural production. Unless the user obtains express permission for other uses, land held under a farmland use right must be used for permitted purposes (i.e., for agricultural purposes and for “regular” crops, which the law does not define). The user cannot allow the farmland to remain fallow without sound reason and cannot transfer the use right to a foreigner or an organization that includes a foreigner without state permission (UOB Farmland Law 2012b, *Arts. 12–14*).

Grazing land. The Upper Burma Land Revenue Regulations of 1889 established the classification of grazing land, which the 2012 Vacant, Fallow and Virgin Lands Management Law (VFV Law) now includes within the definition of virgin land. In the past – and possibly still – grazing land was for use by cattle of nearby villagers, was protected from trespassers and was not subject to land taxes (Oberndorf 2012; UOB Foreign Investment Law 2012c; UN Habitat n.d.).

Town land. In most cases, town land is the same as freehold land or grant land. An exception, however, is when it refers to *La Na 39* land, a category named for its authorization under article 39 of the 1953 Land Nationalization Act. Usually, *La Na 39* land is farmland (previously known as agricultural land) that has been recategorized for another purpose (e.g., for building houses or digging fish ponds). *La Na 39* land is transferable, and those who have it registered under their name must pay land tax to the government. Because the Farmland Law repealed the Land Nationalization Act, it is unclear whether the *La Na 39* category still exists (UN Habitat n.d.; Displacement Solutions 2012).

Village land. Village land is land located outside the parameters of town land and can either be grant land or *La Na 39* land. Village land is transferable, but only if it has been transformed into *La Na 39* land or grant land. Plots that are still registered as agricultural land, even if they appear to be village land (i.e., have houses built on them and are within village limits) are not transferable. Those with village land must pay land tax to the government unless their plot is less than one-fourth of an acre and occupied by a building (UN-Habitat n.d.; Displacement Solutions 2012).

Cantonment land. Cantonment land is land that the state has acquired for the military’s exclusive use. When an area is earmarked as cantonment land, the government issues a declaration of the designation, and the state acquires it under the Land Acquisition Act, which provides that owners should be compensated if the land was classified as freehold land, grant land or *La Na 39* land. Although in the past the government was not required in this circumstance to invoke the Land Acquisition Act or to provide compensation for other types of land (e.g., agricultural land, now farmland), under the Farmland Law it must do so. The military is required to surrender cantonment land to the government once it is no longer necessary for military use (UN-Habitat n.d.; Displacement Solutions 2012; Oberndorf 2013).

Monastery land. Monastery land is that which the Ministry of Home Affairs has declared as such. If that land is freehold land, grant land, *La Na 39* land or farmland, the government must invoke the Land Acquisition Act, and the state must pay compensation to the rightholders before acquiring the land for use

as monastery land. Land classified as monastery land is not subject to land taxes and retains its classification for eternity (UN-Habitat n.d.; Displacement Solutions 2012; Oberndorf 2013).

Vacant, fallow and virgin land. The 2012 VFV Law defines and governs vacant, fallow and virgin land, categories that have replaced what was known previously as culturable, fallow and wasteland. It also created the Central Committee for the Management of Vacant, Fallow and Virgin Lands, which replaced the Central Committee for the Management of Culturable Land, Fallow Land and Waste Land (UN-Habitat n.d.; Leckie and Simperingham 2009; Oberndorf 2013).

According to the VFV Law, land users who hold use rights to vacant, fallow or virgin land cannot mortgage, give, sell, lease or otherwise transfer or divide land without permission from the Cabinet of the Union Government. That law also sets out parameters regarding the amount of vacant, virgin or fallow land that the state may grant to a user, and the duration for which it may be granted (Oberndorf 2012).

The size and duration restrictions, which differ according to the purpose to which the land will be put, cover the following seven categories of use: (1) perennial plants and industrial crops; (2) orchards; (3) use by a rural farmer and a family; (4) aquaculture; (5) breeding and raising of livestock and poultry; (6) mining; and (7) 'other.' The restrictions are as follows.

1. Land to be used for the cultivation of *perennial plants and industrial crops* can be granted in quantities of up to 5000 acres at a time. Once cultivation is underway on 75% of the permitted acres, an additional 5000 acres can be added at a time up to a total of 50,000. Grants for perennial crops can be for up to thirty years, while grants for seasonal crops shall continue for as long as there is no breach of conditions (UOB Vacant Fallow and Virgin Lands Law 2012d).
2. For *orchards* the upper limit is 3000 acres. Land to be used for this purpose can be granted for up to thirty years.
3. Up to 50 acres of land can be granted to a *rural farmer and a family*.
4. Land to be used for *aquaculture* can be granted in the amount of up to 1000 acres, with the duration of rights being up to thirty years.
5. The amount of land granted for use in the *breeding and raising livestock and poultry* depends on the kind of animals to be kept on the land. For buffaloes, cows, and horses, up to but not exceeding 2000 acres; for raising sheep and goats, 500 acres; and for keeping chickens, ducks, pigs and quails, 300 acres. Depending on the type of livestock, grants can be for up to thirty years.
6. Acreage and duration allowed for mining purposes are as permitted by the Union Government and relevant ministries.
7. Acreage and duration restrictions applying to *other uses* are as permitted by the Union Government and relevant ministries (Oberndorf 2012; Displacement Solutions 2012).

Burma's laws distinguish between tenure held by citizens and foreigners. Under the Foreign Investment Law of 2012, foreign firms may fully own ventures, but may contract to use land for agriculture or livestock rearing only through joint ventures with local investors. Foreign investors may lease land from the government or from authorized individuals for up to 50 years, depending on the type and size of the investment, and such arrangements may be extended twice, for ten years each time. For investments in regions in which the "economy is less developed and difficult to access," the government may grant leases of more than 50 years to foreign investors (UOB Environmental Conservation Law 2012a).

Customary tenure. In addition to statutory tenure types, the people of Burma practice a plethora of customary tenure arrangements. Although the British formalized some of these during their colonial rule, customary tenure arrangements do not enjoy formal legal recognition today. Military regimes that succeeded the British period have in practice denied the existence of customary land tenure forms, which are nevertheless common in rural areas, and customary institutions remain a primary source of authority for land management (BEWG 2011; Leckie and Simperingham 2009).

Customary tenure arrangements tend to prevail in ethnic areas in the Uplands (where for the most part the state has not maintained a presence) but are in decline due to war and conflict that has caused local populations to abandon their land (BEWG 2011; COHRE 2007).

Land-use customs vary among different ethnic groups and often within them as well. The Karen ethnic group, which comprises about 7% of Burma's population, tends to practice shifting cultivation, or swidden farming, during which they clear forests then allow them to regenerate for 10 to 12 years before re-cultivation. Some Karen populations classify various forest areas as rotational farms, irrigated farms, orchard farms, communal forest, grazing land and sacred forest (COHRE 2007; MRGI 2007).

In addition to rubber and irrigated low-lying paddy fields, the Mon ethnic group cultivates many of the same crops as the Karen, although it is unclear whether they classify tenure types along similar lines (COHRE 2007).

Although the government does not legally recognize customary land-tenure arrangements, in fact a complex and informal overlap between statutory laws and customary practices exists. In some cases, land records officials document customary agricultural land plots in their land surveys, which the state later ignores if an influential developer becomes interested in acquiring the land (BEWG 2011).

SECURING LAND RIGHTS

According to a Ministry of Agriculture and Irrigation (MoAI) report, as of 2007 roughly one-third of agricultural households had inherited their land and slightly more than 20% had purchased it. How the remainder of agricultural households acquired their land is unclear. Also unclear is whether these statistics represent land acquired through both formal and informal channels (Woods 2011).

As of 2012, several new laws govern the process for acquiring rights to agricultural and other types of land in Burma. The 2012 Farmland Law, establishes the formal process farmers must use to procure farmland, requiring farmers to: obtain a land use certificate (LUC); pay fees; and register land rights through a process (described in more detail below) that involves various local management bodies. The Farmland Law also places numerous restrictions on the right to use farmland. Infringement of regulations may result in imprisonment for up to three years, a fine equivalent to roughly US\$1100 and the confiscation of materials related to the breach. Prohibited are: using farmland for non-agricultural purposes without permission; growing crops other than "regular" crops (which the Farmland Law does not define) without permission; leaving farmland fallow without a sound reason; without permission transferring land to a foreigner or to an organization that includes a foreigner; failure to register the transfer of a use right and failure to pay associated fees; and pawning a farmland use-right for any reason other than securing a loan to finance investment for agricultural production, or borrowing from any entity other than a government bank or authorized bank (UOB Farmland Law 2012b; Displacement Solutions 2012; Oberndorf 2012).

The Vacant, Fallow and Virgin Lands Management Law (VFV Law) of 2012 governs the formal process for obtaining access to vacant, fallow and virgin lands. Public citizens, private investors, government entities and others may acquire rights to use this land by submitting an application to the Central Committee for the Management of Vacant, Fallow and Virgin Lands. The 2012 law recognizes that farmers are already using vacant, fallow and virgin land without formal government permission, and

outlines a basic mechanism for them to obtain a LUC. As discussed further below, LUCs appear to be a new feature in Burma's land administration system.

Although farmers are technically eligible to receive vacant, fallow and virgin land, in practice the government allocates such land primarily to private entrepreneurs, companies and state enterprises (Woods 2011; Oberndorf 2012).

Before acquiring land use rights from citizens, foreigners must submit a proposal to and obtain permission from the Myanmar Investment Commission. Foreigners may contract to use land for agriculture or livestock rearing only through joint ventures with local investors. The Foreign Investment Law explicitly protects foreign investments from suspension or nationalization within the term or extended term of the investment contract (UOB Farmland Law 2012b; UOB Environmental Conservation Law 2012a).

Despite the formal laws governing the process for securing land rights, many in Burma acquire land through customary and informal systems. These systems and processes appear to vary by type of land, ethnic group and region.

Farmers in lowland areas tend to rely on informal social systems to secure land access, although those with higher incomes or connections to authorities are sometimes able to apply for LUCs. The Mon, most of whom live in lowland areas, generally acquire land by inheriting it from their parents. This may be changing, however. As population pressure, conflict and land scarcity increase, the Mon are increasingly leaving and selling family land (known as 'legacy land') to neighbors and outsiders. In addition to inheriting land, the Mon sometimes appropriate it from uncultivated spaces (including forests) in dual administrative areas, which are controlled jointly by the central government and the New Mon State Party, or from areas administered wholly by the New Mon State Party. In both cases, the Mon typically register their land with the local party authorities (COHRE 2007; BEWG 2011).

According to Karen customary practices, all land ultimately belongs to the village, though in some cases it may be owned privately, usually only by men. Many Karen families inherit and live on the land their ancestors held, and for the most part do not sell or transfer this land. In some areas, armed opposition groups such as the Karen National Union issue informal land titles that can help increase tenure security for people in conflict-affected areas (COHRE 2007).

The disparity between formal rules and unofficial land allocation practices seems to exist in relation to agribusiness as well. In northern ethnic states, businesses negotiate land deals with military commanders or leaders of ethnic political organizations. Local farmers are then dispossessed of their lands, often without compensation, by military or police officials. In southern ethnic states or regions such as Arakan, Mon and Tanintharyi, both the Ministry of Agriculture and Irrigation (MoAI) and the military appear to be involved in allocating land. In Burman areas in the central Dry Zone and Delta region, MoAI oversees the allocation of land to companies (Woods 2011).

The extent to which informal systems dominate land acquisition methods in Burma is unclear. MoAI reported in 2007 that nearly a quarter of agricultural households claimed to have title for their land. It is possible, however, that many of these households obtained their titles through an unofficial registration mechanism. In rural Upland areas, where customary land-tenure systems prevail, most households do not have land titles. Land titles became a feature of Burma's land administration during the British colonial period, when the country adopted a modified Torrens registration system, through which people were granted title to land based on the inclusion of their landholdings in a state-controlled register. That system was replaced during the socialist period with the passage of the 1953 Land Nationalization Act, under which temporary or permanent leaseholds (depending on the type of land) were allocated to farmers and evidenced in the form of annual tax certificates issued by the Settlement and Land Records Department (SLRD). Later in the socialist period, the Disposal of Tenancies Act created a landlord-tenant system

under which land was distributed to ‘laborers,’ who farmed in accordance with government directives and owed a portion of crops to the government. The 2012 Farmland Law replaced the system established during Burma’s socialist period. Although the law provides for a system involving land-use certificates, mechanisms for realizing this scheme are not yet in place, and it is unclear whether the government has put in place the necessary subsidiary rules and regulations for implementing the law (BEWG 2011; COHRE 2007; Woods 2011; Oberndorf 2013).

Smallholder farmers all across Burma face tenure insecurity. Especially vulnerable are those whose land use does not match official land classifications. This includes a large portion of the smallholder farmers in the delta area who are farming land that is technically classified as reserve forest land in maps that date as far back as the early 20th century. Also vulnerable are smallholder farmers who over the years have intentionally avoided reporting their land use to the government in order to escape onerous land taxes (Oberndorf 2013).

Certain aspects of Burma’s laws contribute to tenure insecurity. The 2012 Farmland Law reaffirms the government’s power to take tenured lands for any reason deemed to be in the state’s interest as well as for a variety of violations, such as failure to pay fees or to register use rights (e.g., after inheriting them). Those relying on customary tenure rights are particularly insecure, as Burma’s laws do not recognize customary use rights. As discussed further below (under Compulsory Acquisition of Private Property Rights by the Government), language in the VFV Law may put people using shifting cultivation methods at risk of having their land deemed vacant or fallow and then confiscated. Provisions in the VFV Law and the Farmland Law may provide an opportunity to protect the interests of smallholder farmers, however. Article 25 of the VFV Law states that where a right to use vacant, fallow or virgin land is granted, the CCVFV should work with relevant government departments and organizations to protect the interests of farmers who are already utilizing the lands, even if their use is not formally recognized. Furthermore, the Farmland Law permits that vacant, fallow and virgin lands may be reclassified as farmland if a Farmland Management Body determines that the use of that land is stable (Htun 2012; Displacement Solutions 2012; Oberndorf 2013; Oberndorf 2012).

