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USAID COUNTRY PROFILE

PROPERTY RIGHTS AND RESOURCE GOVERNANCE

RWANDA

OVERVIEW

Rwanda is a small, landlocked, densely populated country with diverse terrain, an abundance of water resources, and one of the world's biodiversity hotspots. The country has made numerous economic policy and regulatory reforms promoting private sector growth, thus helping it to achieve macroeconomic stability and rapid annual GDP growth of 7.5 % from 2005 to 2009. Despite its broad-based economic progress, 56 % of Rwandans still live below the poverty line.

Access to agricultural land is severely limited, and most farmers cultivate small rainfed plots. Eighty percent of Rwanda's labor force works in agriculture, but produces only 36% of GDP. Average landholdings are only 0.3 hectares per household. Furthermore, in spite of formal laws supporting women's rights and the equality of men and women, women's access to agricultural land remains seriously restricted in practice. Finally, after the genocide and flight of 30% of its population, Rwanda faced the additional challenge of resettling millions of refugees and internally displaced people on limited land for which there were often multiple claims.

In order to address its land scarcity and low productivity in agriculture, Rwanda instituted comprehensive land-tenure reform and a systematic land registration program along with a Crop Intensification Programme. Participation in the program requires community agreement to land consolidation and resettlement. While the program has shown some early success, its continued application in hilly and marshy areas may prove more difficult.

Rwanda's impressive natural resources face growing pressures. Only about half of Rwanda's population has reliable access to safe drinking water in spite of abundant water resources. Rwanda is also at the center of the most biologically diverse region on the African continent. Finally, the country's forest resources are threatened by the expansion of agricultural land and the extensive use of fuelwood.

Rwanda's small mineral sector is attracting increasing foreign investment, and the government is supporting the integration of the country's artisanal and small-scale miners into the formal sector.

KEY ISSUES AND INTERVENTION CONSTRAINTS

- **Support for land registration.** The government is committed to recording and registering rights to all land in Rwanda in a relatively short time-frame, and the national program is underway. While there are procedures to ensure that the rights of those most vulnerable to land-tenure reform are adequately protected, some ambiguities remain. For instance, while the inheritance law is quite progressive, the provisions governing marital property rights are unclear and open to interpretation, and there is no evidence of a commitment from the government to ensure the official interpretation - which impacts registration of land - is one that protects the rights of women. In addition, the process relies in large measure on the *abunzi* system to resolve disputes that arise during the process of formalization. Some studies have found the *abunzi* to be dedicated but lacking sufficient training. They are also uncompensated, threatening the sustainability of the system. *USAID and other donors could assist the government by developing and implementing a training program for the "abunzi" system.*

- **Evaluation of land consolidation.** The government's Crop Intensification Programme includes a land consolidation component. The component is billed as voluntary but consolidation is a condition of the program benefits. News reports suggest some communities have balked at consolidation and resettlement, and the 2010 evaluation also concludes that mechanized farming may not be feasible in hilly and mountainous areas, suggesting consolidation may also not be appropriate. Some farmers and observers have also expressed concern that while land consolidation and attendant mono-cropping could increase output and raise land productivity, most of the benefits may at least initially be realized by the wealthier farmers who can devote their land to cash crops. The poorer farmers who abandon traditional methods of managing risk (and may have less reliable access to essential inputs and functioning markets) may increase their vulnerability to food insecurity and the effects of environmental change. *The land-consolidation aspect of the Crop Intensification Programme was not subject to specific scrutiny in the 2010 evaluation of the program. To assist the government in refining the current program to adapt to the variety of geographical and land-use conditions, a range of farmer household circumstances and specific community concerns, donors should provide support for an assessment focused on the procedures used for consolidation of the initial 254,000 hectares of land, the impact on farmers, and lessons learned.*
- **Legal framework for forest rights.** Rwanda's human population depends on the country's forests for fuelwood, land and forest products, while an extraordinary diversity of plants and animals depends on the forests for habitat. For years, Rwanda's legal framework for forestland rights lacked the necessary directives to make forest legislation – and especially the enforcement provisions – operational. The 2006 effort to support development of the National Forest Authority (NAFA) helped to fill a gap in institutional and administrative authority. However, NAFA now faces the significant challenge of developing its institutional capacity while enforcing forest laws under an increasingly dated legal framework. *USAID could draw on its engagement with the forestry sector through CARPE and its experience with development of legal frameworks to help support NAFA's development and its capacity to meet its objectives, including enforcement of existing laws, and also assist the government in updating the forest laws and regulations as indicated.*
- **Artisanal mining rights.** USAID and the US State Department partnered on the Property Rights and Artisanal Diamond Development (PRADD) Pilot Project in the Central African Republic and Guinea. PRADD was designed to strengthen property rights and to demonstrate, in selected pilot areas, how reinforced property rights would increase local benefits from production and marketing of alluvial diamonds. *USAID could draw upon its experience with PRADD to assist the Rwandan government in its efforts to support its small-scale and artisanal miners.*
- **Community-based natural resource governance.** While Rwanda has abundant water resources, only approximately half the population has access to safe water. About 80% of disease is traced to the lack of adequate water treatment standards, facilities, and functioning infrastructure for water delivery. The government has targeted the sector for sustained support and is in the process of creating infrastructure for reliable urban water delivery that reaches informal settlements. In rural areas, government efforts are focused on local infrastructure-development and rural water distribution and management, including the creation of water user associations. In both urban and rural areas, the government has identified the need to include women in management of the water resources. *USAID and other donors with experience in creating community-based resource management programs in sub-Saharan Africa could help the government create decentralized, community-based natural-resource governance models. The models should include components designed to ensure active and effective community participation and benefit-sharing among all community members, including women and marginalized groups.*

FOR MORE RECENT LITERATURE:

<http://usaidlandtenure.net/rwanda>

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

SUMMARY

Rwanda is a small country with diverse terrain, an abundance of water resources, and one of world's biodiversity hotspots. High population density and a hilly terrain punctuated by steep slopes and marshland combine to limit access to agricultural land. A history of civil war and genocide worsened conditions. Rwanda has experienced the most dramatic refugee returns in Africa. In 1994, an estimated 1million people (more than 10% of the population) were massacred. Thirty percent of the population temporarily fled the country, joining the diaspora that had occurred 30 years earlier. Within a period of three years, Rwanda was faced with the need to resettle millions of refugees and internally displaced people on limited land for which there were often multiple claims of rights.

The majority of Rwandans rely on agriculture for their livelihoods, and despite the country's economic growth in recent years, most

farmers cultivate small rainfed plots on a subsistence basis. The waves of population movement created uncertainty and tenure insecurity, exacerbating already challenging cultivation conditions.

The Rwandan government was keenly aware of the importance of land access and secure tenure to the peaceful reintegration of returnees, demobilized soldiers and former prisoners. Particular groups, such as women-headed households and genocide survivors, require proactive efforts to ensure their rights are protected. Rwanda's Land Tenure Reform Programme initiated a systematic land registration program designed to promote land access and address tenure insecurity. As of mid-2010, the program had adjudicated rights to and registered about 17% of the country's land. The government has also undertaken a Crop Intensification Programme in an attempt to improve agricultural productivity. The program is conditioned on community agreement to land consolidation and resettlement and mandates crop-selection based on region. The program has shown some early success, but the extent of its application countrywide, particularly in hilly and marshy areas, is unknown.

Despite Rwanda's significant water resources, only about half its population has reliable access to safe drinking water. Rwanda adopted a new water policy in 2004 that identified a number of significant challenges in the sector, and has undertaken several significant projects targeting those challenges, including constructing infrastructure for water-delivery in rural and urban areas, supporting rainwater harvesting and investing in irrigation.

Rwanda is located at the center of the Albertine Rift, the most biologically diverse region on the African continent. The country has significant forest resources, threatened by the expansion of agricultural land. The population is highly dependent on fuelwood for heating and cooking.

