



USAID COUNTRY PROFILE

PROPERTY RIGHTS & RESOURCE GOVERNANCE

PAKISTAN

OVERVIEW

The landscape of Pakistan is highly varied, with mountains, deserts, and the vast, irrigated Indus River Valley providing distinctly different productive opportunities for the population of nearly 170 million people. Combined access to land and water is critical to rural productivity. The densely-settled Indus Basin Irrigation System (IBIS) is the breadbasket of the country and also produces the commodities that drive industry, with cotton textiles accounting for some 50–60% of exports. The IBIS is a resource shared with India, and while 90% of the IBIS land area is in Pakistan, a treaty with India governs Pakistan’s access to water. Populations in the arid and semi-arid mountainous areas in the west and north of the country are more dispersed; farmers cultivating rainfed land known as *barani* rely upon smaller irrigation systems to support their crop and livestock enterprises.

Ownership of irrigated land in the Indus Valley is highly concentrated. Between 20% and 40% of rural households are reported to be landless or near-landless. They either lease or sharecrop land when they can or work as laborers on and off farms; many are raising stall-fed livestock. Poverty is highly correlated with landlessness and is seen as contributing to political and social instability. Repeated government attempts to address inequality of access to land and tenure insecurity have largely failed to transform the system. Tenants and sharecroppers have little incentive to invest in sustainable production practices. Insecure land tenure, coupled with poor water policy and management, have led to increasing degradation of land. Undervaluing the water supply has led to waterlogging and inefficient water-use in some areas while poor water distribution has caused lack of water in other areas, lowering the profitability of land and the incentive to invest in complementary inputs.

Enactment of a comprehensive legal framework for establishing more equitable access to property and more transparent land administration could, many analysts believe, contribute to both political and economic development objectives. Given Pakistan’s history, however, the preparation and administration of such a framework would require substantial and sustained leadership on the part of both federal and provincial governments. Alternatively, linking statutory law with local customary law, ensuring that women have rights to property as established in law, and the establishment of a land registration system that incorporates the current tax-revenue-based system of records with standardized documents and registries could increase tenure security and reduce land-based conflicts.

Reforms could also address urban land issues, currently cited by Pakistani firms as one of the barriers to investment. As government ownership of land in urban areas is significant, a more proactive role for local development authorities to address housing and industrial needs appears feasible. There also seems to be a need for more effective governance of urban areas to allocate land for low-income housing and prevent illegal land seizures and squatting.

KEY ISSUES AND OPPORTUNITIES FOR EXTERNAL SUPPORT

- **Alternatives to land redistribution schemes.** Drawing on experience elsewhere, donors could develop innovative options for increasing rural land access for the poor. Micro-plots, for example, could provide poor households with the economic, nutritional, and psychological benefits of landownership without requiring the government to identify large amounts of agricultural land for redistribution. The development of methods for permitting women to acquire land and water rights in ways consistent with Islamic law and Pakistan’s Constitution could increase women’s economic opportunities and productivity.
- **Urban land.** Initiatives to address urban land issues could encompass housing for the poor as well as accessibility of space for commercial and industrial investments. Increased attention to housing for the poor could improve

public health and safety and, through increased security of tenure, encourage investment in and maintenance of properties. The Orangi Pilot Project in Karachi provides a successful model for the development and distribution of services in squatter settlements. Donors' support for removing barriers to urban investment by improving access to land (and services) could contribute to job creation and to the stability Pakistan needs.

- **Water policy and law.** Pakistan has no comprehensive water policy or water law defining rights to resources. The government of Pakistan recognizes the need for a water resource strategy and formal, enforceable communal and individual property rights to water. The government has drafted numerous water policy statements and prepared several water resource strategies but a policy and strategy have not yet been adopted. Donors could provide technical assistance and support to assist the government in its efforts to create a comprehensive legal framework governing water resources, develop a sequencing plan for adoption of necessary components, and create an implementation program that responds to the challenges posed by the environment while taking advantage of successful local community governance models and water resource strategies.
- **Implementation of existing laws and construction of cadastres.** Donors could support the systematic upgrading of land, water and forest administration, including construction of cadastres, in areas where other assistance investments are being made. Over time, integration of resource governance issues with other kinds of assistance could lead to greater tenure security, broader access to land and water, and sustainable use of forests – all of which could promote economic and social development and enhance political stability.