Populations in rural areas tend to have less secure tenure than those with rights in urban areas; while use rights of up to sixty years are common in urban areas, maintaining use rights for some rural land now requires annual registration and extension (Htun 2012; Displacement Solutions 2012).

The state’s ambitions for agricultural land threaten tenure security as well. MoAI’s 30-year (2000–2030) Master Plan for the Agricultural Sector aims to convert 10 million acres of fallow and virgin land to agricultural production. In line with this policy, the acquisition of land by corporate and private entities has grown rapidly in recent years, often at the expense of smallholders and communities who follow customary practices. By 2001, the state had allocated more than 1 million acres to about 100 enterprises and associations. By 2011, 204 national companies had obtained roughly 2 million acres, mostly in Kachin State and the Tanintharyi region (Woods 2011; Landesa 2013).

There is some concern that the administrative bodies and processes established under the 2012 Farmland Law are prone to corruption, and lack safeguards necessary for ensuring that land rights are secure. For example, farmers have no representation at some levels of the Central Farmland Management Body, which is responsible for resolving certain land disputes and empowered to approve, issue and revoke land-use rights. Rather, that body is populated primarily with various executive branch officials and, at more local levels, with individuals for whom there are no selection criteria. It has been suggested to the Director General of the SLRD that the Farmers’ Association and its local-level subsidiaries (whose creation is permitted under the Farmland Law for the improvement of farmers’ socioeconomic wellbeing) be included in Farmland Management Bodies (further discussed in ‘Land Administration and Institutions’ below). Although the suggestion was well-received, it is unclear whether steps will be taken to bring the idea to fruition (Oberndorf 2013; Displacement Solutions 2012; Landesa 2013).

Armed conflict functions to reduce tenure security as well. Less than a quarter of Burma’s conflict-affected population possess legal title deeds for their land, and less than 12% of civilians hiding from military patrols possess identity cards, which are necessary (or were, as of 2007) for obtaining legal title. It is presently unclear whether possession of an identity card is necessary to obtain legal land titles (COHRE 2007).

INTRA-HOUSEHOLD RIGHTS TO LAND AND GENDER DIFFERENCES

Burma’s constitution guarantees women equal rights before the law and prohibits the government from discriminating against any citizen on the basis of sex. According to the government, women also have equal rights to enter into land-tenure contracts and to administer property (UOB 2008b; CEDAW 2007).

Burma’s newest land legislation – the Farmland Law and the VFV Law – is not conducive to equal rights for women. Rather than explicitly recognizing women’s equal rights, these laws state that land will be registered to the head of a household, which in Burma is understood to mean the husband. In addition, these laws appear to lack a mechanism for joint ownership of property by a husband and wife, and do not explicitly state the equal rights of women to inherit land or be granted use rights for vacant, fallow or virgin land (Displacement Solutions 2012; Oberndorf 2012).

Women’s land rights vary by religious affiliation. As discussed above, Buddhist, Muslim and Hindu customary laws have the force of formal law for their respective populations in matters of succession, inheritance and marriage. The Buddhist Women’s Special Marriage and Succession Act of 1954, which applies to Buddhist women in these matters, also codified some Buddhist customary law.

BOX 3. LAND AND GENDER INDICATORS	
	Score
<u>OECD: Measuring Gender (In)Equality—Ownership Rights, 2006</u>	
- 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
<u>FAO: Holders of Land Classified by Sex, 1993</u>	
- Percentage of Female Holders of Agricultural Land	10.0

Burma’s government has reported that customary Buddhist law dictates that Buddhist women – a group that includes the majority of women in Burma – have rights equal to their husbands’ regarding the ownership of property and are “co-owners” of property rather than “joint-owners.” Property rights for Buddhist wives vary to some extent based on the type of property. Husbands and wives are entitled to one-third of: the property owned by the other spouse at the time of marriage (*paryin*); and property that their spouse inherited. They are entitled

to equal shares of: property accumulated or increased after marriage (*lathtatpwar*); property gifted to the couple upon their marriage (*khanwin*); and property earned by both parties’ work (*hnaparson*). Neither spouse is entitled to property brought by the other into their union from a previous marriage (*ahtatpar*) (CEDAW 2007).

Under customary Buddhist law, one spouse cannot dispose of co-owned property without the other’s permission, and neither party can dispose of property through a will. Rather, co-owned property passes to a wife when her husband dies, and vice versa. The government has reported that Buddhist customary law treats parties equally in matters of inheritance, and that “there is no discrimination in inheritance for being man or woman, husband or wife, widower or widow, son or daughter, and grandson or granddaughter.” Instead, partition is decided based on the degree of relationship with the deceased benefactor. Sons and daughters are entitled to inherit equally. In the case of a polygamous marriage, the major share of

property goes to the first wife and her children, and smaller amounts are apportioned successively to the other wives and children (COHRE 2007; CEDAW 2007).

As for Muslim and Hindu women, the 1898 Burma Laws Act provides that Islamic and Hindu customary laws govern matters of succession, inheritance and marriage. The succession, inheritance and marriage rights of Christians are determined by the Christian Marriage Act, the Burma Divorce Act (which applies only to Christians) and the Succession Act of 1925. The laws applicable to Christians provide very few guidelines regarding the division of property in the case of divorce, and the question is usually decided by a court based upon the reasons for divorce (Leckie and Simperingham 2009; Gutter 2001; Sen 2001).

The government has not harmonized Burma's codified laws, which include the various religious acts governing marriage and property, with the plethora of customs practiced by various groups across the country. Many of these customs provide men greater economic and decision-making power in domestic affairs. These practices govern many women's lives, particularly as the government is not actively present in many rural areas (WLB 2008).

In some rural areas of Shan State, the traditions of the largely Buddhist Palaung population dictate that in the case of divorce a wife loses all jointly held property. In addition, men inherit all of their parents' property and make all decisions about the disposal of property, including the disposal of property through inheritance. Property goes to sons in the case of a husband's death or, if he has only daughters, to his brothers (WLB 2008).

LAND ADMINISTRATION AND INSTITUTIONS

The Ministry of Agriculture and Irrigation (MoAI) is responsible for implementing national policies on agriculture. It is comprised of thirteen departments, including six that are responsible for planning, water resources, irrigation, mechanization, settlement and land records. Myanmar Agricultural Services (MAS), MoAI's largest unit, is responsible for field operations relating to extension, research, land use, seed multiplication and plant protection. The Irrigation Department, also within MoAI, oversees all aspects of irrigation design, construction, operation and maintenance. Other major departments are the Settlement and Land Records Department (SLRD), several State Economic Enterprises, and the Agricultural University at Yezin. The SLRD oversees land management, administers the land-tax system and conducts national agricultural surveys following cropping periods. Following passage of the 2012 Farmland Law and the Vacant, Fallow and Virgin Lands Management Law (VFV Law) the SLRD is responsible for recording and registering interests in farmland and vacant, fallow and virgin land and for issuing LUCs to farmers whose use rights have been approved by Farmland Management Body (Oberndorf 2012; UNDP n.d.).

Both MAS and the SLRD maintain staff at state, division, district and township levels. Other MoAI departments active at the field level maintain and coordinate their presence through Agricultural Supervision Committees (ASCs) (UNDP n.d.).

The 2012 Farmland Law added a department to MoAI. The Farmland Management Body (FMB), which replaced the former Land Committee, is comprised of officials from MoAI and SLRD. The central FMB forms FMBs at the region, state, district, township, ward and village tract levels, and delegates responsibilities to them. Delegated responsibilities include: reviewing applications for farmland use; formally recognizing and approving rights to use farmland; submitting approved farmland rights to the SLRD for registration; conducting farmland valuations for tax and compensation purposes; issuing warnings, levying penalties and rescinding use rights where use conditions are not met; and resolving disputes relating to farmland allocation and use. The central FMB provides "guidance and control" relating to: land disputes; certain transfers of land use rights; shifting *taungya* cultivation; allocation of alluvial land; and issuance and registration of LUCs. In addition, the central FMB revokes land-use rights

under various circumstances and approves regional and state-level requests to use farmland for certain purposes, such as for housing and human settlement (Oberndorf 2012; UOB Farmland Law 2012b).

The 2012 VFV Law also created the CCVFV, a national level multi-ministerial body formed at the president's discretion. In coordination with relevant ministries and regional and state governments, the committee oversees the granting and monitoring of use rights for virgin, vacant and fallow lands for agricultural, mining and other purposes. According to the VFV Law, the committee's responsibilities include: receiving various ministry and lower-level government recommendations for the use of vacant, fallow and virgin land; receiving land-use applications from individuals, private investors, government entities and nongovernmental organizations; rescinding or modifying vacant, fallow and virgin land use rights; helping rightholders obtain technical assistance, inputs and loans; and resolving disputes related to vacant, fallow and virgin land use in coordination with other government entities. The committee is also responsible for forming task forces and special groups at the regional and state level for scrutinizing applications for use rights; as well as special boards to determine rightholder compliance with granted use rights (Oberndorf 2012; UOB Foreign Investment Law 2012c).

In July 2012, the government formed two new entities in recognition of the need to address land classification, land tenure insecurity and land-related conflict in Burma. The Land Allotment and Utilization Scrutiny Committee, a cabinet-level body in the executive branch, is led by the Ministry of Environmental Conservation and Forestry and focuses on national land-use policy, land use planning and allocation of land for investment. The Land Confiscation Inquiry Commission is a parliamentary body within the government's legislative branch. It investigates land disputes and whether confiscation has been carried out in compliance with the law. According to the parliament's speaker, U Khin Myint, the committee will focus on cases involving all types of land, not just farmland. It commenced work in September 2012 (*Myanmar Times* 2012a; Oberndorf 2012).

Burma's president has appointed a National Human Rights Commission, which has indicated that the great majority of the complaints it receives each day relate to land disputes. Although the commission has indicated interest in addressing these, it is not clear that the resolution of land disputes lies within its mandate (Displacement Solutions 2012).

LAND MARKETS AND INVESTMENTS

Between 1993 and 2003, according to a 2003 report by the Ministry of Agriculture and Irrigation, the number of household-based agricultural landholdings in Burma grew by 20%, and the total area for such holdings increased by 25%. There was an increase of 150% in the number of holdings of less than 1 acre while holdings of 50 acres or more increased by 385%. During this period, commercial landholdings increased by 900%, and the total area for those holdings increased by 325%. The dramatic increase in private landholdings may be due to the expanded cultivation of "wasteland" following a 1991 directive on the management of cultivable, fallow and waste land (Woods 2011).

In recent years, Burma's government has attempted to liberalize the country's economy and overhaul its agricultural economy, including by granting national and foreign private entities the right to use land (Woods 2011).

The price of land in Burma has increased dramatically in recent years. Property is changing hands for well over US \$1 million in urban areas, even in areas where one might find apartments without electricity or running water. Rural areas, too, are experiencing price appreciation. The increase is partly due to artificial inflation in the wake of heavy investment by Burmese who have surplus capital but lack investment options outside the real estate market. It also relates to land speculation, which has increased along with anticipation of foreign investment following the end of military rule and a period of rapid economic and political reform (Displacement Solutions 2012; *Myanmar Times* 2012b; *Business World* 2012).

Despite the significant increase in commercial holdings between 1993 and 2003, there is concern that land speculation and price inflation are deterring foreign companies from participating in Burma's land market. At the same time, there are claims that interest from some foreign and local businesses may be leading to land confiscation (Displacement Solutions 2012; *Myanmar Times* 2012b; *Business World* 2012).

Numerous factors may be hindering development of a land market that is inclusive of smallholders and protective of their rights and interests. Non-business land users may be deterred from participating in the registration process established under the 2012 Farmland Law, as they have long distrusted the government and may see the registration authorities as biased. In addition, little information about development plans and land values is available to the public. This lack of information particularly affects smallholders, who may be tempted to dispose of their land at too low a price (*Myanmar Times* 2012b; *Business World* 2012; Displacement Solutions 2012).

As of 2012, several new laws govern the process for acquiring and transferring rights to agricultural and other types of land in Burma. Although it is too soon to know how the land market might be affected, the 2012 Farmland Law provides the process for procuring farmland, and permits the purchase, sale and transfer of farmland on a land market. While farmers have acquired and transferred land informally for years, this law allows and formalizes privately negotiated property transfers for the first time since 1953 (Displacement Solutions 2012).

According to the Farmland Law, farmers must apply for a land use certificate (LUC) through a Farmland Management Body (FMB) at the ward or village level. That body passes the request to a township land records department, which scrutinizes and then sends the request to a township FMB. A district FMB must provide final approval. Once final approval is obtained, and once the applicant pays fees and registers with a township land records department, the district FMB should issue an LUC. According to the Farmland Law, those with farmland use-rights must register any changes in the status of their right, for example if the use right is encumbered with debt, transferred or inherited. The extent to which these processes (which stem primarily from a law enacted in 2012) are being implemented is unclear (Oberndorf 2012; UOB Farmland Law 2012b).

The Vacant, Fallow and Virgin Lands Management Law (VFV Law) of 2012 governs the process for obtaining access to vacant, fallow and virgin lands. Public citizens, private sector investors, government entities and others may acquire rights to use this land by submitting an application to the Central Committee for the Management of Vacant, Fallow and Virgin Lands. The VFV Law, in conjunction with the Farmland Law, recognizes that farmers are already using vacant, fallow and virgin land without formal government permission, and outlines a basic mechanism for them to obtain an LUC and have the land reclassified as farmland (Oberndorf 2012).