Rwanda's mineral sector is small, but accounts for 30–40% of export earnings. The country privatized the sector in 2007–2008 and adopted a new mining law and policy in 2008–2009. Foreign investment in the sector is

BOX 1. MACRO INDICATORS

	Year	Score
Population, total	2008	9,720,694
Population ages 0-14: 15-64: 65+ (% of total)	2008	42.2: 55.3: 2.5
Population growth (annual %)	2008	2.8
Rural population (% of total population)	2008	81.7
Population density (people per sq. km)	2008	394.0
Literacy rate, adult total (% of people ages 15 and above)	2008...	70
Land area: Surface area (sq. km)	2008	24,670: 26,340
Arable land (% of land area)	2005	48.6
Agricultural land (% of land area)	2005	78.6
Permanent cropland (% of land area)	2005	11.1
Irrigated land (% of cropland)	2003	0.6
Forest area (% of land area)	2005	19.5
Nationally protected areas (% of total land area)	2006	8.1
Renewable internal freshwater resources per capita (cubic meters)	2007	1,004.8
Annual freshwater withdrawals, agriculture: domestic: industry (% of total freshwater withdrawal)	2007	68.0: 24.0: 8.0
Crop production index (1999-2001 = 100)	2005	120.0
Livestock production index (1999-2001 = 100)	2005	126.5
GDP (current US \$)	2008	4,456,860,180
GDP growth (annual %)	2008	11.2
Agriculture: industry: manufacturing: services, value added (% of GDP)	2008	34.6: 12.3: 5.2: 53.1
Ores and metals exports: imports (% of merchandise exports: imports)	2007	46.3: 2.8
Aid (% of GNI)	2007	21.0

Source: World Bank, 2009

increasing, and the government is supporting the integration of the country's artisanal and small-scale miners into the formal sector.

Women constitute 54% of the Rwandan population, head about 20% of households and are strongly represented in the parliament and government at both the national and local level. Many formal laws drafted in recent years contain express statements of equality of women and men and support for women's rights to natural resources and participation in governance bodies. However, in practice and especially in rural areas, paternalistic principles tend to control women's rights to access and control agricultural land.

I. LAND

LAND USE

Rwanda is a small landlocked country in the Great Lakes region of Central Africa. The country has a land area of 24.7 thousand square kilometers, with an average altitude of 1250 meters. The country's terrain rises from lowland plains and swamps in the east to central uplands and rolling hills that meet a range of mountains crossing the country from the northwest to southeast. The divide separating the Congo and Nile drainage system has an average elevation of 2700 meters and slopes sharply to the west to meet Lake Kivu and the Ruzizi River Valley. Seventy-nine percent of Rwanda's land is classified as agricultural; 11% of total land is permanent cropland, of which only 0.6% is irrigated. Six percent of the land is marshland, and about 20% of total land is classified as forest. Eight percent of total land area is in protected areas (World Bank 2009a; FAO 2009; USDOS 2010).

Rwanda has one of the fastest-growing populations in Africa and, with a 2008 population of 9.7 million people, is one of the most densely populated countries on the continent. In 2008, 82% of the population lived in rural areas, although the percentage of urban residents is growing: between 1990 and 2010 the country's urban population grew from about 5% of the total population to about 18%. Rwanda's 2008 GDP was US \$4.4 billion, of which the agricultural sector made up 35%, industry 12% and services 53%. Fifty-seven percent of the population is poor, and poverty is concentrated in the rural areas; 62% of the rural population is poor and 40% extremely poor. While the percentage of the population living in poverty decreased from 60% in 2001 to 57% in 2006, the absolute numbers of Rwandese in poverty rose from 4.8 million to 5.4 million. Inequality also increased. The Gini coefficient was 0.47 in 2001 and 0.51 in 2006. In rural areas, agricultural entrepreneurs are benefiting from investments in agriculture, while the majority of Rwandan peasants face increasingly difficult living conditions (REMA 2009a; UN-Habitat 2010; World Bank 2009a; UN-Habitat 2009; Ansoms 2009).

Most rural households are smallholder subsistence farmers growing beans, maize, Irish potatoes and sweet potatoes in higher altitudes, and sorghum, banana, cassava and beans at lower altitudes. Most cultivation is on rainfed land; less than 1% of cropland is irrigated. Most smallholders keep livestock, primarily for manure, although livestock is also used for meat and dairy products. Some smallholders cultivate cash crops on all or a portion of their land. Primary cash crops include tea, coffee and banana, and cultivation of crops for export is increasing. Some commercial enterprises, such as the tea industry, engage local farmers through out-grower schemes. Local farmers also form cooperatives that purchase and cultivate tea bushes on state land (FAO 2009; GOR 2007; REMA 2009a).

Agricultural productivity is constrained by geography, soil degradation and erosion and limited use of inputs. Crop residues, which are left on the fields, help the soil retain moisture and replenish nutrients and are collected and used for fuel in many areas. The pressure on land has pushed cultivation into marginal land and unstable areas. Expansion of cultivation into higher altitudes has contributed to soil erosion, which affects half the country's land (FAO 2009; Wong et al. 2005; Musahara 2006; World Bank 2009a).

In the late 1990s, Rwanda experienced a 17% urban growth rate, and the number of informal settlements rose. In 2001, an estimated 88% of urban residents lived in informal settlements. Seventy-two percent of residents of Kigali's informal settlements were unemployed, and nearly 90% of the homes were constructed of cardboard, plywood and other substandard materials. The pace of urban growth slowed to an estimated 4% between 2005 and 2010, and conditions in informal settlements have been improving in many areas. In the period from 2000 to 2010, an estimated 20% of residents have moved from slum conditions. The urban population is expected to continue to rise to nearly 30% by 2030 (UN-Habitat 2010; UN-Habitat 2009; GOR Urban Housing Policy 2008c).

LAND DISTRIBUTION

With a total land area slightly smaller than the state of Maryland and a population of almost 10 million people, Rwanda has one of the highest population densities in the world (averaging 397 inhabitants/square kilometer). Most Rwandans are members of one of three ethnic groups (Hutu, Tutsi and Abatwa), but in an effort to support post-genocide unification, the government does not collect information on ethnicity. Many women were widowed during the war, and there was a steep rise in the number of women-headed households, many of which had to care for orphaned children of family members. Other marginalized groups include the *abasigajwe inyuma n'amateka* (known as the Abatwa or Twa), genocide survivors, orphans and legally vulnerable women (e.g., polygamous wives). Many of those in marginalized groups are landless and without means of income-generation. For example, an estimated 90% of the Twa in Rwanda are landless (GOR 2007; Musahara 2006; André and Platteau 2005).

Roughly 70% of the country's land is used for agriculture, with 1.6 million hectares under cultivation and 0.47 million hectares permanent pasture. The country has 165,000 hectares of marshland, of which about 57% is cultivated. The trend in the last decades has been the expansion of cultivated land and loss of fallow, pasture, forestland and woodlots (REMA 2009a).

Rural land distribution is skewed in Rwanda. The smallest group (about 24% of all households) controls roughly 70% of the country's agricultural land, with average landholding of about 2 hectares. Many of the landholders in this category are urban elites, and many of the holdings are in excess of 20 hectares. The second-smallest group (30% of households) controls 25% of agricultural land and has average landholdings of 0.6 hectares. The largest group (36% of households) controls only 6% of the country's agricultural land. Households in this category have average holdings of 0.11 hectares. This group includes the 11% of all households that are landless. Most landless households are poor and marginalized groups, although the figure includes purely urban dwellers without rural land (GOR 2007).

The average household's landholding is divided among 4–5 small plots of land, often in different locations that may be some distance apart. Farmers in some areas report valuing the flexibility in holding several plots because they can diversify their production in the different locations and have some protection against environmental damage and shocks that may impact plots in one area but not others. Land legislation and agricultural sector policy supports the consolidation of land: the Organic Land Law provides that agricultural plots cannot be reduced in size to less than 1 hectare, and parcels held by a single landholder must be consolidated under one title in the registration process. Participation in the Ministry of Agriculture and Animal Resources (MINAGRI)'s Crop Intensification Programme requires consolidated land, and communities wishing to participate must voluntarily agree to land consolidation and resettlement (GOR 2007; IFDC 2010; GOR Organic Land Law 2005).

LEGAL FRAMEWORK

The Constitution of the Republic of Rwanda recognizes state and private property and grants every citizen the right to private property, whether held individually or in association with others. The state has the authority to grant rights to land, including private ownership rights, and to establish laws governing land acquisition, transfer and use. State land is classified as public or private; public land cannot be alienated (GOR Constitution 2003).

The National Land Policy of 2004 provides that: (1) all Rwandans will enjoy the same rights of access to land; (2) all land shall be registered, and land shall be alienable; (3) consolidation of household plots is encouraged; and (4) land administration shall be based on a title-deeds registration system (GOR Land Policy 2004a).