FOR MORE RECENT LITERATURE:

<http://usaidlandtenure.net/pakistan>

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SUMMARY

Land ownership is highly concentrated in rural Pakistan and a root cause of persistent poverty and instability countrywide. Land with access to water is the principal asset in the rural economy, and poverty is strongly correlated to landlessness. About 43% of the rural population is landless or near-landless and lacks access to irrigation water and other factors of production. Unequal access to land and inefficient and inequitable systems of water-management are creating patterns of natural resource use that diminish agricultural productivity, contribute to land degradation, and perpetuate poverty and social instability.

The Land Reform Act of 1977 – Pakistan’s third and

most recent effort at addressing inequality of land access and land tenure since Independence – failed to meet its objectives. The legislation attempted to plug gaps in prior legislation and implement tenancy, land ceiling, and land distribution reforms. Almost all of the minimal progress made occurred under the initial 1959 reforms. Pakistan’s uneven land distribution remains unaddressed. The country is also plagued by poorly functioning, inadequate and duplicative systems of land administration, and an overburdened and ineffective formal court system. Parallel customary systems of transferring land and resolving land-disputes prove more accessible and efficient, creating a pluralistic legal environment.

Pakistan has a semi-arid climate and uses almost all available surface and groundwater resources to meet the demands of the agricultural, industrial, and domestic sectors. Only 60% of the water from the Indus Basin Irrigation System (IBIS) reaches farms, water use is often inefficient, and demand for water is increasing. About 50% of water in irrigated systems comes from groundwater; the energy costs to pump the water are increasing, and aquifers are not being adequately recharged through the development of rainwater harvesting and storage.

The quality of agricultural and rangeland in Pakistan is degraded. The country has one of the highest rates of deforestation in the world, and its forests cannot meet the population’s need for fuelwood.

Women in Pakistan are unable to exercise the rights to land granted to them by constitutional, statutory, and religious law, under pressure of customary law and traditional practice. Women’s access to the natural resources they depend on for their livelihoods is inherently insecure and easily lost in times of scarcity.

Pakistan has significant mineral deposits, including gemstones, coal, copper, and iron ore. Provincial governments have authority to regulate mining of most minerals within their borders. Most deposits have not been explored or mined due to lack of infrastructure and investment.

BOX 1. MACRO INDICATORS

	Year	Score
Population, total	2008	166,036,895
Population ages 0-14: 15-64: 65+ (% of total)	2008	37.3: 58.7: 4.0
Population growth (annual %)	2008	2.2
Rural population (% of total population)	2008	63.8
Population density (people per sq. km)	2008	215.4
Literacy rate, adult total (% of people ages 15 and above)	2007	54.2
Land area: Surface area (sq. km)	2008	770,880: 796,100
Arable land (% of land area)	2005	27.6
Agricultural land (% of land area)	2005	35.1
Permanent cropland (% of land area)	2005	1.0
Irrigated land (% of cropland)	2003	85.4
Forest area (% of land area)	2005	2.5
Nationally protected areas (% of total land area)	2006	8.5
Renewable internal freshwater resources per capita (cubic meters)	2007	338.5
Annual freshwater withdrawals, agriculture: domestic: industry (% of total freshwater withdrawal)	..	96.0: 1.9: 2.0
Crop production index (1999-2001 = 100)	2005	109.9
Livestock production index (1999-2001 = 100)	2005	115.5
GDP (current US\$)	2008	168,275,905,707
GDP growth (annual %)	2008	6.0
Agriculture: industry: manufacturing: services, value added (% of GDP)	2008	20.4: 26.6: 19.1: 53.0
Ores and metals exports: imports (% of merchandise exports: imports)	2007	1.1: 3.7
Aid (% of GNI)	2007	1.5