Foreigners may obtain land use rights by submitting proposals to the Myanmar Investment Commission, which is charged with: examining and accepting investment proposals; issuing permits; scrutinizing whether investors abide by the Foreign Investment Law; and suspending businesses that fail to abide by it. As mentioned above, foreigners face restrictions in using agricultural land. Foreigners may contract to use land for agriculture or livestock rearing only through joint ventures with local investors, and cannot acquire any category of land from a citizen without government permission (UOB Environmental Conservation Law 2012a; UOB Farmland Law 2012b).

COMPULSORY ACQUISITION OF PRIVATE PROPERTY RIGHTS BY GOVERNMENT

The 1894 Land Acquisition Act remains the primary law governing compulsory acquisition in Burma (UOB Land Acquisition Act 1894; Displacement Solutions 2012).

The Land Acquisition Act permits the government to acquire land for public purposes and business purposes. While it does not provide detail on the meaning of public purpose, it defines the latter as for “a

company constituted or registered by or under the law of the United Kingdom, the Union of Burma or India or Pakistan,” including “a society registered under the law of the Union of Burma or India or Pakistan relating to the registration of societies or co-operative societies” (UOB Land Acquisition Act 1894, *Arts.3,6*).

The Act includes procedures governing: the state’s provision of notice; how rightholders can object to the acquisition; land valuation; the state’s taking possession of land; rightholder appeals; and state acquisition of land for use by corporations. Although the Land Acquisition Act requires the government to compensate land users, Burma lacks a standard methodology for determining the amount of compensation; the country also lacks an independent body to govern the process. In practice, compensation often falls short of minimum standards for just compensation, or does not occur at all (Displacement Solutions 2012).

Land users face state confiscation in a variety of circumstances outside of these laws and procedures. According to the 2012 Farmland Law, the government may rescind use rights if a farmer breaches conditions for land use, for example by: failing to pay registration fees; failing to provide a sound reason for leaving land fallow; or by growing crops other than the “regular crop” without permission. The law does not provide clarity on the definition (or source for the definition) of “regular crop.” It does, however distinguish between irrigated paddy land and other types of farmland. According to the Farmland Law, farmers cannot change the use of irrigated paddy land without obtaining permission from the government at the national level, and those who do so could lose their use rights to such land. This restriction is understood to be related to domestic food security concerns and to the fact that the government provides for and maintains the irrigation systems for irrigated paddy land (UOB Farmland Law 2012b, *Art.12*; Oberndorf 2012; Oberndorf 2013).

Shifting cultivation (or *taungya*) is estimated to account for 30–40% of all cultivation in Burma, and is especially common among communities in the Upland area. Language in the 2012 Farmland Law and the Vacant, Fallow and Virgin Land Management Law (VFV Law) has placed millions of people at risk of having their land confiscated. Although the Farmland Law recognizes *taungya* land in its definition of farmland, bylaws introduced by the Ministry of Agriculture and Irrigation interpret the category of *taungya* land as referring only to fields under permanent cultivation. The government’s interpretation of “permanent cultivation” (for example whether it includes short fallow cultivation, which is necessary in order to allow fields to rotate) will have critical implications for many smallholder farmers. The government’s interpretation of “abandoned” will matter greatly as well. According to the VFV Law, vacant and fallow land is that which a tenant has cultivated in the past, but which the tenant subsequently abandoned for any reason. Depending on the government’s interpretation through subsidiary rules and regulations, *taungya* land and other land under traditional and community use could be considered vacant or fallow and subject to allocation to private companies and others. In addition, land used by farmers implementing very long fallow rotations and by groups following traditional community forestry arrangements could take on the characteristics of “virgin” land, putting those groups at risk of having their land confiscated (Oberndorf 2012; Oberndorf 2013; Lran 2012; Kean 2012).

LAND DISPUTES AND CONFLICTS

Natural resources are a leading source of conflict. Most natural resources are located in areas where ethnic military groups operate, including groups that observe a ceasefire with government forces and groups that do not. Projects to develop these assets have often resulted in land confiscation and involved Burma’s military forces, which have a well-documented history of displacing and violently abusing affected populations. Eastern Burma, for example, has experienced increased militarization following plans to build a series of dams on the Salween River. Armed conflict has erupted in this area, where there has been widespread displacement of people from their land, homes and livelihoods. In one instance in the Sagaing region in 2012, the planned expansion of the Monywa copper mine, which is supported by the military-owned Union of Myanmar Economic Holdings Ltd. and a unit of the China North Industries

Corporation, resulted in the confiscation of 7800 acres of land and the displacement of four villages. Riot police suppressed ensuing protests, resulting in dozens of injuries (BEWG 2011; COHRE 2007).

The extent to which the military is involved in land confiscation may have changed following Burma's recent political changes, although this is unclear. Historically, land confiscation has sometimes taken place independently of development projects (and outside formal procedures for compulsory acquisition) in regions experiencing an expansion of armed forces and patterns of militarization. Various reports have documented illegal appropriation of farmland by senior government and military officials, including instances where land was confiscated for use by officials or as a means of punishing those opposing military objectives (COHRE 2007; BEWG 2011; Tun 2012; Zaw and Khaing 2013).

There is some concern that a rise in foreign investment could increase tensions and conflict. Most foreign investment has been concentrated in the energy and extractive industries, which have been tied to contested or unlawful land confiscation, displacement and violence. Of particular concern more recently is state confiscation of land for commercial agricultural development, which has been a growing source of grievance for local populations. As described above, the Ministry of Agriculture and Irrigation is pursuing an ambitious plan to convert 10 million acres of land for industrial agricultural production by 2030. Land allocation processes have generally been characterized by a lack of transparency and accountability, presenting a risk that smallholder rights will be ignored or violated as agribusiness activity increases. In Kachin State, for example, villagers reported in 2007 that Yuzana Co. Ltd. had seized their farmland with assistance from the army. The company claimed to have received the land from the government for an agricultural project, while villagers claimed that they lost their land by force and received no compensation. Farmers' increasing protest of the confiscation of land for agriculture projects has caught the attention of the central government (COHRE 2007; *Irrawaddy* 2007; LRAM 2012; *Reuters* 2012; BEWG 2011; Landesa 2013).

As discussed above, the government has formed two new committees to address the high level of land-related disputes in Burma. The Land Allotment and Utilization Scrutiny Committee, headed by the Ministry of Environmental Conservation and Forestry, is charged with assessing: how land is classified; how it is being used; and how it should be allotted and used. The Land Acquisition Scrutiny Commission is tasked with reviewing cases of government land acquisition extending as far back as twenty years. This commission's inquiries include: whether acquisition rules were followed; whether compensation was paid; the purpose of projects related to acquisitions and whether such projects were executed in accordance with original plans. The commission commenced work in September 2012, and members of parliament from several parties have begun collecting evidence related to a number of land acquisitions, including in Tenasserim Division and Arakan, Mon and Karen States. Although the Land Acquisition Scrutiny Commission's initial missions have raised expectations that land-related grievances will be addressed, members of the Commission have not been trained in fact finding and do not have any authority to conduct dispute resolution based on what they find. Rather, the information they collect will be used to inform the parliament's legislative-reform initiatives (*Irrawaddy* 2012; Oberndorf 2012; Oberndorf 2013; *Economist* 2012).

While the Land Acquisition Act governs the process for compulsory acquisition, including procedures for contesting acquisition, the 2012 Farmland Law and the Vacant, Fallow and Virgin Land Management Law (VFV Law) also contain provisions relating to the settlement of certain land disputes. The processes outlined in the Farmland Law have been criticized as not providing meaningful due process for those facing the loss of their land (Displacement Solutions 2012).

Under the 2012 Farmland Law, disputes related to inheritance of farmland may be decided by a court. However, there is no mechanism in the Farmland Law that allows other disputes involving the allocation or use of farmland to come before a court of law. For these disputes, farmers must bring their complaint before a ward or village tract level Farmland Management Body, the same entity responsible for the contested decision. Complainants dissatisfied with a FMB's decision at the ward or village tract level may

appeal to a township FMB, district FMB, and then to a region or state level FMB, whose decision is final (UOB Farmland Law 2012b; Displacement Solutions 2012; Oberndorf 2012).

As for vacant, fallow and virgin lands, the VFV Law appears to give the CCVfV a role in resolving disputes related to allocation and use. Unlike the Farmland Law, the VFV Law does not explicitly restrict one's ability to file an appeal to the judicial branch (Oberndorf 2012).

DONOR INTERVENTIONS

After long gaps in funding, Burma has recently begun to attract more development donors. In November 2012, the World Bank, which has not funded development projects in Burma since 1987, approved US \$80 million over the next six years for the Myanmar National Community Driven Development Project, aimed at improving infrastructure and services in poor rural communities. In the second half of 2012, the Asian Development Bank (ADB) approved ten technical assistance projects, mostly for capacity-building and to identify areas for future intervention. ADB's projects in Burma include a gender situational analysis (World Bank 2012c; ADB 2012c).

After a 23-year hiatus, the United States reopened the USAID mission in Burma in July 2012. In November 2012, President Barack Obama announced a partnership between the United States and Burma aimed toward advancing democracy, peace and prosperity. The USAID-led project will invest US \$170 million over the next two years to: strengthen democracy, human rights and rule of law; provide humanitarian assistance; advance peace and reconciliation; and encourage economic development, food security and global health. The Prosperity component of the partnership includes encouraging the development of fair and equitable land tenure policies as part of a comprehensive approach to improve food security in Burma (USAID 2012b; USAID 2012a).

Similarly, the European Union (EU) resumed full engagement with the Burmese government in May 2012; in January 2013 it announced that it would open a mission in Burma. Some EU-funded interventions in Burma in 2013 will focus on strengthening civil society organizations, including those addressing human rights and improved livelihoods, which may affect future land tenure reform. The UK Department for International Development (DFID) also funds projects to strengthen civil society and villagers' groups in Burma (EC 2013a; EC 2013b; DFID 2012).

Other donors have contributed relatively continuously to projects in Burma, generally through United Nations agencies, regional organizations and international nongovernmental organizations (NGOs). The Australian Agency for International Development (AusAID) has been one of Burma's largest donors. As part of its sustainable economic development priority, an AusAID-funded project in Rakhine State helped 2700 households secure 30-year, potentially renewable, LUCs, strengthening tenure security and ensuring a source of household income. The effort was part of the Rakhine Rural Household Livelihood Security Project, implemented by CARE Australia, from 2005 to 2011. AusAID has committed US \$7.7 million through 2015 for a new project, Strengthening Partnerships and Resilience of Communities in northern Rakhine State (SPARC), to build on the success of the previous project in the region. AusAID and CARE suspended SPARC activities in June 2012 due to an outbreak of violent conflict in Rakhine State, but plan to continue as soon as it is safe to do so (AusAID 2010; AusAID 2012b; AusAID 2012c).

The Food and Agriculture Organization (FAO) is currently funding several agriculture- and food security-related projects in Burma, one of which is technical assistance with the 2010 Agricultural Census (FAO 2012a).

UN-Habitat, the DFID-funded Pyoe Pin Programme and the Japan International Cooperation Agency (JICA) may be preparing to undertake projects related to tenure security and government capacity-building, though the certainty and details of what those may be is unclear (Oberndorf 2013).

2. FRESHWATER (LAKES, RIVERS, GROUNDWATER)

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Burma has six major river basins: the Irrawaddy, the Sittaung, the Rakhine, the Tanintharyi, the Thanlwin and the Mekong (the latter two of which originate in China). The country has an estimated 1080 and 493 cubic kilometers per annum of surface and groundwater potential respectively, placing it fourteenth globally in terms of available water resources. However, Burma uses only 5% of its water resources, or 45 million acre feet (56 cubic kilometers). Renewable internal freshwater resources per capita have gradually declined from 26,812 cubic meters in 1987 to 20,750 in 2011. Irrigated agriculture is the largest consumer of water resources, accounting for over 89% of withdrawals. Ten percent is used for municipalities, while 1% is used for industries (ADB 2008; UOB 2006b; World Bank 2012a; UNDP n.d.; FAO 2011a).

These abundant water resources are unevenly distributed both temporally and spatially. Out of the country's 63 districts, four are severely water scarce and another seven are considered medium to severely water scarce. An estimated 91% of total water withdrawal comes from surface water, while 9% comes from groundwater. As a result, distribution is largely predicated on rainfall, 80% of which arrives during monsoon season (May–October) (FAO 2010; UNDP n.d.).

Burma has increased the area of irrigated land through sustained investment in irrigation water-storage capacity and irrigation management. By 2009, the Irrigation Department had constructed about 200 irrigation projects with the capacity to irrigate 1 million hectares. The ratio of irrigated area to irrigable area grew from 40 to 50% between the period 1997–1998 and 2002–2003. Expenditure on irrigation management as a percentage of total investment of the Irrigation Department increased from about 10 to 25% between 1995–1996 and 2004–2006. The volume of irrigation water-storage capacity increased by a factor of twenty-seven from 1988 to 2003 (FAO 2011a; ADB 2008).

By 2002, thirty-five hydropower stations had been completed in Burma, with a total capacity of 390 megawatts. The UN has estimated Burma has a hydropower potential of 40,000 megawatts, indicating that the country is using only 1% of its potential. As of 2011, forty-eight additional hydropower projects were planned (FAO 2011a; BEWG 2011).

Burma has made substantial progress in providing its population with safe drinking water. From 1995 to 2003, access to safe drinking water increased from 50 to 74% in rural areas and from 78 to 92% in urban areas. As of 2008, 71% of the population had access to improved drinking-water sources (75% in urban areas and 69% in rural areas) (ADB 2008; FAO 2011a).