Rwanda's 2005 Organic Land Law (Organic Law Determining the Use and Management of Land in Rwanda) provides that land is the domain of past, present and future Rwandans. The State is responsible for managing state land in the public interest and with the objective of supporting economic development and social welfare. The Organic Land Law recognizes rights to land obtained under customary law as equivalent to rights obtained under formal law, requires land registration and sets minimum plot sizes for agricultural land (GOR Land Law 2005).

A series of orders and directives have been passed to clarify and implement various aspects of the Organic Land Law (a total of more than 20 are contemplated). Some of the most important enacted to date include: (1) Order No. 53/01 of 12/10/06 determining the Structure, the Powers and the Functioning of the Office of the Registrar of Land Titles; (2) Order No. 30/01 of 29/06/2007 determining the Exact Number of Years of Land Lease, which

sets out the length of leases available for certain types of land; and (3) Order No. 002/2008 of 1/4/08, which defines Modalities of Land Registration and provides for two types of certificates of land rights – the Certificate of Registration of Full Title and a Certificate of Registration of Emphyteutic Lease. Full title is available for private land of individuals, state land, the City of Kigali, district land and land held by parastatals. Emphyteutic leases resemble concessions: they are generally granted for long terms and require prescribed land uses and development (GOR Land Registration Order 2008d; GOR Land Lease Order 2007c; GOR Order on Registrar of Land Titles 2006b).

TENURE TYPES

BOX 2. LAND TENURE INDICATORS	
	Score
<u>Millennium Challenge Corporation Scorebook, 2009</u>	
— Land Rights and Access (Range 0–1; 1=best)	0.648
<u>International Property Rights Index, 2009</u>	
— Physical Property Rights Score (Range: 0–10; 0=worst)	...
<u>World Economic Forum's Global Competitiveness Index, 2008-2009</u>	
— Property Rights (Range: 1–7; 1=poorly defined/not protected by law)	...
<u>World Economic Forum's Global Competitiveness Index</u>	
— Ease of Access to Loans (Range: 1–7; 1=impossible)	...
<u>International Fund for Agricultural Development, Rural Poverty Report, 2001</u>	
— Gini Concentration of Holdings, 1981-1990 (Range: 0–1; 0=equal distribution)	...
<u>International Fund for Agricultural Development, Rural Sector Performance Assessment, 2007</u>	
— Access to Land, 2007 (Range: 1-6; 1=unsatisfactory access)	4.0
<u>Food and Agricultural Organization: Holdings by Tenure of Holdings</u>	
— Total Number of all Agricultural Holdings, Year	...
— Total Area (hectares) of all Agricultural Holdings, Year	...
— 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, 2009</u>	
— Registering Property-Overall World Ranking (Range: 1–181; 1=Best)	139
<u>World Bank Group, World Development Indicators, 2009</u>	
— Registering Property-Number of Procedures	4
— Registering Property-Days Required	315
<u>World Bank Group, World Development Indicators, 1998</u>	
— Percentage of Population with Secure Tenure	...
<u>Heritage Foundation and Wall Street Journal, 2009</u>	
— Index of Economic Freedom-Property Rights (Range 0-100; 0=no private property)	30
<u>Economic Freedom of the World Index, 2008 (2006 data)</u>	
— Legal Structure and Security of Property Rights (Range 0-10; 0=lowest degree of economic freedom)	3.04

The 2005 Organic Land Law classifies land as either individual land or state land. Individual (i.e., private) land can be obtained under principles of customary law or under formal law. State land includes: (1) state land in the public domain (e.g., lake shores, national parks, roads, tourist sites), which generally cannot be alienated; (2) state land in the private domain of the state (e.g., vacant land, swamps, plantations, expropriated land), which can be alienated; and (3) district, town and municipal land, which is controlled by the local government (GOR Organic Land Law 2005).

The formal law recognizes the following tenure types, some of which were issued under prior land laws yet continue in effect:

Ownership. Individuals, entities, and the state can own land in Rwanda. Landowners have the right to exclusive use of their land, and land can be mortgaged and freely transferred. Ownership rights can be obtained under customary law or formal law but must be registered to be recognized under the Organic Land Law. Ownership rights are evidenced by a Certificate of Full Title. Certificates of Full Title can be obtained for the

private land of individuals, state land, the City of Kigali, district land, and land held by parastatals. Land under a Certificate of Full Title can be subject to an emphyteutic lease; a notation of the leasehold is made on the certificate (GOR Land Registration Order 2008d; GOR Organic Land Law 2005).

Contrats de Location. These are granted for undeveloped land, usually in urban and peri-urban areas. The *contrat de location* is granted after a deed plan (*fiche cadastre*) is issued for a parcel but before land is developed. The *contrat* is available for an initial term of three years and can be extended in 3- and 4-year increments up to a total of 10 years. The landholder must pay rent for the entire 10-year term (GOR Land Lease Order 2007c).

Certificat d'Enregistrement d'une Propriété Foncière. Also known as *Titre de Propriété*, this certificate is the equivalent of freehold title and is available after land is developed in accordance with a *contrat de location* (GOR 2007).

Emphyteutic Leases (*contrats d'emphythéose*) are long-term leases available to the general public, requiring the lessee to use and develop the land in accordance with its classification or zoning requirements. Emphyteutic leases have primarily been used for agricultural land. Leases must be in writing and are available for up to 99 years on individual land and up to 49 years on private state land. Permissible land-uses include agriculture, tourism and forestry. The Land Registration Order limits the availability of Certificates of Emphyteutic Lease to unregistered land in the private domain of the state, City of Kigali, districts, or parastatals. The country's systematic land registration program plans to issue Certificates of Emphyteutic Lease to land occupants who successfully assert rights to the land and plan to use and develop the land in accordance with its classification (GOR Land Registration Order 2008d; GOR 2007).

Contrats de Cession Gratuite are granted to NGOs, churches, and other nonprofit associations for donated or sanctioned land. The *contrat de cession gratuite* has no limit on its duration (GOR 2007).

Acte de Notoriété is an occupancy permit that is widely held in urban areas. The *acte de notoriété* has no fixed term, but annual rent must be paid and a 6% tax on value of the land must be paid to the government on registration. The *acte de notoriété* was issued by the district mayor and was preliminary to obtaining a long term lease. There is no central registration of the *acte de notoriété* and most are not registered (GOR 2007).

Paysannat Land is land allocated by the government under a condition, such as to be used for tea plantations. *Paysannat land* was mostly given in the 1960s and 1970s, with rights continuing so long as the conditions of use are fulfilled. There is no central registration of *paysannat land* (GOR 2007; GOR Land Leasing Law 2007).

The majority of land in Rwanda is held under customary law and has not yet been formalized under the Organic Land Law. Customary law recognizes ownership, leaseholds and borrowed land (Musahara 2006; GOR 2007; GOR 2010c).

SECURING LAND RIGHTS

Most rural land in Rwanda is accessed through inheritance and leasing, and most urban land is accessed through purchase and leasing. Other methods of obtaining land include government land allocations, borrowing, gift, first clearance and informal occupation (GOR 2007; GOR Land Registration Order 2008; GOR et al. 2008).

At various times since the end of the genocide, the Rwandan government has allocated land to returning refugees and displaced people in an effort to provide people with land for farming and prevent further conflict. Beginning in 1994, refugees (some of whom left the country in the 1950s and 1960s) returned to the country and sought to reclaim their land, which may have been occupied by others for years, if not decades. In order to accommodate returning refugees, the government allocated land in game reserves and parks and created resettlement villages (*umudugudu*) in some areas. The government also instituted programs for land-sharing in some areas, which required existing occupants to give up a portion of their land to returnees. The compulsory villagization and land-sharing programs were often conducted without due process or payment of fair compensation, required settlement in areas without services or adequate farmland and resulted in increased insecurity and tension (GOR 2007; Bruce 2007).

In an effort to address continuing insecurity regarding land rights, the 2005 Organic Land Law and its implementing decrees require registration of all land. As of 2007 (prior to the initiation of countrywide systematic registration), rights to about 80,000 parcels held under *titre propriete*, *contrats de cession gratuite*, *acte de notoriété*, and *paysannat land* were registered. Most registered land is urban parcels, large commercial landholdings and land held by churches. As part of its National Land Tenure Reform Programme, the government has begun the process of transferring rights registered under previous laws and demarcating and registering unregistered land under a systematic registration plan. The systematic registration process is proceeding in all 30 districts but at a slower pace than hoped. As of June 2010, 1.5 million parcels (19% of the country's land) had been demarcated and adjudicated and were awaiting registration (GOR 2007; GOR et al. 2008; GOR 2010c).