Source: World Bank, 2009

I. LAND

LAND USE

Pakistan has a total land area of 770,100 square kilometers. The total area does not include the disputed territories of Azad Kashmir and the Northern Areas (11,639 square kilometers and 72,520 square kilometers respectively), which are claimed by both Pakistan and India. Pakistan's territory is divided into four provinces (Balochistan, Khyber Pakhtunkhwa [KPK], Punjab and Sindh) and two tribal areas. The tribal areas stretch along the eastern border of Afghanistan and are administratively divided into the Provincially Administered Tribal Areas (PATA) and the Federally Administered Tribal Area (FATA) (World Bank 2009; Ali and Rehman 2001; GOP 2006a).

Pakistan has a population of 177 million people (2010 est.), 64% of whom were rural. Seventy-three percent of the population lives on less than US \$2 a day, 17% on less than US \$1 a day. Ninety-seven percent of the population is Muslim. Pakistan's population is made up of six principal ethnic groups: Punjabi 45%, Pashtun (Pathan) 15%, Sindhi 14%, Sariaki 8%, Muhajirs 8%, Balochi 4%, and other 6%. The Pashtun are the principal inhabitants of Pakistan's Tribal Areas, which are the poorest regions on the country. Most residents of the Tribal Areas are dependent on livestock-rearing and subsistence farming for their livelihoods (World Bank 2009; Ali and Rehman 2001; GOP 2006a; Mongabay 2010).

Pakistan's landscape ranges from the Himalayan and Hindu Kush mountains (including the world's second-highest peak, K2), intermountain valleys, the irrigated plains of Punjab and Sindh provinces, the dry western plateaus of Balochistan Province, and the sandy desert in eastern Sindh and Punjab provinces (UNEP 1998; Dost 2002).

About 35% of Pakistan's total land area is agricultural land, approximately 90% of which is located in the Indus River Plain of Punjab and Sindh provinces. Eighty-five percent of cropland is irrigated. The balance of cropland is used for non-irrigated cropping, including about 5 million hectares of rainfed (*barani*) agricultural land in northern Punjab and southern KPK provinces and seasonal floodplains in the Indus Delta. Pakistan's main crops are wheat, maize, rice, sugarcane, and cotton (World Bank 2009; FAO 1997; Dost 2002).

About 65% of Pakistan's total land consists of desert, mountains, and urban areas. These areas include about 51 million hectares of rangeland and 26,338 square kilometers of urban land. Pakistan has a livestock population of about 110 million cattle, buffalo, sheep, goats, camels, and other animals. Livestock production (primarily cattle and buffalo) is integrated with crop production; animals are reared in intensively cultivated irrigated plains and stall-fed crop residue and forages. Sheep, goats, subsistence cattle, and camels are most

BOX 2. LAND TENURE INDICATORS

	Score
<u>Millennium Challenge Corporation Scorebook, 2009</u>	
– Land Rights and Access (Range 0–1; 1=best)	0.653
<u>International Property Rights Index, 2009</u>	
– Physical Property Rights Score (Range: 0–10; 0=worst)	5.8
<u>World Economic Forum's Global Competitiveness Index, 2008-2009</u>	
– Property Rights (Range: 1–7; 1=poorly defined/not protected by law)	4
<u>World Economic Forum's Global Competitiveness Index</u>	
– Ease of Access to Loans (Range: 1–7; 1=impossible)	3.6
<u>International Fund for Agricultural Development, Rural Poverty Report, 2001</u>	
– Gini Concentration of Holdings, 1981-1990 (Range: 0–1; 0=equal distribution)	0.58
<u>International Fund for Agricultural Development, Rural Sector Performance Assessment, 2007</u>	
– Access to Land, 2007 (Range: 1-6; 1=unsatisfactory access)	3.4
<u>Food and Agricultural Organization: Holdings by Tenure of Holdings</u>	
– Total Number of all Agricultural Holdings, Year	5,070,963
– Total Area (hectares) of all Agricultural Holdings, Year	19,149,637
– Total Number of Holdings Owned by Holder; Year	3,490,988
– Total Area (hectares) of Holdings Owned by Holder; Year	12,433,598
– Total Number of Holdings Rented from Another; Year	953,557
– Total Area (hectares) of Holdings Rented from Another; Year	3,081,276
<u>World Bank Group, Doing Business Survey, 2009</u>	
– Registering Property-Overall World Ranking (Range: 1–181; 1=Best)	77
<u>World Bank Group, World Development Indicators, 2009</u>	
– Registering Property-Number of Procedures	6
– Registering Property-Days Required	50
<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)	4.31