Despite these improvements, some studies indicate that substantial progress remains to be made in providing the entirety of the population with access to clean water. In a 2009 survey of Cyclone Nargis-affected areas, 76% of surveyed households used unimproved water sources, and 32% did not treat their water to safe standards. An investigation following Cyclone Giri indicated that 71% of sampled households treated their water by filtering with a cloth. Inadequate water treatment facilities and a lack of water supply in some areas have resulted in an increase in illnesses (ISF-UTS 2011).

Water pollution is increasing. Contributing factors are: the drainage of water or chemicals used in mineral extraction; overuse of pesticides; industrialization; excess siltation from watershed erosion caused by logging, mining and large-scale agriculture; and the dumping of industrial and human wastes and garbage. Arsenic contamination as a result of gold mining constitutes a particularly acute threat to groundwater contamination. However, the relative abundance and public preference for rainwater in much of the country has somewhat mitigated this threat. The Burmese government has established institutions and policies that acknowledge Burma's water resource challenges. However, the institutions established are not integrated with one another, and also lack the authority to implement policy (BEWG 2011; BEWG 2012; LEI 2002; ISF-UTS 2011; BEWG 2011; Myint 2007).

LEGAL FRAMEWORK

There is no single law governing all aspects of water resources. The 2006 Conservation of Water Resources and River Law prohibits pollution of water resources and specifies penalties. This law is primarily concerned with river transportation and the regulation of river fishing and sewage discharge. It authorizes the Directorate of Water Resources and Improvement of River Systems to determine dangerous water levels for towns; cooperate with relevant government departments and organizations to solve related problems; and guide the use river water for domestic and agricultural use. The law: prohibits water pollution; prescribes terms and conditions for the monitoring and prevention of water pollution; and specifies penalties for those who pollute water. The 1994 Protection of Wildlife and Natural Areas Conservation Law also specifies penalties for water pollution (UOB Conservation of Water Resources and Rivers Law 2006a; UOB Protection of Wildlife and Natural Areas Conservation Law 1994).

The 1993 National Health Policy seeks to intensify and expand environmental health activities, including the prevention and control of air and water pollution. (WHO n.d.).

The 2012 Vacant, Fallow and Virgin Lands Management Law (VFV Law) establishes the CCVFV to coordinate with the Ministry of Environmental Conservation and Forestry (MoECAF) and other ministries concerned with the conservation of natural regions, watershed area and natural fisheries (UOB Vacant Fallow and Virgin Lands Law 2012d).

A number of laws and policies concern the management of irrigation water supply and urban water resources. The Canal Act (1905, last amended in 1998) regulates the allocation of water for public purposes, water supply and drainage works. The Act permits all water in all rivers and streams flowing in natural channels as well as lakes and other national still water bodies to be used and controlled for public purposes. The Myanmar Embankment Act (1909, last amended in 1998) requires every owner or occupier of immovable property in the vicinity of an embankment to help maintain the embankment or to provide a laborer who can. The Act authorizes an embankment officer to enter into any immovable property in the vicinity of an embankment and take possession of, appropriate or remove and use any relevant materials for the purpose of such work (Gutter 2001; Leckie 2009; WEPA 2008; BEWG 2012).

Urban water resources and groundwater are governed by the City of Rangoon Municipal Act (1922; amended 1958, 1961 and 1991), which defines rules regarding management and protection of the city's water supply. The Underground Water Act (1930) deals with the conservation and protection of underground sources of water supply in Burma. The Burma Canal Act (1905; amended 1914, 1924, 1928) provides a code for regulating the construction and maintenance of canals and drainage works (Gutter 2001; Macdonall and Manson 1907; UOB 2006b).

The 1994 National Environmental Policy calls for the establishment of sound environmental policies in the utilization of water, land, forests, mineral resources and other natural resources; the policy also promotes the integration of environmental considerations into the development process.

The 1994 Protection of Wildlife and Natural Areas Conservation Law authorized the creation of the Committee for Protection of Wildlife and of Natural Areas. There is little indication, however, that this law has been implemented (UOB Protection of Wildlife and Natural Areas Conservation Law 1994a; BEWG 2011).

The 2012 Environmental Conservation Law instructs the MoECAF to implement the government's environment policies. It instructs the MoECAF to form an environmental conservation committee in charge of mobilizing environmental conservation activities. For example, MoECAF must to establish a system for monitoring pollution from industry, agriculture, and mining, and to monitor construction projects. The law also recommends, but does not mandate, that MoECAF develop an Environmental and Social Impact Assessment (ESIA) mechanism in the country (BEWG 2011; Oberndorf 2012; BEWG 2012).

Although the Environmental Conservation Law lacks specific requirements for water and natural resource conservation, it gives MoECAF the power to make policies regarding resource conservation. The law is binding on the government and on government projects, but MoECAF may be required to receive the central government's permission to enforce the law on other ministries (BEWG 2012).

Burma is party to several international treaties concerning water and the environment. In 1997 the Burmese government accessed the United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. Among its goals, the convention seeks to implement long-term integrated strategies that focus simultaneously on improved productivity of land, and the rehabilitation, conservation and sustainable management of land and water resources. The Burmese government joined the UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage in 1994. The convention is intended to protect the world's most valuable cultural and natural environments from decay and destruction (UN 1994; UNESCO 2012; SNHB 2011).

TENURE ISSUES

The 2008 Constitution reconfirms the state's ownership of all natural resources. The constitution also requires the Finance and Planning Sectors of regions (known as divisions under prior versions of the law) and states (states and regions being of equal status in the administrative structure) to collect municipal taxes, including on water (UOB Constitution 2008a).

In general, no law prohibits the exploitation of surface or subsurface water resources in Burma. The Irrigation Department imposes a low tariff for gravity irrigation systems, such as using water from reservoirs, and does not recover the cost of maintenance work. The Union of Burma supplies the majority of the annual budget for irrigation facility maintenance and repair. The Water Resources Utilization Department imposes a higher water tariff for river pumping systems, with water prices for rice cultivation in the dam systems 150 and 300 times less than for electric and diesel river pumping systems. As a result of the lower water price, farmers' use of water has increased, regardless of water shortages or water losses (UNESCAP 2006; FAO 2011a).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

There is no single institution responsible for comprehensive management of national water resources. At the ministerial level, the Ministry of Agriculture and Irrigation (MoAI) is primarily responsible for agricultural and irrigation water resources. Four departments within the MoAI have water management-related functions: the Irrigation Department (ID); the Water Resources Utilization Department (WRUD); Agricultural Planning Department (APD); and the Settlement and Land Records Department (SLRD). The ID and its subsidiary Irrigation Technology Centre manage irrigation works, including the planning and implementation of new surface water irrigation projects. The ID is further responsible for the maintenance and operation of major facilities such as main dams, headworks, main canals and secondary units. The responsibilities of WRUD include measuring surface and groundwater quantity and quality for drinking and irrigation purposes, and supplying drinking and irrigation water from surface and groundwater sources. The APD is responsible for planning, monitoring and evaluating all agricultural projects, including irrigation and drainage projects. The ID and the WRUD provide technical and financial assistance to farmers for private irrigation system (primarily well and pump irrigation) implementation, management, operation and maintenance. The SLRD is responsible for collecting agricultural statistics and land administration (UOB 2006b; FAO 2011a; UNDP n.d.).

The Meteorology and Hydrology Department of the Ministry of Communication, Posts and Telegraphs is tasked with collecting hydrological and meteorological data. The Myanmar Electric Power Enterprise, within the Ministry of Electric Power, supervises hydropower generation. Farmers maintain and operate the terminal units such as field ditches and watercourses. The Forest Department is the primary agency responsible for watershed management (FAO 2011a; UOB 2006b).

Under the Environmental Conservation Law, MoECAF is charged with setting rules for: how much and what type of pollution is allowed, and what businesses and individuals must do to reduce pollution; establishing a system to assess the environmental and social impacts of government and private projects; establishing a system to monitor pollution from agriculture, industry, and mining; deciding which types of projects require permission to operate; deciding whether to grant permission to individual projects; requiring companies to pay for environmental conservation projects to make up for the damage the companies cause; overseeing the system for determining the nature and extent of, and punishing, environmental damage; and negotiating regional and international environmental agreements (BEWG 2012).

All government departments are responsible for conserving and managing resources, including forests, land, water, agricultural resources, ecosystems, biodiversity, and cultural resources. MoECAF is charged with providing advice and support on this issue to other departments. Individuals or companies that break the law can be fined or jailed, but the MoECAF can reduce or eliminate these punishments in the name of state and public interest (BEWG 2012).

The National Commission for Environmental Affairs (NCEA) was established in 1990, and came under the authority of the MOECAF in 2004. It is tasked with: advising the government on environmental policies; acting as a focal point and as a coordinating body for environmental affairs; and promoting environmentally sound and sustainable development in Burma. However, significant budget and staff constraints and a lack of legislative mandate have compromised the NCEA's ability to meet its objectives (Myint 2007; BEWG 2011).

Urban water is managed at the city level. The Yangon City Development Committee (YCDC) is responsible for water supply and sanitation in Yangon. With regards to rural water management, the Department of Development Affairs is tasked with delivering water supply services to villages. However, it is unclear how these services are managed over the longer term (ISF-UTS 2011).

The Ministry of Transport is responsible for conserving water resources in accordance with the relevant international conventions, regional agreements and bilateral agreements for environmental conservation. The Conservation of Water Resources and River Law authorizes the Directorate of Water Resources and Improvement of River Systems to determine dangerous water levels for towns, oversee the resolution of water-related problems, and determine appropriate domestic and agriculture river water use (UOB Conservation of Water Resources and Rivers Law 2006a).

In 1996, Burma and China became Dialogue Partners of the Mekong River Commission (MRC), an agreement between the governments of Cambodia, Lao People's Democratic Republic, Thailand and Vietnam to cooperate for the sustainable development of the Mekong River Basin (FAO 2011a).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

In 2003, the Irrigation Department, in cooperation with the United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP) and FAO, launched the Myanmar Water Vision program. The program was established with the intention of improving national water resource management and conservation, including through building public awareness and participation. A Myanmar Water Resources Committee, along with a strategic management plan, was proposed in 2004 to improve the national application of integrated water resources management (IWRM). The Committee's goals include: integrating water-related agencies; establishing national water resource management rules; initiating a pilot river basin management study; and enhancing stakeholder participation. However, the committee is still awaiting approval from the MoAI (WEPA 2008; UOB 2006b).

The Burmese government joined the United Nations Water, Sanitation and Hygiene for All (WASH) initiative in 2002. The government developed a national WASH program the following year, aiming to work with international agencies and nongovernmental organizations to increase access to safe drinking

water and improved sanitation facilities while promoting good hygiene practices, especially in disaster-affected areas. As part of its WASH program, the Union of Burma has organized community engagement events and a media campaign to promote good sanitation practices nationwide. The Union of Burma is also involved in planning a WASH sector assessment (ISF-UTS 2011; WSSCC 2012; UNSDKP n.d.).

In an effort to improve agricultural yields while reducing government administration and maintenance costs, the Ministry of Agriculture and Irrigation initiated a project to promote water-licensing and strengthen water user groups. The project encourages farmers to voluntarily organize water users groups for irrigation purposes, enforce irrigation system management and maintain and repair irrigation facilities, with resources provided by the government. Group leaders are nominated by participating farmers and approved by the Divisional Canal Officer (GWP 2008).

In late 2012, the Ministry of Electric Power (MoEP) announced plans to implement seven hydropower projects, expected to generate a total of 120 megawatts of electricity. The MoEP will implement three of the projects, and the others will be built and operated jointly with foreign investors. The MoEP expects that the new dams will be complete by 2016. The Burmese government has planned a total of sixty-seven future hydropower projects. In 2007, the government signed an agreement with China Power Investment Corporation to construct seven large dams in Kachin state. The largest, the Myitsone dam, was suspended in 2011, after violent protests by local opposition groups as well as international outcry over the lack of project transparency and the dam's potential social and environmental impact. If completed, the Myitsone dam will: have a capacity of 6000 megawatts; flood an area larger than Singapore in one of the world's most disputed biodiversity hotspots; and displace an estimated 10,000 people. Two additional hydropower dams, the Hatgyi and Tasang dams, are proposed on the Thanlwin river. In 2005 the Burmese government established a wastewater treatment facility in Yangon, which is designed to treat 12,300 cubic meters per day (Eleven Media 2012; FAO 2011a; BBC 2011).

DONOR INTERVENTIONS AND INVESTMENTS

In 2008–2009, FAO and the European Commission carried out a project entitled Support for Sustainable Agriculture and Rural Livelihoods in Northern Rakhine State (NRS) of Myanmar. Project objectives included crop intensification and diversification, including the development of water harvesting and localized small-scale irrigation. In addition, FAO has funded a number of watershed protection and rehabilitation projects in Burma (FAO 2011b; FAO 1997).

A number of donors are actively involved in WASH programming in Burma, including UNICEF, the UNDP, UNHCR and UN-Habitat. UNICEF recently initiated training in Community-Led Total Sanitation (CLTS) and began piloting CLTS in villages, with plans to scale up (ISF-UTS 2011).

JICA completed the Project on Rural Water Supply Technology in Central Dry Zone in 2009. Many wells in this area had fallen into disrepair, while local Department of Development Affairs (DDA) staff lacked the expertise to maintain them. The project sought to provide safe drinking water to local inhabitants by digging twenty new deep tube wells (200 to 300 meters) as well as repairing the forty tube wells already in existence. Further, the project sought to upgrade the technical capabilities of the DDA, and establish a system to manage and maintain village water supply facilities (JICA 2012).