As systematic land registration proceeds, landholders can also register their land on an individual basis. The voluntary registration process requires four steps: (1) request a certificate from the Land Registry (*Service des Domaines*) confirming the identity of the property owner and the title status; (2) obtain a notary from the Ministry of Justice to authenticate the sale agreement; (3) check for tax clearance; and (4) finalize registration at the

Registrar of Real Estate (*Conservateur du Titre Foncier*) and obtain a deed. The process takes an average of 60 days and costs 0.5% of the land value (World Bank 2010; GOR 2007; GOR et al. 2008).

Joint ownership of land by married couples and joint registration of marital property is presumed by the Organic Land Law, its implementing decree and the Family Code (GOR Organic Land Law 2005; GOR Order on Lease Procedures 2008).

The growing population, competing claims to land, government expropriations, history of conflict and land degradation have put pressure on the customary land tenure system. While residents continue to rely on the customary land tenure system to support and enforce their land rights, surveys conducted in the course of development of the National Land Reform Programme report that most landholders are highly motivated to formalize their rights under the new legal framework (GOR 2007; GOR et al. 2008).

INTRA-HOUSEHOLD RIGHTS TO LAND AND GENDER DIFFERENCES

Rwanda’s 2003 Constitution states that women and men have equal rights and prohibits discrimination on the basis of sex. The Organic Land Law, which in its English translation grants husbands and wives equal rights to land, has been interpreted as consistent with the Constitution: women and men have equal rights to property. Under formal law, women have the ability to purchase and hold property (GOR Constitution 2003; GOR Organic Land Law 2005; Scalise and Giovarelli 2010).

The Constitution recognizes only monogamous marriages between a man and woman and registered under civil law. Law No. 22/99 (Law to Supplement Book One of the Civil Code and to Institute Part Five regarding Matrimonial Regimes, Liberalities and Successions) governs marital property and inheritance rights. Echoing the Constitution, Law 22/99 only recognizes marital property rights arising out of civil marriages; consensual unions and

polygamous marriages are not recognized. Under Law 22/99, couples in registered marriages can elect one of three marital property regimes: (1) a community property regime in which property is held jointly; (2) a limited community of acquests in which the couple designates property acquired during marriage as either community or separate property; or (3) a separate property regime. The selected regime governs the couples’ rights to property in the event of death, divorce, or separation. If, for example, a couple in a community property regime divorces, each spouse will be entitled to one-half of the property. If the couple does not make an election, a community property regime is presumed, and the community property regime is the most commonly elected (GOR Law 22/99 1999; Brown and Uvuza 2006).

Law No. 22/99 includes some additional protections for land. In the event of the husband’s death, the law provides the widow with usufructory rights to the marital house, regardless of the property regime selected. The law also states that the written consent of both spouses is required for land transactions (GOR Law 22/99 1999; Brown and Uvuza 2006).

Law No. 22/99 also governs inheritance rights and provides that children have the right to inherit their parents’ property equally and without regard to gender. If land cannot be partitioned because it would violate the 1 hectare minimal holding requirement under the Organic Land Law, an heir can be compensated with the monetary value of the land share. The laws do not direct how landowners shall compensate all interests in the event that the land cannot be partitioned (GOR Law 22/99 1999; Organic Land Law 2005; GOR 2007).

Despite the constitutional mandates of equality and provisions in the formal laws supporting women’s land rights, customary law and traditional practices tend to govern women’s land rights. Most women are unfamiliar with their rights under formal law. In many cases, women are not in registered marriages and thus outside the protection of the formal law. Most women are not landowners. While women may inherit some land from their families, it is often less in extent and quality than that received by their brothers. In addition, the minimum plot-

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)		...
— Women’s Access to Property other than Land (Range: 0-1; 0=no discrimination)		...
— Women’s Access to Bank Loans (Range: 0-1; 0=no discrimination)		...
<u>FAO: Holders of Land Classified by Sex, 1993</u>		
— Percentage of Female Holders of Agricultural Land		...

size requirement prohibits partition of a majority of rural plots. Most families lack the resources to compensate heirs for their share of un-partitioned land, and heirs may jointly farm a plot in order to realize the benefit of the inheritance. However, because many women move to their husbands' villages when they are married, they are less likely than male heirs to continue to receive the benefits of a jointly held plot. Women often feel pressure to relinquish their rights to their brothers, especially if they move to their husbands' villages (Scalise and Giovarelli 2010; Brown and Uvuza 2006; GOR 2007; GOR Law 22/99 1999).

Most women have use-rights to land, either through their natal families or their husbands. Their rights to the land are dependent on the continuation of the relationship. If a woman is divorced or widowed, she may be denied further access to the land she farmed during the marriage. In some cases she may return to her natal family. Her ability to access land will depend on her relationship with her family and their ability to provide for her (Scalise and Giovarelli 2010; Brown and Uvuza 2006; GOR 2007).

LAND ADMINISTRATION AND INSTITUTIONS

As of December 2009, the Ministry of the Environment and Lands (MINELA) has primary responsibility for land matters. MINELA's authority includes: (1) drafting legislation and establishing norms for rational exploitation and efficient land management; (2) coordinating stakeholders' activities and mobilizing necessary resources for land management and land-use planning; and (3) reinforcing capacities of decentralized entities in matters of land management (GOR 2010a).

The National Land Centre, which is housed within MINELA, is responsible for: (1) establishing mechanisms that guarantee land-tenure security to land-users on a non-discriminatory basis; (2) promoting the rational use of land in Rwanda; (3) establishing a legal and institutional framework; and (4) building institutional capacity. The Centre has authority over the district land commissions, the sector land committees and the cell land committees. The National Land Centre is the site of the National Registrar for land and is responsible for recording land titles. The Centre maintains data for mapping parcels, coordinates planning (although doesn't itself plan) and supports decentralization. The five branch offices, managed by five deputy registrars, are responsible for registering land titles in their district, and the district land bureaus, headed by the district land officers, have the authority to sign and notarize documents which create or transfer rights to land (GOR 2010a; GOR 2010b).

MINELA's Environmental Sector is responsible for balancing national population policy, land-use planning, and environmental needs to ensure that land is not degraded and subjected to uncoordinated use. The Ministry of Agriculture and Animal Resources (MINAGRI) is responsible for initiating and managing programs designed to transform and modernize the sector to ensure food security and to contribute to the national economy. The Ministry's priority programs target: intensification and development of sustainable production systems; support for professional development of producers; promotion of product chains and agro-industry development; and institutional development (GOR 2010c; GOR 2010d).

LAND MARKETS AND INVESTMENTS

Rwanda has a limited (although growing) amount of registered land and a similarly limited formal land market. Prior to the initiation of systematic land registration and revision to land registration procedures, the cost of land registration and lack of familiarity with the requirements limited the number of registered transactions. Particularly in urban areas, landholders often have documents memorializing land rights, including those recognized by formal law, but transfer land on the informal market (GOR 2007).

The informal land-sales market is active in urban and rural areas. Most people prefer to retain ownership and lease their land if they are unable to use it, but sales nonetheless occur. The most common reasons for land sales are the need for cash for livelihood needs such as debt repayment and medical costs (i.e., distress sales), raising money for investment in businesses, and relocation. Land purchasers are buying land to increase their landholdings and to access more fertile land or land suitable for livestock. Land sales are usually transacted through written documents (GOR 2007).

The land lease market is active in rural and urban areas. Farmers lease land on a seasonal or annual basis in order to gain access to land in various areas for growing a diversity of crops or to use better soil. Some people, such as younger couples and women, lease land because they cannot afford to purchase land. Some households form

groups and lease grazing land for their livestock. In rural areas, landholders often lease out land that they are unable to farm themselves because of disability, age or non-agricultural commitments. The state leases marshland, which farmers cultivate on a seasonal basis. Leases are commonly cash transactions, although there is some sharecropping in some areas. In urban areas, leasing is the most common means by which people access plots (GOR 2007).

COMPULSORY ACQUISITION OF PRIVATE PROPERTY RIGHTS BY GOVERNMENT

Article 29 of the Constitution provides that the state may expropriate private property in the public interest consistent with circumstances and procedures defined by law and subject to payment of prior and fair compensation. The 2007 Expropriation Law (Law No. 18/07 of 19/04/07 regarding Expropriation in the Public interest) defines public interest to include construction of infrastructure such as roads, schools, and oil pipelines, exploitation of minerals, protection of biodiversity, and implementation of master plans. The expropriation process is conducted by central or local governments in conjunction with the Land Commission. Just compensation is based on the market rate for the land and any activities on the land. If the landholder is married, compensation is paid to a joint account (GOR Constitution 2003; GOR Expropriation Law 2007b).

The Organic Land Law permits the government to confiscate land that is deemed to be unexploited for three or more years. The land-taking can be either temporary or permanent (GOR Organic Land Law 2005).

Land expropriation has been relatively common in Rwanda. Historically, the government has used its power to take land to try to address the needs of returning refugees in the years following the genocide. More recently, expropriation has been used to help build the country's infrastructure, and market-led expropriations are common. In some cases, investors and developers approach the government with a development plan, and the government expropriates the desired land. In other cases, developers seeking land approach landowners directly and, with the support of local government, pressure landholders to leave the area in exchange for compensation. The processes for determining compensation are often not transparent or tied to fair market values, and poorer landholders are often susceptible to pressure and the offer of cash (GOR 2007; USDOS 2009; Bruce 2007; Musahara 2006).

LAND DISPUTES AND CONFLICTS

Land disputes are common in Rwanda. The pressure on land, combined with limited non-agricultural livelihood options, was one of the factors that led to the 1994 genocide. The violence, which caused large groups of people to move in and out of the country and in and out of rural areas, put additional pressure on the land as multiple groups occupied and laid claim to the same land over time. In 2001, the government estimated that as much as 80% of the cases coming before prefect courts were land-related disputes (Musahara 2006; André and Platteau 2005; GOR 2007; Wyss 2006).

The reintegration of demobilized soldiers, former prisoners, and old- and new-case returnees from neighboring countries have resulted in competing claims to land. However, the most common causes of land disputes currently relate to inheritance claims, boundary encroachment, claims arising from polygamous relationships, and land transactions. The overwhelming majority of disputes are occurring within extended families rather than between different social groups (GOR 2007; Wyss 2006; ARD 2008a; ARD 2008b).

Most land disputes are initially handled through informal procedures using customary forums such as: the family council (a customary institution whose make-up changes depending on the issue in question); leaders of the *nyumba kumi* (a defunct administrative level for up to 10 households, whose leaders still retain some authority); *umudugudu* leaders (elected village-level leaders); and the cell executive committee (ARD 2008a).

After the genocide, Rwanda instituted a mandatory mediation process for all cases with a monetary value of less than RwF 3 million (about US \$5000). The jurisdiction of the mediators, known as *abunzi*, extends to civil cases relating to land rights and land-related inheritance disputes. Each cell has a group of 12 *abunzi*, 30% of whom must be women, and who hold the position for two years. Cases are heard by a panel of three *abunzi*, who are required to settle the dispute within 30 days. The decisions of the *abunzi* are enforced by local authorities, and parties can appeal to the court of first instance. The *abunzi* are not compensated, and receive little training on conflict resolution skills or the law. Nonetheless, some groups, such as women and marginalized groups, report a preference to have their claims heard by the *abunzi* as opposed to local authorities because they believe the *abunzi*

are less biased. There is no requirement that parties present cases to the local authorities before proceeding before the *abunzi* (ARD 2008b; GOR 2007).

The formal court system includes courts at the town, municipal, district and provincial levels. Appeals are heard by the High Court and Supreme Court. The *gacaca*, which are local adjudicatory bodies established by government to judge those who participated in the genocide, also have the power to address land issues (Musiime 2007; Bruce 2007).

KEY LAND ISSUES AND GOVERNMENT INTERVENTIONS

The government of Rwanda has continued to implement its National Land Tenure Reform Programme, which includes development of a National Land Use and Development Master Plan and systematic land registration. As of June 2010, the National Land Tenure Reform Programme was proceeding with land registration in all 30 districts, and a team devoted to clearing the backlog in the issuance of titles was in place in Kigali City. A draft operations manual governing the procedures for expropriating land in the public interest had been submitted to the Prime Minister, and piloting of the Land Administration and Information System (LAIS) was underway and a users' manual finalized (GOR 2010c).

In 2008, the Ministry of Agriculture and Animal Resources (MINAGRI) introduced its Crop Intensification Programme (CIP). The program is designed to increase agricultural productivity through land consolidation, purchase and distribution of bulk fertilizer and seeds through the private sector (enterprises or farmers' cooperatives, using auction and vouchers), extension services and creation of credit linkages for farmers. Working through local government, the program identifies suitable land. In planned villages, the land-use design already separates residential land from agricultural land. In other areas, farmers who wish to participate in the program must agree to resettle to residential areas so that the agricultural land can be consolidated to allow for mechanized farming techniques. As of 2010, 254,448 hectares (17% of arable land) had been consolidated and were planted with priority crops (maize, rice, Irish potato, wheat, cassava, beans, soya beans and peas). MINAGRI has continued to develop its crop list, most recently suggesting that: eastern provinces will plant coffee, rice, corn, bananas and pineapples; the southern provinces will focus on manioc roots, wheat, tea and coffee; the western provinces will grow tea, coffee and potatoes; the Northern provinces will produce potatoes, wheat, pyrethrum and maracuja; and Kigali city will produce flowers and fruits (IFDC 2010; Ntambara 2010; Twizeyimana 2010; Ansoms 2009; Ansoms et al. 2010).

Initial evaluations of the Crop Intensification Programme conclude that productivity increased yields in a number of crops. Most experience has related to swamp and marsh areas, which are state land. Farmers in those areas have voiced concerns about mono-cropping and land consolidation, but observers believe their resistance is tempered by lack of landownership. Research conducted in hill areas where farmers have individually owned plots suggests the government will likely face more vocal opposition. Concerns include: (1) home owners highly value the ability to control use of their land; (2) the differing quality of land and farmer ability and commitment will make land consolidation difficult to manage fairly; (3) needs of individual families vary within communities; (4) multicropping is a means of managing risk; and (5) the increased productivity available through monocropping requires reliable access to good quality inputs and functioning markets. Early experience supports some of these concerns: in 2009, for example, farmers in the Eastern Province claimed that forced mono-cropping resulted in food insecurity. Noting these types of results, farmers and observers raise one consistent concern: at least initially, the benefits of mono-cropping and land consolidation will most likely be realized by the wealthier farmers. Those farming households that are less well off and most dependent on the production from their land will exchange their traditional methods of ensuring food security and managing risk for an uncertain return – a gamble many will be unlikely to embrace (IFDC 2010; Ntambara 2010; Twizeyimana 2010; Ansoms 2009; Ansoms et al. 2010).

Rwanda's National Urban Housing Policy, which was adopted in 2008, provides for the upgrading of informal settlements. The policy provides that upgrading will not presume destruction of neighborhoods but will proceed with a rational program to bring settlements into compliance with standards for access, services, buildings, and sanitation. If rebuilding is required, the state will assist the residents with alternative accommodation and facilities. Public protests against slum clearance have grown in recent years, and efforts are underway to develop

technical experience in upgrading existing settlements (GOR Urban Housing Policy 2008c; Kalimba and de Langen 2007).

DONOR INTERVENTIONS

USAID has supported the government of Rwanda in its development of land policy and the legal framework governing land since 2003. USAID assisted the government in drafting and reviewing the Land Policy and the Organic Land Law and provided legal technical assistance to the National Land Tenure Reform Program, specifically in regard to women's land rights. USAID also funded the multi-partner Conflict Management and Mitigation: Land Dispute Management Project. The project helped support and strengthen the capacity of government and non-government actors to resolve land disputes in two priority pilot areas and increased public awareness of the Organic Land Law, women's land rights, and avenues for seeking peaceful resolution of land-related disputes and conflicts (ARD 2008b).

The UK's Department for International Development (DFID) is funding and providing technical support for Rwanda's National Land Tenure Reform Programme, which is the framework through which the government is formalizing landholdings and taking other steps to improve tenure security. The project created a methodology for formalization of land rights and prepared a strategic roadmap for a national implementation of the Organic Land Law, including recording and registering all land in the country. DFID has committed US \$40 million to continue with the project and is supporting the government's implementation of the roadmap (GOR 2010c; GOR 2007; British High Commission 2009).