ADB conducted an assessment of Burma's energy sector in 2011–2012, including an assessment of hydropower resources. The assessment concluded that while Burma has a wealth of hydropower potential, the country has lacked the legal framework, capital, personnel, and cross-agency coordination required to develop it. Going forward, ADB suggests that Burma develop an integrated, comprehensive plan for hydropower development (ADB 2012a; ADB 2012b).

Among its goals, the Swiss Agency for Development and Cooperation's Myanmar Health and Social Inclusion program helps build and rebuild schools, health centers and clean water systems in areas

affected by conflict and disaster in the southeastern states. The program targets the specific needs of ethnic minorities, internally displaced persons, refugees and host communities (SDC 2013).

3. TREES AND FORESTS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

About 49% (31,773,000 hectares) of Burma is forested. Naturally regenerated forests account for 81% (25,736,130 hectares) of this amount, while 10% (3,192,000 hectares) is classified as old-growth (primary) forest and 3% (988,000 hectares) is planted forest. By FAO's assessment, Burma's forests contain 1654 million metric tons of carbon. There is, however, some debate over the quantity of forest resources in Burma. In 2012 the Burmese government's Natural Resources and Environmental Committee stated that Burma's forest cover represented only 24% of the country. Burma officially exported 864,000 tons of timber in 2010–2011, earning more than US \$600 million. In 2005–2006, Burma exported 333,100 tons of teak and 636,700 tons of hardwood. Although the forestry sector's contribution to the national GDP is less than 1%, timber export alone constitutes about 10% of total exports. An estimated 70% of Burma's 32.5 million rural residents depend on forests for their basic needs, including household materials, fuelwood, fodder and food as well as wildlife for hunting, while an estimated 500,000 people rely on forests for employment (FAO 2012b; Boot 2012; Htun 2012).

The wide variation in rainfall, temperature, soil and topography has produced diverse forest types in Burma. Tropical evergreen forests are found in high rainfall areas in the south of the country. Hill and temperate evergreen forests occur in the eastern, northern and western regions at elevations over 900 meters. As a result of decreasing rainfall, the forest types change from hill and temperate evergreen to deciduous and then to dry forests along a line from the edge to the middle of the country. There are 2088 tree species recorded to date in Burma, of which 85 produce multiple-use timber of premium quality (FAO 2007).

Deforestation is a longstanding and worsening problem. Unrestrained legal commercial harvesting of timber, illegal logging and the felling of forests resources for firewood and slash-and-burn agriculture are all contributing factors. Between 1990 and 2010, Burma lost an average of 0.95% (372,250 hectares) of forest cover per year, for a total of 19% (7,445,000 hectares) of forest cover lost. Earlier, deforestation accelerated from an annual loss of over 100,000 hectares of natural forests during 1975 to 1989 to an annual loss of 450,000 hectares during 1989 to 1998. The Rainforest Action Network claims the annual rate is much higher – from 800,000 to 1 million hectares annually – giving Burma one of the highest deforestation rates in the world. The most serious destruction from logging has occurred in ethnic minority areas along the borders with China and Thailand, namely in Kachin State, Shan State, Karenni State, Karen State and Tenasserim Division. China, Thailand and India are Burma's biggest timber purchasers (Boot 2012; FAO 2011a; BEWG 2011).

Mangrove deforestation is of particular concern. Mangrove forests, located along shorelines, provide habitat for a wide variety of marine and terrestrial life, and serve as nurseries for coral reefs and commercially important fish species. In addition, mangrove forests play a vital role in trapping sediments, thereby stabilizing coastlines and protecting coral reefs and seagrass meadows. Since the 1920s, mangrove forests have been eliminated for rice farming, shrimp farming and fuelwood extraction. Mangrove forests in the delta forest reserve declined from 253,018 hectares in 1924 to 111,939 hectares by 2001. Loss of mangrove forests has had a particularly negative impact on the livelihoods of traditional fishing communities along Burma's Andaman coastline (BEWG 2011).

LEGAL FRAMEWORK

The 1992 Forest Law covers all forest resources in the country. Forests in Burma fall into one of three legal types: reserved forest; protected public forest; and public forest. Reserved forest is a protected class, intended primarily for the production of forest products. It may be used for various types of local village

production or community forestry. Protected public forests are intended primarily for conservation purposes. Public forests fall within the definition of virgin land under the VFV Law. The Forest Law allows the Ministry of Forestry (MoF) to constitute the following categories of reserved forest by demarcation on land at the disposal of the government: commercial reserved forest; local supply reserved forest; watershed or catchments protection reserved forest; environment and bio-diversity conservation reserved forest; and other categories of reserved forest (Oberndorf 2012; UOB Forest Law 1992).

The Forest Law is aimed at harmonizing economic realities and environmental needs in the development of forest resources. Its primary objectives are to maintain biodiversity, conserve natural forests and establish forest plantations. In addition, the Forest Law aims to prevent excessive logging and other threats to the forest, including fires, insect infestation and plant diseases (Finch 1999).

The Ministry of Forestry promulgated the Forest Rules in 1995 with the intention of implementing the provisions of the Forest Law. The Forest Rules deal with: reserved forest (forest areas reserved for the state and off-limits to development); the declaration of areas as protected public forest; the management of forest land; the establishment of forest plantations; and the procedures for obtaining permission to extract forest produce. The rules also cover procedures for: harvesting forest produce; establishing and operating timber depots; establishing wood-based industries; investigating violations; administrative actions to penalize violations, such as imposing fines and confiscating the timber; and offenses and penalties (Finch 1999).

The 1994 Protection of Wildlife and Conservation of Natural Areas Law, while primarily concerned with the conservation of wildlife and their habitats, also provides a rudimentary land-classification system for protected natural areas. The Protection of Wildlife and Conservation of Natural Areas Law also provides a mechanism for designating land as a natural area, as well as for applying the relevant land acquisition law to compensate individuals or businesses that have rights to the land being designated as a natural area. It allows the Director General of the Forest Department to “make provisions for reasonable rights and privileges in respect of the affected rights of the people in the region” where the natural area is established. Finally, the law contains penalty provisions for anyone who causes damage to any ecosystems within a natural area (Oberndorf 2012).

The 1995 Myanmar Forest Policy and the updated 1996 Forest Working Plans implement the 1992 Forest Law. The Forest Law and 1995 Myanmar Forest Policy advocate for a participatory approach to forest management, including community forestry for supplementing livelihoods (BEWG 2011).

The 1995 Community Forestry Instruction (CFI) is a legal framework to promote community participation in forestry. The CFI provides that the following areas are suitable for the establishment of community forests: reserved and non-reserved forests authorized by the government and the lands which could be managed by the government; village-owned firewood plantations established with the permission of the Director General of the Forest Department (FD); private lands whose owners agree to community use of their property, and lands which are owned by governmental or non-governmental organizations (Tint 2011).

The procedure for registering community forest under the CFI involves the formation of a community Forest User Group (FUG). The FUG must prepare a thorough Forest Management Plan, and then apply for registration to the Land Records Department and the FD (or Forest Estate, for reserve forest areas), at the township, district and national levels. If the application is successful, the FUG receives a Community Forest Establishment Certificate with 30-year tenure (renewable for 15 years at a time). The FUG is obliged to follow its management plan, and must not exceed its projected exploitation of forest products. Surplus forest products can be sold to non-members of the village at reasonable prices. The FD is required to provide the users group with seeds and seedlings necessary for the first period of extraction from the community forest, and technical assistance and expertise necessary for the establishment, management, conservation and development of the community forest (Tint 2011; COHRE 2007).

The VFV Law defines “virgin land” as “new land or other woodland, in which cultivation has never been done before.” Forestland that falls under the “virgin land” classification in the VFV Law is essentially the equivalent of the “public forest land” classification in the Forestry Law. The land may or may not be covered in forest; the category also includes land that has been “cancelled legally from reserved forest land, Grazing land and Fisheries Ponds.” There are mechanisms by which community forestry arrangements can be secured for these areas of land. Under the VFV Law, the CCFV may request that public forest land be used for state economic development. The access and land-use tenure claims to these areas of land generally do not appear to be very secure, due to the lack of documentation to back up land use claims (Oberndorf 2012).

TENURE ISSUES

With the exception of allocations made under the CFI, Burma’s laws do not allow local communities to claim rights to use or access forest resources. Communities that depend upon forests are therefore not able to resist state allocation of those forests to businesses for logging, mining, establishing plantations and other commercial activities that remove the forest. The removal of forests or the denial of community access to forests can severely compromise community food security (BEWG 2011).

Transparency and a lack of documentation have resulted in weak forestland tenure security. The Forest Law does not clarify the procedure by which the MoECAF may change the classification of any area of reserved forest land; nor does the law specify the standards to be applied when making such a change. As a result, rural populations that have traditionally used areas of reserved forest land for generations are technically in violation of the Forest Law. While various rights of use over forestlands may be granted under the Forest Law – such as for “village firewood plantation” or “local supply plantation” – the law does not make clear the procedure for granting use rights. There is similarly no clear mechanism in the Farmland Law or other legal texts to convert areas of reserve forest land to farmland. The CCFV may make a request from MoECAF that these lands be used for state economic development under the VFV Law. Mechanisms exist by which community forestry arrangements can be secured for virgin land areas. The Forestry Department of MoECAF and the MoAI currently have overlapping authority over these areas of land (Oberndorf 2012).

While Community Forestry under the CFI is a promising initiative, studies have documented certain problems, such as insufficient local agro-forestry planning as well as the lack of participation by women and marginalized groups, both of which negatively affect food security (BEWG 2011).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The MoECAF is responsible for: issues relating to environmental protection; implementing rules relating to Environmental and Social Impact Assessment (ESIA); and management of forestlands and forest resources. The MoECAF has overlapping authority with multiple ministries over lands classified as public forest in the Forest Law and lands classified under the VFV Law as virgin. Five departments come under the control of the MoECAF: the FD, including its Nature and Wildlife Conservation Division; the logging and income-earning Myanmar Timber Enterprise (MTE); the Dry Zone Greening Department (DZGD), which is responsible for reforestation in central Burma; the Planning and Statistics Department; and the National Commission for Environmental Affairs (NCEA) (Oberndorf 2012; BEWG 2011).

The FD, under the jurisdiction of the MoECAF, is the primary authority responsible for administering reserved forest lands. The MoECAF has also delegated to the FD authority over areas of land classified as public forest and protected public forest (Oberndorf 2012).

The CCFV is a national-level, multi-ministerial committee formed by the president in accordance with Article 3 of the VFV Law. Among many duties, the CCFV is specifically responsible for coordinating with the MoECAF and other ministries to prevent damage or destruction to forest lands and to conserve natural regions, watershed areas and natural fisheries (Oberndorf 2012).

The state-owned MTE is responsible for timber harvesting, milling, and downstream processing and marketing of forest products. MTE works with the private sector, including foreign enterprises, to export value-added, semi-processed forest products. This follows a 1993 decision banning log harvesting and log exports by the private sector. The MTE retains a monopoly on teak harvesting, processing and export. The Myanmar Forest Products and Timber Merchants' Association (MFPTMA), now known as the Myanmar Timber Merchants Association (MTMA), was established by the government in 1993 to facilitate the private sector's access to wood (BEWG 2011; UOB 2013b; Woods 2011; FAO 1997).

The Dry Zone Greening Department (DZGD) is responsible for reforestation of degraded forest lands and restoration of the environment in the dry zone of Central Burma. The DZGD's top priorities are to: establish forest plantations on degraded and denuded land; conserve the remaining natural forests; promote fuel alternatives to wood; and develop water resources. Between 1955 and 1997, Burma was losing forests at an average rate of 316,000 hectares annually. Since the DZGD was established in 1997, its staff and programming have improved and protected existing natural forests and established forest plantations at an average annual rate of about 13,000 hectares in Sagaing, Mandalay and Magway States (FAO 2000; UOB 2005; Htoo 2003).

The Planning and Statistics Department (PSD), within the MoF, is responsible for: coordinating and facilitating the tasks of FD, MTE and DZGD; following the directives of the MoF; and acting as a forum on policy issues in forestry (Aung n.d.).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

The current Forest Law will most likely be replaced with a new law in early 2013. It is predicted that the new law will contain specific provisions that acknowledge the legal basis for community forestry. Community forestry is formally recognized only in the Community Forestry Instructions, and it has been hampered by unevenly applied and insecure tenure arrangements, one consequence of which has been the inability of FUGs to exclude those who are not designated members of the FUG (Oberndorf 2012; Lwin 2011).

In a bid to stop destruction of Burma's forests and their unique wildlife, as well as to increase exports of higher-earning finished products, the Burmese Government stated in 2011 that it will ban the export of raw teak and hardwood beginning in 2014. The Ministry of Forestry anticipates that the ban will lead to increased foreign direct investment in domestic timber production facilities. The volume of teak and hardwoods logged in Burma has declined in recent years, with teak production falling by more than 20% between 2008–2009 and 2009–2010 (Boot 2012; Tun 2012; Lwin 2010).

DONOR INTERVENTIONS AND INVESTMENTS

The government and NGOs have embarked on a number of mangrove reforestation initiatives over the past ten years. In 2009, FAO in cooperation with the MoECAAF initiated the Sustainable Community-based Mangrove Management in Wun Baik Forest Reserve. The project's intention was to conserve the rich mangrove biodiversity of Rakhine state by taking into account the livelihood pressures confronting local populations and helping them identify alternatives to mangrove harvesting. Mangrove Environment Research Network (MERN), composed of seventeen local NGOs, was formed in 2009 to coordinate mangrove restoration efforts, with a focus on aquaforestry. The network emphasizes conservation and livelihood improvement initiatives (BEWG 2011; FAO n.d.).

In 2007, FAO completed a year-long, US\$203,000 project to boost the research and application capacity of the Forest Department's Forest Research Institute (FRI) in Yezin, Mandalay Division (Win 2007).