2. FRESHWATER (LAKES, RIVERS, GROUNDWATER)

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Rwanda has abundant water resources, including 101 lakes covering almost 150,000 hectares, 6400 kilometers of rivers, and 860 marshlands spanning an estimated 278,000 hectares. Lake Kivu, one of Africa's Great Lakes, lies on the western border with the Democratic Republic of Congo. The Akagera (Kagera) River is a remote source of the Nile River and the largest river flowing into Lake Victoria, with the potential to provide an inland transportation route for the passage of goods. Rwanda's marshlands are productive ecosystems, responsible for cycling nutrients, recharging groundwater and helping mitigate flooding. The marshlands provide habitat for wildlife and fish, and support seasonal cultivation (FAO 2009; REMA 2009a; GOR Water Policy 2004).

Rwanda has two major drainage basins: the Upper Nile basin (67% of the country) and the Congo basin (33%). The country's annual rainfall varies from 700 millimeters to 1400 millimeters in the east and western lowlands, between 1200 and 1400 millimeters in the central regions, and from 1300 to 2000 millimeters in the high altitude region. Groundwater has been relatively unexplored although its potential for normal recharge is potentially compromised by the extent of soil erosion. In 2000, water withdrawals were estimated at 150 million cubic meters per year. Agricultural use accounts for 68% of water withdrawal, while domestic use and industry account for 24% and 8%, respectively (REMA 2009; FAO 2005; FAO 2009; World Bank 2009a; GOR Water Policy 2004b).

Despite the abundant water resources, access to drinking water is limited in some areas. In 2009, 51–54% of the country had access to safe drinking water; about 47% of rural areas had access. The primary barrier to access is lack of sufficient infrastructure. In Kigali, about 92% of the population has access to safe drinking water but consumption in informal settlements is limited to a third of the amount in other areas of the city (AfDB 2009; UN-Habitat 2009).

Rwanda's water resources are threatened by contamination from untreated waste and poor drainage, especially in urban and peri-urban areas. Eighty percent of diseases suffered by the population is attributed to contaminated water and poor sanitation. Water resources are also threatened by sedimentation, discharge from industry, and invasive species such as the water hyacinth that choke some lakes and waterways (FAO 2005; REMA 2009a).

LEGAL FRAMEWORK

Rwanda's 2004 Sector Policy on Water and Sanitation identifies the sector's objectives as follows: to improve the water supply systems; to optimize use of water in the agricultural sector, energy production and transport; to encourage the management of water supply infrastructure by communities; to increase access to sanitation

services; and to reinforce capacity-building at all levels (central and district). The policy aims to ensure access to water for everyone fairly and in a sustainable manner, protect water resources and sources, and promote cooperation for the management of catchment basins (GOR Water Policy 2004b).

Rwanda's Water Law (Law No 62/2008 of 10/09/08 Putting in Place the Use, Conservation, Protection and Management of Water Resources Regulations) was designed within the framework of the 2004 Water Policy. The 2008 Water Law provides that water is a public good, and responsibility for its proper use and protection is the responsibility of the state, the private sector, civil society and the citizens. The water law recognizes principles such as: protecting water resources from pollution, requiring water users and water polluters to pay, using water user associations, and providing for the public distribution of water. The priorities for water distribution are: (1) the population; (2) livestock; and (3) hydroelectric energy production (GOR Water Law 2008).

The 2005 Organic Land Law provides that the country's lakes, rivers, and groundwater are in the public domain, and the use of water resources is shared by all (GOR Organic Land Law 2005).

TENURE ISSUES

Water is considered a common resource belonging to everyone and owned by no one. Landowners are required to use water resources in a manner that is rational and optimizes the use of the resource. No one can divert the course of a river or water body without permission, and no one can pollute water resources or water bodies. Rights to water are considered temporary only; water rights are not alienable, cannot be seized, and cannot be acquired by prescription (GOR Water Law 2008; GOR Organic Land Law 2005).

The state has responsibility to manage water resources in the public interest. The state can enter into agreements with third parties for the management of the country's water resources. Those holding land-rights must grant easements for the construction of piping of water for rational use and distribution (GOR Water Law 2008; GOR Organic Land Law 2005).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

Responsibility for water resources and distribution of water in Rwanda is divided among several agencies. The Ministry of Infrastructure (MININFRA) is responsible for the water and sanitation sector. Within MININFRA, the Minister of State in Charge of Energy and Water is responsible for development and maintenance of infrastructure for water supply and sanitation.

The National Water Commission is responsible for creating water resource development plans and programs to support the Ministry's policies (REMA 2009a).

The Ministry of Natural Resources, through its Directorate of Water and Sanitation, is in charge of rural water supply, management of water resources and sanitation. The Ministry of Natural Resources is responsible for helping to set national water policy; ensuring compliance with relevant legislation; representing the government in intergovernmental organizations on matters related to water; and promoting international and regional cooperation on water resource issues. District-level basin committees are responsible for preparing district-level water management plans. The district basin committees have the power to delegate authority for management of water resources and water infrastructure to local water user associations (GOR Water Law 2008; REMA 2009a; RWASCO 2010).

In urban areas, water is provided by the state-owned public utility, the Rwanda Water and Sanitation Corporation (RWASCO), which was formed from 2008 breakup of Electrogaz into RWASCO and the Rwanda Gas Corporation (RECO) (GOR Water Law 2008; REMA 2009a; RWASCO 2010).

The Ministry of the Environment and Lands (MINELA) has responsibility for: planning and implementing water quality and distribution programs; to ensure that the use of water and wetlands is done without endangering the environment; to put in place legislation for monitoring and reduction of pollution; and to foster appropriate environment-friendly methods and techniques for the exploitation and management of natural resources (GOR 2010a).

The Ministry of Agriculture and Animal Resources (MINAGRI) is responsible for the rational use of water potential for agricultural purposes. MINAG, through the Unit of Agricultural Engineering and Soil Conservation, manages agricultural development and soil conservation through terracing, drainage and irrigation (REMA 2009a; GOR 2010d).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

The 2004 Water Policy identified water sector challenges as including: (1) the need for an institutional framework for the coordination of water resources management; (2) the lack of data on water resources; (3) inadequate participation of women in the sector; (4) failure of the country to adopt national standards for drinking-water quality and distribution; (5) the need to master rainwater harvesting techniques; (6) undeveloped irrigation and electricity production; (7) development of use of watercourses and trans-boundary lakes to fight poverty; (8) the creation of pollution from industrial development and population pressure; and (9) the need to develop human capacity within the sector and decentralize authority over water resources (GOR Water Policy 2004b).

Since the adoption of the 2004 Water Policy, the government has undertaken a significant number of actions to address the identified challenges and gaps. A Water Law was enacted in 2008, and the governmental bodies responsible for water resource management have been restructured. According to the Ministry of Environment and Lands 2008–2009 Annual Report, the water law and policy are undergoing revision and refinement. The government has implemented several projects addressing specific water resource issues. The World Bank-supported Integrated Management of Critical Ecosystems (IMCE) Project assists farmers in four selected wetland ecosystems (Rugezi, Kamiranzovu, Akagera and Rweru-Mugesera) to adopt sustainable agricultural intensification technologies that are designed to improve farmers' livelihoods while protecting the rare biological resources of wetlands. The IMCE has resulted in the development of 53 Watershed Management Committees, four Watershed Management Plans, nine Community-based Management Plans of critical swamps, and several new legal instruments supporting improved wetlands governance. The project supported a national marshland inventory in 2008, resulting in the classification of certain wetlands for conservation, controlled exploitation, and cultivation. The project also included communication initiatives – including documentaries, promotional material, conferences and workshops, and Head of State speeches – designed to strengthen the education and the public awareness of wetlands' international importance (REMA 2009b; GOR 2010c).

The government's Decentralisation and Environmental Management Project (DEMP), which runs from 2009 to 2013, is implemented by REMA with support of the United Nations Development Program (UNDP). The project is designed to strengthen the capacity of REMA and adopt collaborative planning and management of Lake Kivu watersheds and associated riverbanks. The project has planted vegetation on about 80% of the shoreline of Lake Kivu and riverbanks feeding the lake. The project has also provided households with improved cooking-stoves, introduced rainwater harvesting and runoff-control technologies, and designed a resettlement program for people living within 50 meters of Lake Kivu's shoreline (REMA 2009c; UNDP 2007).

The government is developing and rehabilitating water infrastructure, including constructing 13 new water tanks to supply water to Kigali, Rubavu, and Ruhango. The government partnered with UN-Habitat on a project to develop connections for poor households and is rolling out the project in Kigali, Kusororo and Jabana. The government is also renovating several water treatment plants, rehabilitating water sources and building additional infrastructure such as piping and water points (RWASCO 2010).

DONOR INTERVENTIONS AND INVESTMENTS

The African Development Bank has been a lead donor in the water and sanitation sector. The Bank's Rural Drinking Water Supply and Sanitation Programme (2009–2012) covers 15 districts in three Rwandan provinces (North, West and South) and in addition to sanitation activities will supply storm-water harvesting reservoirs constructed in village public infrastructures, create 275 kilometers of drinking-water supply networks, construct 1000 drinking-water supply sources, and train and support borehole-driller and private operators on maintenance of water facilities and complex water-supply systems (AfDB 2009).

The World Bank is funding a five-year (2009–2014) US \$47 million Land Husbandry, Water Harvesting, and Hillside Irrigation Project. The project is designed to increase the productivity and commercialization of hillside agriculture in target areas through control of water resources. Project components include activities to develop the

capacity of individuals and institutions for improved hillside land husbandry and water harvesting, and the provision of the necessary hardware for hillside intensification. The World Bank also funded a six-year (2001–2007) Rural Water and Sanitation Project that helped provide water access to about 510,000 people and constructed and rehabilitated water infrastructure (World Bank 2009b; World Bank 2008).

The US \$6 million National Environment Youth Project (2008–2011), which is supported by UNDP and managed by REMA, focuses on protecting the banks and catchment areas of Nyabarongo River System from land degradation and solid waste pollution while creating employment opportunities for the youth in both rural and urban Districts (REMA 2009e).

3. TREES AND FORESTS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Approximately 18–19% of Rwanda is classified as forestland. The forests include Afro-montane ecosystems concentrated in the northwestern and southwestern regions, including mountain rainforests; lowland forests, savanna, and woodlands occur throughout much of the western and central regions of the country. The country has a limited amount of primary (old growth) forest (about 7000 hectares); other naturally regenerated natural forest accounts for about 62,000 hectares. Planted forests make up the balance and largest percentage of forestland. Rwanda added about 162,000 hectares of forest between 1990 and 2005, resulting in a total increase in forest area between 2000 and 2005 at an estimated annual rate of 7% (World Bank 2009a; *Mongabay* 2010; REMA 2009a).

Rwanda lies at the center of the Albertine Rift, considered Africa's most biologically diverse area. Rwanda's forests are home to 40% of the continent's mammal species, including mountain gorilla and giant pangolin. Rwanda also has 1061 species of birds, 293 species of reptiles and amphibians, and almost 6000 species of higher plants. The forests provide the human population with: timber and fuelwood; game and fish; medicinal plants; fodder; honey; fruits; tree seeds; essential oils; handicraft material; mushrooms; ornamental plants; and support for income-generating activities such as beekeeping and ecotourism (REMA 2009a).

Seventy-nine percent of Rwanda's forests are publicly owned and 21% privately owned. Rwanda has four types of protected areas: (1) national parks (Akagera, Nyungwe and Volcanoes National Park); (2) forest reserves (Gishwati, Iwawa Island, and Mukura reserves); (3) forests of cultural importance (Buhanga forest); and (4) wetlands of global importance (Rugezi-Bulera-Ruhondo wetland complex). Some forests without protected status but with cultural importance include the Busaga forest in Muhanga district and other remnants of natural forest countrywide (REMA 2009a).

Although Rwanda has been gaining in forestland through reforestation and afforestation efforts, it has lost substantial amounts of forestland (an estimated 1.3% per year since 1960), primarily as a result of encroachment for settlement and cultivation. During the years of conflict, forest service staff lost their jobs, creating a void in enforcement, and war-displaced people cut down or damaged many forest plantations. Both plantation and natural forestland were used for resettlement of refugees. The country's forests continue to be threatened by the pressure on land and the attendant expansion of cultivated areas. Forests are also threatened by the population's dependence on fuelwood and charcoal for energy. An estimated 90% of the population relies on wood for heating and cooking. Illegal logging and fire also account for forest loss (REMA 2009a; Musahara 2006; FAO 2006).

LEGAL FRAMEWORK

The primary legislation governing the forest sector in Rwanda is the Forest Law of 1988 (*Loi No. 47/1988 portant organisation du régime forestier*). The Forest Law categorizes forestland as public, private or communal. The law governs forest management, exploitation of forest resources, forest conservation and tree-planting. The law includes sections for enforcement of the law and penal provisions. Many of the provisions, particularly regarding enforcement of the Forest Law, have never been fully implemented. Implementation awaited specific decrees and order which, in the atmosphere of violence and displacement leading up to and following the genocide, were not enacted (GOR Forest Law 1988; FAO 2006).

In 2006, the government enacted the Law Determining the Organization, Functioning and Responsibilities of the National Forests Authority (NAFA). The law and the establishment of NAFA represent an initial step toward developing an updated institutional framework for the management of Rwanda's forestland (GOR NAFA Law 2006a; REMA 2009a).

TENURE ISSUES

Under the 1988 Forest Law, state-owned or public domain forest includes forestland within nationally protected areas, land determined necessary for reforestation, land along river banks and lakes, hunting areas, wooded areas, marshland and other areas designated by the state as within the public domain. The law prohibits settlement within and cultivation of state forestland. Reforestation and afforestation are permitted, subject to specific state programs and requirements (GOR Forest Law 1988).

State forest reserves are dedicated to the protection of flora, fauna, and water systems. Hunting, harvesting of forest products, and other exploitation of forestland and resources are prohibited. The state can contract with communes, associations, private forestry, groups and public institutions for management and exploitation of certain sections of state forestland. Contracts, including timber permits, can be issued for periods of 30 years and cannot be subcontracted. Contracts are subject to the development of approved 5-year management plans. Contracts permit the contracting entity to use forest products within the managed forest area. The sale of forest products may be subject to state restrictions (GOR Forest Law 1988).

Communal forests include woodlands under municipal control, the sides of communal roads, municipal land designated for reforestation and forestland under contract for commune-level management. Municipalities can contract with communities and groups for management of communal forest. All forest management is subject to the ultimate authority of the state and tree-cutting requires a permit (GOR Forest Law 1988).

The development of forests on private land is supported by the state. Any forested areas over 2 hectares in size require preparation of a forest management plan. Cutting of trees or clearing on private forestland over 2 hectares in size requires a permit (GOR Forest Law 1988).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Ministry of Natural Resources (MINIRENA) has overall authority for the country's forestland and resources. The ministry's authority is primarily housed within and executed by the National Forest Authority (NAFA). NAFA was created in 2006 and has the authority and responsibility to: (1) implement forestry policy and promote agroforestry; (2) advise the government on policies, strategies, and legislation related to forestry management, the implementation of forestry-related international conventions and protection of natural resources; (3) support organs that are in charge of fighting soil erosion; (4) prepare national programs for afforestation and forest management, help districts prepare their own forest management, and supervise the implementation of district programs; (5) make and update the list of tree species to be planted and suitable planting areas; (6) undertake research, investigations and studies regarding forestry and the exploitation of forestry-related products; (7) disseminate research findings on afforestation technology and rational utilization of forests and prepare technical norms for activities; (8) ensure adequate monitoring and evaluation of programs; (9) supervise the efficient management and utilization of resources from the national forestry fund; (10) work with other institutions on projects for developing agricultural and livestock products and environmental protection and tourism promotion; and (11) collaborate with other national and international institutions and organizations on forest-related matters (GOR NAFA Law 2006a).