Since 1994, the UNDP has maintained an ongoing community forestry development project in Southern Shan State. Since the project's inception, 764 acres have been accepted as community forest, and another 1335 acres have been reported as pending acceptance (Myint 2007).

From 2005 to 2011, AusAID supported a household livelihood project in Rakhine State. Implemented by CARE, the project assisted 3200 households to establish and manage community forestry plots, and helped more than 6700 women to form savings groups and trained communities on better health practices (AusAID 2012a).

4. MINERALS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Burma is one of the most mineral-rich countries in Asia. Mineral commodities include oil, natural gas, tungsten, tin, zinc, silver, copper, lead, coal, gold, iron, steel, industrial minerals and barites. Burma has over sixteen large-scale coal deposits, with a total of over 270 million tons of coal reserves. Exported gemstones include ruby, sapphire and jade. Burma is the largest jade producer in the world, and the country is estimated to account for more than 90% of global trade of rubies by value. In 2010, base metals and ores comprised only 0.62% of Burma's total exports. From 1988 to 2006, total foreign investment in mining in Burma accounted for US \$534.19 million. Mining is the second-largest sector (after energy) for foreign direct investment in Burma. However, reliable data on the income that the government receives from mining exports is difficult to obtain. For example, although the Union of Burma reports annual exports of US \$60 million in pearls, sapphires, jade and rubies, mostly to Thailand and China, some experts believe that figure is only one-tenth of the actual amount (Myint 2007; BEWG 2011; UOB 2013f; Fong-Sam 2010; Smith 2007; Wallop 2012).

The CIA estimates that Burma's gas reserves stood at 283.2 billion cubic meters at the beginning of 2012. However, there is some debate about the accuracy of this number. According to British Petroleum's 2010 Statistical Review of World Energy, at the end of 2009, Burma's proven gas reserves stood at 570 billion cubic meters, double the CIA estimate and accounting for roughly 0.3% of the world's total gas reserves. In 2010, the value of natural gas exports was about \$2.91 billion, which was about 33% of total exports (CIA 2012; BEWG 2011; Fong-Sam 2010).

Burma has the 79th largest crude oil reserves of any country in the world, with 50 million barrels. Burma produces 20,200 barrels of crude oil per day, of which only 4.3% is exported. Petroleum extraction by foreign enterprises has increased rapidly in recent years (BEWG 2011; CIA 2012).

The shift towards large-scale mining in the past two decades, along with a lack of laws, regulations and enforcement mechanisms to protect the environment against the impacts of mining, has led to extensive environmental degradation. Areas that have been particularly affected by mining activities are: the mountainous regions in the north; the delicate coastal areas where tin is collected; the gold-mining region of northern Kachin State; the copper-mining area of Sagaing Division in central Burma; the coal-mining regions of southeastern Shan State; and the iron-mining areas of southern Shan State. While the full extent of pollution caused by mineral extraction in Burma is unknown, documented mining-related environmental degradation includes: the indiscriminate clearing of land and forests; river bank erosion; mercury, arsenic and sulfuric acid contamination; destruction of grazing lands; the draining of water sources, farmlands and habitats; and air pollution related to coal mining (BEWG 2011).

LEGAL FRAMEWORK

The 1994 Myanmar Mines Law empowers the state to acquire land for mineral production. The law establishes rent and royalty amounts for mining operators. The law requires the holder of a mining permit to make monetary provisions for damages caused to the environment as a result of mining operations. The Myanmar Mines Rules, which followed in December 1996, established procedures for the government's issuance of prospecting and exploration permits, as well as the duties and rights of permit holders, including duties related to management of workers and protection of the environment (Leckie 2009; Smith 2007; UOB 2013e; UOB 1996; UOB Mines Law 1994b).

Under the VFV Law, the CCVFV can grant up to 30-year leases of public land to public citizens, private-sector investors, government entities and NGOs via application for agriculture developments, mining and other purposes allowed by law. (Oberndorf 2012).

TENURE ISSUES

According to the Mines Law, any naturally occurring minerals found on or under Burmese soil or within Burma's Continental Shelf belong to the state. The law further provides the Union of Burma with the broad right to confiscate land for mineral production if such production is "in the interest of the State." The law: includes no provisions for compensating or resettling land users; does not specifically require the state to conduct environmental or social impact assessments; and has no provisions related to public participation in or disclosure of the project or land-use planning process, including land confiscations (Fong-Sam 2010; Smith 2007).

In the past two decades, expanding mineral resource-extraction by the state, multinational enterprises and firms connected with the Burma military has resulted in a surge of land confiscations and forced and uncompensated relocations. These confiscations, along with environmental concerns and labor disputes related to mineral extraction, have resulted in a number of violent protests (BEWG 2011; Boot 2012; *Mizzima News* 2012).

Mining permits are issued by the Department of Mines. The lease term under the permits cannot exceed one year, the land area cannot exceed 4200 square kilometers, and the extension period cannot exceed 12 months. Prior to receiving a permit, foreign enterprises must submit a letter of inquiry and an investment proposal along with other documentation to the Ministry of Mines. Foreign as well as domestic investment in the mineral sector requires permission from the Ministry of Mines, which grants mining concessions. Burma has an export ban on raw ores and certain commodities such as gold and coal. The gemstones sector is closed to foreign investment. However, a revised Mining Law, under discussion, may lift or ease the ban on the export of some raw ores and mineral commodities (UOB 2013d; Smith 2007; Bruce 2012; Wallop 2012).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Ministry of Mines is responsible for implementing the Union of Burma's mineral policy and for enforcing the laws, rules and regulations related to mining. It evaluates and processes all license applications related to prospecting, extracting and processing of minerals. It also monitors production operations and promotes investment in the mineral sector (Fong-Sam 2010).

The Department of Mines, under the Ministry of Mines, reviews applications for mineral prospecting, extraction and processing of minerals in accordance with the Mines Law and subsidiary rules and regulations. The department is also responsible for: monitoring mining production operations to ensure that they conform with the law; promoting investment in the mineral sector; administering guidelines issued by the Ministry of Mines; and achieving sustained development of the mineral sector with due emphasis on environmental issues. The department also functions as the ministry's planning and database center for mining policy (UOB 2013d).

Also under the ministry, the Department of Geological Survey and Mineral Exploration is responsible for geological surveying, geological mapping, mineral exploration and metallurgical research. The department is also involved in joint ventures with foreign companies on mineral prospecting and exploration feasibility studies of base metals, including gold, copper, lead, zinc and platinum (UOB 2013c).

The Ministry of Energy is tasked with: carrying out exploration and production of crude oil and natural gas; the refining, manufacture and transport of petrochemicals; and distributing petroleum products. Under its jurisdiction are the Energy Planning Department (EPD), the Myanmar Oil and Gas Enterprise

(MOGE), the Myanmar Petrochemical Enterprise (MPE) and the Myanmar Petroleum Products Enterprise (MPPE) (UOB 2013a).

The fully state-owned MOGE is primarily responsible for participating in and overseeing production-sharing agreements entered into with foreign oil companies. All foreign participation in the energy sector occurs via joint-venture arrangements with the MOGE. Other MOGE responsibilities include oil and gas exploration and production and natural gas pipeline construction (UOB 2013a).

As noted previously, the CCVFFV grants leases to mining companies under authority granted by the VFFV Law.

The Environmental Conservation Law requires the MoECAF to establish a system for monitoring mining pollution and calls for the development of an ESIA mechanism in the country (Oberndorf 2012; BEWG 2012).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

The Union of Burma plans to introduce a new Mining Law in 2013. The draft law, which is intended to attract more foreign direct investment to the mineral resource sector, is expected to include provisions that would allow permit partners in joint ventures to determine stake ratios without government interference or rules requiring minimum ownership stakes by Burma enterprises. It is also expected to: allow foreign companies to own 100% of mining projects (with restrictions); permit foreign investors to take leases of up to 50 years; and allow some investors to enjoy tax holidays for the first five years. In addition, Burma reportedly plans to implement the Extractive Industries Transparency Initiative (EITI). Established in 2003 and supported by the World Bank Oil, Gas and Mining Unit (SEUOB), the global EITI promotes and supports improved governance in resource-rich countries through the full publication and verification of company payments and government revenues from oil, gas and mining (Katakey 2012; Wallop 2012; World Bank 2011b).

DONOR INTERVENTIONS AND INVESTMENTS

Donor organizations do not appear to be funding projects in the mineral sector. However, numerous foreign companies have invested in Burma's mineral resource industry. Four companies – Total (France), Chevron (US), Petroleum Authority of Thailand Exploration & Production (PTTEP) and Myanmar Oil and Gas Enterprise – have cooperated to develop the Yadana gas field, located about 60 kilometers off the coast of Burma in the Andaman Sea. As part of their investment in the Yadana Project, Total and Chevron have invested US \$11 million and \$10 million respectively to train the 900 Burma nationals who make up 95% of the project workforce. PTTEP, along with Petronas Carigali Myanmar Inc. of Malaysia, MOGE and Nippon Oil Exploration of Japan, is further developing the offshore Yetagun gas field in Tanintharyi, Gulf of Martaban. South Korea's Daewoo International Corporation and Australia's Woodside Petroleum are operating oil and gas exploration projects in the Rakhine Basin, off Burma's western coast in the Bay of Bengal. Pohang Iron and Steel Company (POSCO) of South Korea has a 70% stake in a Yangon steel plant (Total 2012; Chevron 2012; Fong-Sam 2010; McLaughlin 2012).

5. DATA SOURCES (SHORT LIST)

BEWG. 2011. Burma's Environment: People, Problems, Policies. June. <http://www.bewg.org/en/reports/beppp> (accessed 17 March 2013).

COHRE. 2007. Displacement and Dispossession: Forced Migration and Land Rights. http://www.cohre.org/site/default/files/burma_-_displacement_and_dispossession_-_forced_migration_and_land_rights_nov_2007.pdf (accessed 17 March 2013).

Displacement Solutions. 2012. Myanmar at the HLP Crossroads: Proposals for Building an Improved Housing,

Land and Property Rights Framework that Protects the People and Supports Sustainable Economic Development. October. <http://displacementsolutions.org/files/documents/MyanmarReport.pdf> (accessed 17 March 2013).

Leckie, Scott and Ezekiel Simperingham. 2009. Housing, Land and Property Rights in Burma: The Current Legal Framework. Displacement Solutions & the HLP Institute. http://displacementsolutions.org/wp-content/uploads/2010/01/Burma_HLP_book.pdf (accessed 17 March 2013).

Oberndorf, Robert B. 2012. Legal Review of Recently Enacted Farmland Law and Vacant, Fallow and Virgin Lands Management Law: Improving the Legal & Policy Frameworks Relating to Land Management in Myanmar. Food Security Working Group. November. http://www.forest-trends.org/documents/files/doc_3274.pdf (accessed 17 March 2013).

Oberndorf, Robert B. 2013. Telephone interview with Landesa. 8 February.

UOB. 2012b. Farmland Law. http://www.burmalibrary.org/docs13/Farmland_Act-en-red.pdf (accessed 17 March 2013).

———. 2012d. Vacant, Fallow and Virgin Lands Management Law. http://www.burmalibrary.org/docs13/VFVLM_Law-en.pdf (accessed 17 March 2013).

Woods, Kevin. 2011. Emerging Agribusiness Trends in Myanmar: An Overview. Transnational Institute, Southeast Asia.

6. DATA SOURCES (COMPLETE LIST)

ADB. *See* Asian Development Bank.

AusAID. *See* Australian Agency for International Development.

Ash Center for Democratic Governance and Innovation. 2011. Myanmar Agriculture in 2011: Old Problems and New Challenges. November. (<http://www.ash.harvard.edu/extension/ash/docs/myanmar1111.pdf> (accessed 17 March 2013).

Asian Development Bank. 2008. Myanmar: National Environmental Performance Assessment (EPA) Report. http://www.burmalibrary.org/docs14/Myanmar-EPA_Report-2008-red-op.pdf (accessed 4 January 2013).

———. 2011. Asian Development Bank and Myanmar: Fact Sheet. 31 December. <http://www.adb.org/sites/default/files/pub/2012/MYA.pdf> (accessed 17 March 2013).

———. 2012a. ADB Energy Assessment Shows Wealth of Possibilities in Myanmar. 27 November. <http://www.adb.org/news/adb-energy-assessment-shows-wealth-possibilities-myanmar> (accessed 17 March 2013).

———. 2012b. Myanmar: Energy Sector Initial Assessment. October. <http://www.adb.org/documents/myanmar-energy-sector-initial-assessment> (accessed 17 March 2013).

———. 2012c. Project Records: Myanmar. <http://www.adb.org/projects/search/501> (accessed 17 March 2013).

Aung, Mu Mu. n.d. State of Forests and Forest Genetic Resources in Myanmar. Forest Research Institute, Forest Department. <http://www.fao.org/docrep/005/AC648E/ac648e08.htm> (accessed 17 March 2013).

Australian Agency for International Development. 2010. Australia's strategic approach to aid in Burma: An interim statement. December. <http://www.usaid.gov.au/Publications/Documents/strat-approach-burma-interim.pdf> (accessed 17 March 2013).