In 2005, Rwanda created the Designated National Authority (DNA), which is within REMA. DNA, which operates through a Permanent Secretariat and is supported by a Steering Committee and Technical Committee, was created to manage the country's carbon projects, including coordinating Clean Development Mechanism (CDM) projects and voluntary carbon market (VCM) projects (REMA 2009d).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Rwanda is a member of the Central African Forest Commission (COMIFAC), the regional body in charge of forests and environmental policy, coordination and harmonization, with the objective to promote the conservation and sustainable management of the Congo Basin's forest ecosystems. COMIFAC is the primary authority for

decision-making and coordination of sub-regional actions and initiatives. Rwanda is also a member of the Congo Basin Forest Partnership, which is a voluntary multi-stakeholder initiative that brings together the 10 member states of the COMIFAC, donor agencies, international organizations, NGOs, scientific institutions and representatives from the private sector (CARPE 2010).

The government's Protected Areas Biodiversity (PAB) Project (2006–2011) is operating in Nyuajwe and Volcanoes national parks. The US \$13 million project, supported by UNDP, includes components to: (1) support the development of national laws, collaborative frameworks, and capacity of central-level staff; (2) support development of local capacity for planning and co-management of forests and development of activities on adjacent land; and support for development of adaptive management capacity to assure long-term biodiversity preservation (UNDP 2010).

DONOR INTERVENTIONS AND INVESTMENTS

Rwanda is one of the nine Congo Basin countries benefiting from USAID's Central African Regional Program for the Environment (CARPE). CARPE is promoting local and regional management of forestland and forest resources, focusing initially on 12 landscapes, one of which is the Virunga Landscape at the borders of Rwanda, the Democratic Republic of Congo, and Uganda. The Virunga Landscape includes Volcanoes National Park and Lake Kivu. Activities implemented by partners include: forestry staff training; development of local community employment; demarcation of boundaries; development of cooperative international and local agreements; development of ecotourism enterprises; enforcement of forestry laws; and trans-boundary surveillance (CARPE 2006; CARPE 2010).

Earthpark and the Great Ape Trust have joined with the Government of Rwanda to form the Rwanda Forest Protection Project. The group is developing a national conservation park and field station to promote reforestation and conservation and research to enhance knowledge of the apes. The National Conservation Park will be created in Gishwati Forest Preserve in Western Province. The project contemplates using carbon financing to support the project. The for-profit company, Ecosystem Restoration Associates (ERA) is developing a community-led afforestation/reforestation project in the Gishwati Forest Reserve. The carbon offset project focuses on restoring lost forest cover and will support sustainable agro-forestry practices (CNW 2007; *Terra Daily* 2008; ERA 2009).

4. MINERALS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Rwanda has deposits of gold and concentrations of columbium (niobium), tantalum, tin, tungsten, cement and small quantities of natural gas, beryllium, kaolin and peat. The country also has deposits of precious stones, including sapphire, tourmaline, topaz, amethyst, opal and agate. Historically, the mining sector has been small; in 2007, the mining and quarrying sector accounted for less than 0.8% of GDP. However, the sector makes a substantial contribution to export revenue: in 2004–2009, the sector averaged 30–40% of export earnings (46% in 2007). Investment, particularly in cassiterite tin production, has been increasing since 2004. In 2008, Rwanda was responsible for 5% of the world's tantalum production and 4% of the global production of tungsten. Cassiterite, which is used to produce tin cans, is mined in 26 of Rwanda's 30 districts. Increased activity in the sector is attributed to the entry of new producers. Seven foreign companies have licenses to explore for gold, nickel, cobalt, platinum and copper (Yager 2010; REMA 2009a; Mukaaya 2009; IFC 2006; USDOS 2010; World Bank 2009a).

About 35,000 people work as small-scale and artisanal miners in Rwanda, and the subsector accounted for about half the mining production in 2008. Larger-scale mining operations were conducted by the state since the 1980's but were largely privatized by 2008. Foreign companies increasingly dominate the industry, including Gatumba Mining (South Africa), Bay View Group (US), and Rwanda Mining (Germany) (Mukaaya 2009; Yager 2010; GOR Mining Policy 2009).

Mining operations have been responsible for environmental degradation in several areas of the country. Small and artisanal miners of gold and other minerals have settled in forests, clearing forestland for camps, depleting forest resources and creating mineral waste. In other areas, water draining from mining operations has polluted the Nyabarongo and Nyabugogo rivers with clay and sand sediment (REMA 2009a).

LEGAL FRAMEWORK

Rwanda adopted a new Mining Policy in 2009. The policy has five pillars: (1) strengthen the enabling legal, regulatory, and institutional environment; (2) develop targeted investment and fiscal and macroeconomic policies; (3) improve sector knowledge, skills, and use of best practices; (4) raise productivity and establish new mines; and (5) diversify into new products and increase value addition (GOR Mining Policy 2009).

Rwanda's Law on Mining and Quarry Exploitation (Law No. 37/2008) governs prospecting, search, exploitation, purchase, stocking, handling, transport and commercialization of transferable substances other than hydrocarbon and including quarry products (GOR Mining Law 2008a).

The Law Establishing Rwanda Geology and Mines Authority (OGMR) and Determining its Responsibilities, Organization and Functioning (2007) establishes and guides the Rwandan Geology and Mines Authority (GOR OGMR Law 2007a).

TENURE ISSUES

Mineral substances are regarded as the property of all Rwandans, but the state retains the power to manage that property, with the objective of furthering the social and economic development of the nation. The Mining Law recognizes the following mining rights:

1. *Prospecting licenses* are available for periods up to two years and are limited to areas of 1000 square kilometers.
2. *Research licenses* are available for up to 4-year periods, with one renewal. Research licenses are granted for areas up to 2 square kilometers and are transferrable. At the end of the research license period, the licensee must provide the state with a report regarding the findings of the research.
3. *Small mine exploitation licenses* are available for renewable 5-year periods. The license is limited to an area of 2 square kilometers and depth of 40 meters. Small mine exploitation licenses may be transferred.
4. *Vast mining concessions* are available for 30-year, renewable periods. The concession area is subject to a minimum size of 100 hectares and maximum size of 400 hectares.
5. *Quarry exploitation licenses* are available for renewable 5-year terms for areas up to one hectare.

(GOR Mining Law 2008).

All licenses require environmental statements. No mining operations can be initiated on public land unless the state authorizes expropriation and payment of fair compensation. Mining operations can enter into leases with landholders for the use of land for mining operations. According to the Organic Land Law, while the state owns minerals, landowners have first priority for exploitation if they apply for a permit to extract them (GOR Mining Law 2008; Rwanda Organic Land Law 2005).

All products gained from mining are the property of the licensee upon payment of a tax. Mining licenses can be revoked by the state (GOR Mining Law 2008a).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

As of December 2009, the Ministry of Environment and Lands has overall responsibility for the mining sector. The Rwanda Geology and Mines Authority (OGMR) is responsible for the management and functioning of the mining industry. OGMR's specific duties are to: (1) conduct surveys in geology and mining based on national priorities; (2) promote appropriate technology aimed at development of geology and mining; (3) establish the value of mining products and quarries; (4) facilitate the establishment of standards in mining; (5) train employees in matters relating to mines and quarry; (6) supervise and monitor private and public mining, trade and value added in mining; (7) publicize research findings in geology and mining; (8) participate in formulation of policies, laws and strategies in geology and mining; (9) assist the government in valuing mining and quarry concessions;

and (10) collaborate with other regional and international institutions carrying out similar responsibilities (REMA 2009a; OGMR 2009; GOR Mining Policy 2009).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Rwanda signed the International Conference/Great Lakes Region (IC/GLR) Protocol against Illegal Exploitation of Natural Resources in 2006. As a member, Rwanda pledged to support creation of accredited standards governing natural resources exploitation, including provisions on certification of origin. In 2009, the Rwanda Geology and Mines Authority (OGMR) partnered with the Germany Institute of Geosciences and Natural Resources on a pilot project on mineral certification. The project included guidelines for improving the transparency of mineral supply chains and good practices in the extraction industry (Biryabarema and Franken 2009; *AllAfrica* 2010).

The government has been organizing artisanal and small-scale miners into cooperatives and forming a mining federation that it plans to merge with COPEMER, the mining union. The planned merger is an effort to strengthen the capacity and professionalism of small-scale and artisanal miners to operate in conjunction with larger mining operations (Gahigi 2009).

DONOR INTERVENTIONS AND INVESTMENTS

In 2009, the World Bank began providing technical support to the Ministry of Infrastructure relating to the oil and gas subsector. The OECD has funded a mineral and mining policy and administration project and also funds a pilot project on certified trading chains (CTCs) in minerals (World Bank 2009c; AiDA 2009; BMZ 2008).

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