- . 2012a. Additional support for Rakhine State, Myanmar. 9 November. <http://www.usaid.gov/HotTopics/Pages/Display.aspx?QID=868> (accessed 17 March 2013).
- . 2012b. Myanmar. 21 December. <http://www.usaid.gov/countries/eastasia/myanmar/Pages/home.aspx> (accessed 17 March 2013; select “See Our Results”).
- . 2012c. Myanmar: Sustainable Economic Development. 29 May. <http://www.usaid.gov/countries/eastasia/myanmar/Pages/economic-development.aspx> (accessed 17 March 2013).
- BBC*. See *British Broadcasting Corporation*.
- BEWG. See Burma Environmental Working Group.
- British Broadcasting Corporation*. 2011. Burma Dam: Work Halted on Controversial Myitsone Project. 30 September. <http://www.bbc.co.uk/news/world-asia-pacific-15121801> (accessed 17 March 2013).
- Boot, William. 2012. Burma an ‘Extreme Risk’ for Business and Rights Abuse. *The Irrawaddy*. 19 December. <http://www.irrawaddy.org/archives/21531> (accessed 17 March 2013).
- Bruce, Victoria. 2012. Burma comes in from the cold, gold and all. *WA Today* (Australia). 11 August. <http://www.minesandcommunities.org/article.php?a=11864&l=1> (accessed 17 March 2013).
- Burma Environmental Working Group. 2011. Burma’s Environment: People, Problems, Policies. June. <http://www.bewg.org/en/reports/beppp> (accessed 17 March 2013).
- . 2012. Update: The Environmental Conservation Law. 30 March. <http://bewg.org/en/pubs/finish/12/63> (accessed 17 March 2013).
- Business World*. 2012. Real estate prices up 39% in Yangon. 10 October. <http://www.bworldonline.com/content.php?section=22&title=Real-estate-prices-up-39%-in-Yangon&id=59838> (accessed 17 March 2013).
- CEDAW. See Committee on the Elimination of Discrimination Against Women.
- CIA. See Central Intelligence Agency.
- COHRE. See Centre on Housing Rights and Eviction.
- Central Intelligence Agency. 2012. World Factbook: Burma. <https://www.cia.gov/library/publications/the-world-factbook/geos/bm.html> (accessed 17 March 2013).
- Centre on Housing Rights and Eviction. 2007. Displacement and Dispossession: Forced Migration and Land Rights. http://www.cohre.org/sites/default/files/burma_-_displacement_and_dispossession_-_forced_migration_and_land_rights_nov_2007.pdf (accessed 17 March 2013).
- Chevron. 2012. Global Issues: Myanmar. <http://www.chevron.com/globalissues/humanrights/myanmar/> (accessed 17 March 2013).
- Committee on the Elimination of Discrimination Against Women. 2007. Consideration of reports submitted by States parties under article 18 of the Convention on the Elimination of All Forms of Discrimination against Women: combined second and third periodic reports of States Parties, Myanmar. 4 September. <http://www.unhcr.org/refworld/publisher,CEDAW.STATEPARTIESREP,MMR,476254ba2,0.html> (accessed 17 March 2013).

DFID. *See* Department for International Development.

Department for International Development. 2011. Burma Operational Plan: Gender Index. <https://www.dfid.gov.uk/Documents/publications1/op/burma-2011-gend-annex.pdf> (accessed 17 March 2013).

———. 2012. Burma - Projects. 5 April. <http://www.dfid.gov.uk/Where-we-work/Asia-East--Pacific/Burma/> (accessed 17 March 2013).

Displacement Solutions. 2012. Myanmar at the HLP Crossroads: Proposals for Building an Improved Housing, Land and Property Rights Framework that Protects the People and Supports Sustainable Economic Development. October. <http://displacementsolutions.org/files/documents/MyanmarReport.pdf> (accessed 17 March 2013).

The Economist. 2012. Myanmar's parliament power grab: derided not long ago, a gutsy parliament is now challenging the president. 3 November. <http://www.economist.com/news/asia/21565636-derided-not-long-ago-gutsy-parliament-now-challenging-president-power-grab> (accessed 17 March 2013).

EC. *See* European Commission.

Eleven Media. 2012. 14 Hydropower Plants to Be Built with Foreign Loans. 7 November. <http://elevenmyanmar.com/national/1222-14-hydropower-plants-to-be-built-with-foreign-loans> (accessed 17 March 2013).

European Commission. 2013a. Development and Cooperation – Europeaid: Burma/Myanmar. 14 January. http://ec.europa.eu/europeaid/where/asia/country-cooperation/myanmar/myanmar_en.htm (accessed 17 March 2013).

———. 2013b. EU to open Delegations to Myanmar and to the United Arab Emirates. Press Release. 17 January. http://europa.eu/rapid/press-release_IP-13-21_en.htm (accessed 17 March 2013).

FAO. *See* Food and Agriculture Organization.

Finch, James. 1999. Myanmar's Forest Law and Rules: Developing One of the World's Last Untapped Wildernesses. International Executive Reports, Ltd. 15 September. http://www.burmalibrary.org/reg_burma/archives/199909/msg00691.html (accessed 17 March 2013).

Fong-Sam, Yolanda. 2010. The Mineral Industry of Burma. 2010 Minerals Yearbook: Burma (Advanced Release). U.S. Geological Survey. <http://minerals.usgs.gov/minerals/pubs/country/2010/myb3-2010-bm.pdf> (accessed 17 March 2013).

Food and Agriculture Organization. 1997. Union of Myanmar – Country Report. <http://www.fao.org/docrep/003/W5693E/W5693E00.HTM> (accessed 17 March 2013).

———. 2000. National Forest Programmes – Update. No. 34. Asia and the Pacific. <http://www.fao.org/docrep/003/x6900e/x6900e.pdf> (accessed 17 March 2013).

———. 2007. Brief on National Forest Inventory NFI: Myanmar. Forest Resources Development Service. <http://www.fao.org/docrep/016/ap191e/ap191e.pdf> (accessed 17 March 2013).

———. 2011a. Aquastat: Myanmar. http://www.fao.org/nr/water/aquastat/countries_regions/myanmar/index.stm (accessed 17 March 2013).

———. 2011b. Myanmar and FAO: Achievements and Success Stories. <http://www.fao.org/fileadmin/templates/rap/files/epublications/MyanmaredocFINAL.pdf> (accessed 17 March 2013).

———. 2012a. FAO Technical Cooperation Department Field Programme Activities: Myanmar. <https://extranet.fao.org/fpmis/FPMISReportServlet.jsp?div=&type=countryprofileopen&language=EN&countryId=MM> (accessed 17 March 2013).

- . 2012b. ResourcesSTAT: Myanmar. <http://faostat.fao.org/site/666/default.aspx> (accessed 17 March 2013).
- . n.d. Sustainable Community-based Mangrove Management in Wun Baik Forest Reserve TCP/MYA/3204. http://coin.fao.org/coin-static/cms/media/12/13348263005550/wunbike_forest_info.pdf (accessed 17 March 2013).
- GWP. *See* Global Water Partnership.
- Global Water Partnership. 2008. ToolBox: Integrated Water Resource Management. http://www.gwptoolbox.org/index.php?option=com_case&id=197 (accessed 17 March 2013).
- Gutter, Peter. 2001. Law and Religion in Burma. *Legal Issues on Burma Journal*, No. 8. April. <http://www.ibiblio.org/obl/docs/Legal%20Issues%20on%20Burma%20Journal%208.pdf> (accessed 17 March 2013).
- Htoo, Than. 2003. Greening the Dry Zone. United Nations ESCAP Virtual Conference. http://www.unescap.org/drrpad/vc/conference/bg_mm_14_gdz.htm (accessed 14 January 2013).
- Htun, Thaug. 2012. Land Tenure and Conflict: A Brief Report on the Effects of Burma's Land Reform.
- Hudson-Rodd, Nancy. 2004. Housing, Land and Property Rights in Burma. Centre for Housing Rights and Eviction. October. http://www.ibiblio.org/obl/docs4/Housing_and_Property_Rights_in_Burma.pdf (accessed 17 March 2013).
- IHLCA. *See* Integrated Household Living Conditions Project Technical Unit.
- IRIN. *See* Integrated Regional Information Networks.
- ISF-UTS. *See* Institute for Sustainable Futures, University of Technology Sydney.
- Institute for Sustainable Futures, University of Technology Sydney. 2011. Burma/Myanmar: WASH Sector Brief. http://www.isf.uts.edu.au/pdfs/ISF_BurmaWASH.pdf (accessed 17 March 2013).
- Integrated Household Living Conditions Project Technical Unit. 2011. Integrated Household Living Conditions Survey in Myanmar: 2009–2010: Poverty Profile. June. http://www.mm.undp.org/ihlca/01_Poverty_Profile/PDFs/12%20Poverty%20Profile_Complete%20Report.pdf (accessed 17 March 2013).
- Integrated Regional Information Networks. 2011. Myanmar: Deforestation threatens breadbasket. 14 November. <http://www.irinnews.org/Report/94201/MYANMAR-Deforestation-threatens-breadbasket> (accessed 17 March 2013).
- The Irrawaddy*. 2007. Junta, Private Company Seize Land in Kachin State. 27 July. http://www2.irrawaddy.org/article.php?art_id=8021 (accessed 17 March 2013).
- . 2012. Land Grabs Probe Travels Across Burma. 26 September. <http://www.irrawaddy.org/archives/14968> (accessed 17 March 2013).
- JICA. *See* Japanese International Cooperation Agency.
- Japanese International Cooperation Agency. 2012. Activities in Myanmar. <http://www.jica.go.jp/myanmar/english/activities/activity07.html> (accessed 17 March 2013).
- Katakey, Rakteem. 2012. Myanmar Gets Record Investment After Years of Isolation: Energy. *Bloomberg*. 17 September. <http://www.bloomberg.com/news/2012-09-16/myanmar-gets-record-investment-after-years-of-isolation-energy.html> (accessed 17 March 2013).

- Kean, Thomas. 2012. No protection for taungya farmers in bylaws: experts. *The Myanmar Times*. 22 October. <http://www.mmtimes.com/index.php/national-news/2605-no-protection-for-taungya-farmers-in-bylaws-experts.html> (accessed 17 March 2013).
- Kyaw, D. and J.K. Routray. 2006. Gender and Rural Poverty in Myanmar: a Micro Level Study in the Dry Zone. *Journal of Agriculture and Rural Development in the Tropics and Subtropics*, 107(2):103-114. www.jarts.info/index.php/jarts/article/download/104/95 (accessed 17 March 2013).
- LEI. See Living Earth Institute.
- LIFT. See Livelihoods and Food Security Trust Fund.
- LRAN. See Land Research Action Network.
- Land Research Action Network. 2012. Land Not for Sale in Myanmar. 12 October. <http://www.landaction.org/spip.php?article666> (accessed 17 March 2013).
- Landesa. 2013. Internal report on February 1 – February 14, 2013 field trip to Myanmar. 7 March. On file at Landesa.
- Leckie, Scott and Ezekiel Simperingham. 2009. Housing, Land and Property Rights in Burma: The Current Legal Framework. Displacement Solutions & the HLP Institute. http://displacementsolutions.org/wp-content/uploads/2010/01/Burma_HLP_book.pdf (accessed 17 March 2013).
- Livelihoods and Food Security Trust Fund. 2011. Annual Report 2011. http://www.lift-fund.net/downloads/Annual_Report_2011/LIFT_Annual_Report_2011_ENG_Low_Res.pdf (accessed 17 March 2013).
- Living Earth Institute. 2002. Pesticide Use Limits for Protection of Human Health in Inle Lake (Myanmar) Watershed. <http://www.living-earth.org/inle.html> (accessed 17 March 2013).
- Lwin, Ei Ei Toe. 2011. Villagers Shun Community Forest Plan. *The Myanmar Times*. 31 October–6 November. <http://www.mmtimes.com/2011/news/599/news59904.html> (accessed 17 March 2013).
- Lwin, Ye. 2010. Timber industry body works to counter falling teak output. *The Myanmar Times*. 6 June. <http://mmtimes.com/2010/business/530/busi003.html> (accessed 17 March 2013).
- MAC. See *Mines and Communities*.
- MRGI. See Minority Rights Group International.
- MSU and MDRICESD. See Michigan State University and the Myanmar Development Resource Institute's Center for Economic and Social Development.
- Macdonall, John and Edward Manson (eds). 1907. *Journal of the Society of Comparative Legislation*. Vol. 1006. http://www.archive.org/stream/journalsocietyc02legigoog/journalsocietyc02legigoog_djvu.txt (accessed 17 March 2013).
- Mayer Brown. 2012. Details of Myanmar's New Foreign Investment Law. 12 November. Mayer Brown JSM Legal Update. <http://www.mayerbrown.com/Details-of-Myanmars-New-Foreign-Investment-Law-11-19-2012/> (accessed 17 March 2013).
- McLaughlin, Tim. 2012. Woodside buys a half stake in Myanmar oil and gas exploration block. *The Myanmar*

- Times*. 17 December. <http://www.mmtimes.com/index.php/business/3570-woodside-buys-a-half-stake-in-myanmar-oil-and-gas-exploration-block.html> (accessed 17 March 2013).
- Michigan State University and the Myanmar Development Resource Institute's Center for Economic and Social Development. 2013. A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar. Working paper prepared for USAID Burma. 15 February.
- Minority Rights Group International. 2007. Briefing: Minorities in Burma. <http://www.minorityrights.org/3546/briefing-papers/minorities-in-burma.html> (accessed 17 March 2013).
- Mizzima News*. 2012. Abuses, land grabs ongoing in Burma, says NGO. 1 November. <http://www.mizzima.com/news/regional/8336-abuses-land-grabs-ongoing-in-burma-says-ngo.html> (accessed 17 March 2013).
- The Myanmar Times*. 2012a. Reps ignore ministry on land-grab committee. 30 July–5 August. <http://www.mmtimes.com/2012/news/637/news63701.html> (accessed 17 March 2013).
- . 2012b. Speculators could stall investment, says minister. 10 December. <http://www.mmtimes.com/index.php/business/3511-speculators-could-stall-investment-says-minister.html> (accessed 17 March 2013).
- Myint, Tun. 2007. Environmental Governance in the SPDC's Myanmar. *Myanmar: The State, Community and the Environment*. Skidmore, Monique and Trevor Wilson (eds.), pp.189–217. Asia Pacific Press. <http://eprints.anu.edu.au/wp-content/uploads/2011/03/ch0919.pdf> (accessed 17 March 2013).
- NCEA. *See* National Commission for Environmental Affairs.
- Oberndorf, Robert B. 2012. Legal Review of Recently Enacted Farmland Law and Vacant, Fallow and Virgin Lands Management Law: Improving the Legal & Policy Frameworks Relating to Land Management in Myanmar. Food Security Working Group. November. http://www.forest-trends.org/documents/files/doc_3274.pdf (accessed 17 March 2013).
- . 2013. Telephone interview with Landesa. 8 February.
- Reuters*. 2012. Special Report: As Myanmar reforms, discontent grips countryside. 9 August. <http://www.reuters.com/article/2012/08/09/us-myanmar-farms-idUSBRE87800V20120809> (accessed 17 March 2013).
- SDC. *See* Swiss Agency for Development and Cooperation.
- SNHB. *See* Swedish National Heritage Board.
- Sen, B.K. 2001. Women and Law in Burma. *Legal Issues on Burma Journal*, No. 9. Burma Lawyer's Council. August. http://www.burmalibrary.org/docs/LIOB09-women_and_law_in_burma.htm (accessed 17 March 2013).
- Smith, Matthew. 2007. Environmental Governance of Mining. *Myanmar: The State, Community and the Environment*. Skidmore, Monique and Trevor Wilson (eds.), pp. 218–245. Asia Pacific Press. <http://www.burmalibrary.org/docs4/BU-2006-Matt.Smith.pdf> (accessed 17 March 2013).
- Suwannikij, Supunnabul. 2012. Myanmar Rice Shipments May Double This Year, Group Predicts. *Bloomberg Businessweek*. 2 February. <http://www.businessweek.com/news/2012-02-02/myanmar-rice-shipments-may-double-this-year-group-predicts.html> (accessed 17 March 2013).
- Swedish National Heritage Board. 2011. The UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage. http://www.raa.se/publicerat/br2011_4.pdf (accessed 17 March 2013).

- Swiss Agency for Development and Cooperation. 2013. SDC Myanmar Program. <http://www.swiss-cooperation.admin.ch/mekong/en/Home/Myanmar> (accessed 20 March 2013).
- Tint, Kyaw, Oliver Springate-Baginski and Mehm Ko Ko Gyi. 2011. Community Forestry in Myanmar: Progress & Potentials. Ecosystem Conservation and Community Development Initiative. School of International Development, University of East Anglia, UK. <http://www.burmalibrary.org/docs13/Community+Forestry+in+Myanmar-op75-red.pdf> (accessed 17 March 2013).
- Total. 2012. Total in Myanmar. Total website. <http://burma.total.com/myanmar-en/total-in-myanmar/yadana-project/description-of-the-yadana-project-200162.html> (accessed 17 March 2013).
- Tun, Su Hlaing. 2012. Myanmar government plans log export ban, targets value-added growth. *The Myanmar Times* .5 November. <http://www.mmtimes.com/index.php/national-news/2867-govt-plans-log-export-ban-targets-value-added-growth.html?limitstart=0> (accessed 17 March 2013).
- UN. *See* United Nations.
- UN-Habitat. *See* United Nations Human Settlements Programme.
- UNDP. *See* United Nations Development Programme.
- UNESCAP. *See* United Nations, Economic and Social Commission for Asia and the Pacific.
- UNESCO. *See* United Nations Education, Scientific and Cultural Organization.
- UNSDKP. *See* United Nations Sustainable Development Knowledge Platform.
- USDOS. *See* United States Department of State.
- UOB. *See* Union of Burma.
- USAID. *See* United States Agency for International Development.
- Union of Burma. 1894. Land Acquisition Act. <http://displacementsolutions.org/wp-content/uploads/THE-LAND-ACQUISITION-ACT-1894.pdf> (accessed 17 March 2013).
- . 1992. Forest Law. <http://displacementsolutions.org/wp-content/uploads/THE-FOREST-LAW-1992.pdf> (accessed 17 March 2013).
- . 1994a. Protection of Wildlife and Natural Areas Conservation Law. <http://displacementsolutions.org/wp-content/uploads/THE-PROTECTION-OF-WILDLIFE-AND-CONSERVATION-OF-AND-PROTECTION-OF-NATURAL-AREAS-LAW-1994.pdf> (accessed 17 March 2013).
- . 1994b. Myanmar Mines Law. <http://displacementsolutions.org/wp-content/uploads/THE-MYANMAR-MINES-LAW-1994.pdf> (accessed 17 March 2013).
- . 1996. Myanmar Mines Rules. <http://myanmarmining.150m.com/cover.htm> (accessed 17 March 2013).
- . 2005. Ministry of Forestry. National Action Programme of Myanmar to Combat Desertification in the Context of United Nations Convention to Combat Desertification (UNCCD). August. <http://www.unccd.int/ActionProgrammes/myanmar-eng2005.pdf> (accessed 17 March 2013).
- . 2006a. Conservation of Water Resources and Rivers Law. http://www.burmalibrary.org/docs13/conservation_of_water_resources_and_rivers_law.pdf (accessed 17 March 2013).

- . 2006b. Inter-Ministry Task Force on Water Resources, Ministry of Agriculture and Irrigation. Strategic Plan on Integrated Water Resources Management in Myanmar. <http://www.unescap.org/esd/publications/water/wrs/85/06%20WRS85-Myanmar.pdf> (accessed 17 March 2013).
- . 2008a. Constitution of the Republic of the Union of Myanmar. http://asiapacific.anu.edu.au/newmandala/wp-content/uploads/2009/01/myanmar_constitution-2008-en.pdf (accessed 17 March 2013).
- . 2008b. Response by Myanmar to the recommendations contained in the concluding observations of the Committee following the examination of the combined second and third periodic reports of Myanmar on 3 November 2008. http://www.bayefsky.com/html/myanmar_cedaw_follow_report.php (accessed 17 March 2013).
- . 2012a. Environmental Conservation Law. <http://ebookbrowse.com/myanmar-environmental-conservation-law-english-pdf-d433393243> (accessed 18 March 2013).
- . 2012b. Farmland Law. http://www.burmalibrary.org/docs13/Farmland_Act-en-red.pdf (accessed 17 March 2013).
- . 2012c. Foreign Investment Law. <http://www.elevenmyanmar.com/business/1193-unofficial-english-translation-of-the-new-foreign-investment-law> (accessed 17 March 2013).
- . 2012d. Vacant, Fallow and Virgin Lands Management Law. http://www.burmalibrary.org/docs13/VFVLM_Law-en.pdf (accessed 17 March 2013).
- . 2013a. Ministry of Energy. About the Ministry of Energy. Ministry of Energy website. <http://www.energy.gov.mm/index.php/en/about-moe> (accessed 17 March 2013).
- . 2013b. Ministry of Environmental Conservation and Forestry. Myanmar Timber Enterprise Department. <http://www.myanmar-teak.gov.mm/mtimber.html> (accessed 17 March 2013).
- . 2013c. Ministry of Mines. Department of Geological Survey and Mineral Exploration. <http://www.mining.com.mm/7.DGSE/1.DGSE/Details.asp?submenuID=9&sid=107> (accessed 17 March 2013).
- . 2013d. Ministry of Mines. Department of Mines. http://www.mining.com.mm/imis/Mines/d_mines.asp (accessed 17 March 2013).
- . 2013e. Ministry of Mines. Government Policy and Legislation on Investment in Minerals. Ministry of Mines website. <http://www.mining.com.mm/imis/Mines/pltim.asp> (accessed 17 March 2013).
- . 2013f. Ministry of Mines. Mineral Resources. Ministry of Mines website. http://www.mining.com.mm/imis/Mines/mineral_resources.asp (accessed 17 March 2013).
- United Nations. 1994. United Nations Convention to Combat Desertification in those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa. http://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-10&chapter=27&lang=en (accessed 17 March 2013).
- United Nations Development Programme. n.d. Myanmar Agricultural Sector Review Investment Strategy Volume 1: Sector Review. http://www.mm.undp.org/UNDP_Publication_PDF/ASR%20Vol.1%20Sector%20Review.pdf (accessed 17 March 2013).
- United Nations Economic and Social Commission for Asia and the Pacific. 2006. Good Practices on Strategic Planning And Management of Water Resources in Asia and the Pacific. <http://www.unescap.org/esd/Energy-Security-and-Water-Resources/water/publications/WRS85-SPM-goodprac1.pdf> (accessed 17 March 2013).

- United Nations Education, Scientific and Cultural Organization. 2012. States Parties: Ratification Status. <http://whc.unesco.org/en/statesparties/> (accessed 17 March 2013).
- United Nations Human Settlements Programme. Habitat et al. n.d. Guidance Note on Land Issues: Myanmar. http://www.burmalibrary.org/docs12/Guidance_Note_on_Land_Issues-Myanmar.pdf (accessed 17 March 2013).
- United Nations Sustainable Development Knowledge Platform. n.d. Water, Sanitation and Hygiene (WASH) for all Initiative. <http://sustainabledevelopment.un.org/index.php?page=view&type=1006&menu=1348&nr=1665> (accessed 17 March 2013).
- United States Agency for International Development. 2012a. Burma, Prosperity: Food Security. Fact Sheet. http://transition.usaid.gov/locations/asia/countries/burma/fact_sheets/USAID_Burma_food_security_fact_sheet.pdf (accessed 17 March 2013).
- . 2012b. President Obama Announces US-Burma Partnership for Democracy, Peace & Prosperity. Press Release. 19 November. <http://www.usaid.gov/news-information/press-releases/president-obama-announces-us-burma-partnership-democracy-peace> (accessed 17 March 2013).
- United States Department of State. 2001. Country Report on Human Rights Practices for 2011: Myanmar. Bureau of Democracy, Human Rights and Labor, United States Department of State. <http://www.state.gov/j/drl/rls/hrrpt/humanrightsreport/index.htm#wrapper> (accessed 17 March 2013).
- WEPA. *See* Water Environmental Partnership in Asia.
- WHO. *See* World Health Organization.
- WLB. *See* Women's League of Burma.
- WSSCC. *See* Water Supply and Sanitation Collaborative Council.
- Wallop, Clementine. Myanmar Finalizing New Mining Law. 2012. *The Wall Street Journal*. 4 December. <http://online.wsj.com/article/SB10001424127887323401904578158750073509488.html> (accessed 17 March 2013).
- Water Environmental Partnership in Asia. 2008. Current State of Water in Myanmar. Ministry of Agriculture and Irrigation, Irrigation Department. <http://www.wepa-db.net/pdf/0810forum/presentation14.pdf> (accessed 17 March 2013)
- Water Supply and Sanitation Collaborative Council. 2012. Countries, Asia, Myanmar. <http://www.wsscc.org/countries/asia/myanmar/wash-coalition-overview> (accessed 17 March 2013).
- Win, Nyunt and Aye Lei Tun. 2007. FAO Upgrades Forest Institute. *The Myanmar Times*. 23–29 July. <http://www.mmtimes.com/no376/n010.htm> (accessed 17 March 2013).
- Women's League of Burma. 2008. CEDAW Shadow Report: Burma 2008. http://www2.ohchr.org/english/bodies/cedaw/docs/ngos/Women_Burma42.pdf (accessed 17 March 2013).
- Woods, Kevin. 2011. Emerging Agribusiness Trends in Myanmar: An Overview. Transnational Institute, Southeast Asia.
- Woods, Kevin and Kerstin Canby. 2011. Baseline Study 4, Myanmar: Overview of Forest Law Enforcement, Governance and Trade. European Forestry Institute. Forest Trends. http://www.euflegt.efi.int/files/attachments/euflegt/baseline_study_4_myanmar_final.pdf (accessed 17 March 2013).
- World Bank. 2009. Development Indicators: Myanmar. <http://data.worldbank.org/country/myanmar> (accessed 17

March 2013).

- . 2010. Development Indicators: Myanmar. <http://data.worldbank.org/country/myanmar> (accessed 17 March 2013).
- . 2011a. Development Indicators: Myanmar. <http://data.worldbank.org/country/myanmar> (accessed 17 March 2013).
- . 2011b. EITI-MDTF. Zambia Increases Capacity of Civil Society to Further Implement EITI. <http://web.worldbank.org/WBSITE/EXTERNAL/TOPICS/EXTOGMC/EXTTEXTINDTRAINI/0,,menuPK:3634777~pagePK:64168427~piPK:64168435~theSitePK:3634715,00.html> (accessed 17 March 2013).
- . 2012a. Development Indicators: Myanmar. <http://data.worldbank.org/country/myanmar> (accessed 17 March 2013).
- . 2012c. World Bank Group Steps Up Support for Reforms in Myanmar with New Interim Strategy to Improve People's Lives. World Bank press release. 1 November. <http://www.worldbank.org/en/news/2012/11/01/world-bank-group-steps-up-support-reforms-myanmar-new-interim-strategy-improve-lives> (accessed 17 March 2013).

World Health Organization. n.d. Health Policy, Plans and Legislation. [http://www.whomyanmar.org/files/Health in Myanmar 2006/04 Health Policy Plans and Legislation edited.pdf](http://www.whomyanmar.org/files/Health%20in%20Myanmar%202006/04%20Health%20Policy%20Plans%20and%20Legislation%20edited.pdf) (accessed 19 March 2013).

Zaw, Htet Naing and Aye Kyawt Khaing. 2013. Military Involved in Massive Land Grabs: Parliamentary Report. *The Irrawaddy*. 5 March. <http://www.irrawaddy.org/archives/28506> (accessed 17 March 2013).