often kept on rangeland and are tended by nomadic and semi-nomadic groups. Pakistan's leading livestock industry is dairy, which is the fifth-largest in the world. The country's annual production of 33 billion liters of milk is dominated by small producers; only about 2% of total output flows to commercial processors. Dairies and commercial poultry operations are increasingly concentrated in urban and peri-urban areas in order to serve residents more efficiently (GOP 2006b; SEDAC n.d.; Blood 1994; Dost 2002; PAP 2000; *Euromonitor* 2010).

Two and one-half percent of the country's total land is forest. Most coniferous forests are located in the KPK and the Northern Areas. Mangrove forests are found in the Indus Delta and along the coastline of the Arabian Sea. Nationally protected areas cover 8% of total land area, and the annual rate of deforestation is 2.1% (World Bank 2009; FAO 1997; UNEP 1998).

In *barani* (rainfed) areas, the overall productivity of land and livestock is lower than in irrigated areas, and residents rely more heavily on access to forests and rangeland. In these areas, landholdings tend to be dominated by owner-cultivators, and livestock is more important to agricultural production than in irrigated areas (Shah and Husain 1998; ADB 2009).

Pakistan's agricultural land suffers from heavy soil erosion and steady degradation. Deforestation, livestock-grazing, and improper land cultivation techniques have caused reservoirs to silt up, reducing the capacity to generate power and the availability of water for irrigation. Countrywide, livestock populations exceed the rangeland's carrying capacity, destroy natural vegetation, overwhelm water sources, and cause soil erosion. At least 25% of the country's irrigated land suffers from various levels of salinity, with 1.4 million hectares rendered uncultivable. The coastal strips and mangrove areas are stressed by reduced freshwater flow, sewage, and industrial pollution (GOP 2002; World Bank 2006).

Pakistan's total GDP in 2008 was US \$168 billion, with 53% attributed to services, 27% to industry, and 20% to agriculture. Livestock accounts for half of agricultural GDP. Much of Pakistan's industry (e.g., textiles, sugar) is also linked with agricultural production (World Bank 2009; World Bank 2007a; UNDP 2009).

LAND DISTRIBUTION

Land ownership in rural Pakistan is highly concentrated. Land, especially irrigated land, is the rural economy's principal asset. Poverty is strongly correlated with landlessness. In 1990, smallholders with less than 2 hectares of land made up 96% of the landholders but owned only 55% of the land. In 2000, only 37% of rural households owned agricultural land and between 20% and 40% of the rural population was landless or near landless. Countrywide, 7% percent of farms had 200 hectares or more and controlled 40% of the agricultural land. The median size of a private farm in Pakistan is about 1.3 hectares of cultivated area. Rural poverty is highest among landless households. The incidence of poverty declines with increases in landholdings and vanishes in households with land holdings of 1 to 2 hectares and above (Anwar et al. 2005; Chaudhry et al. 2006; Gazdar 2007; World Bank 2007a; Khan 2000; GOP 2003a).

Pakistan has engaged in three land-reform efforts (1959, 1972, and 1977) under three different governments. According to the Federal Land Commission, the government has, to date, expropriated 1.8 million hectares (less than 8% of cultivated area) and redistributed 1.4 million hectares to 288,000 beneficiaries. About two-thirds of land expropriation and three-fourths of the land distribution were accomplished under the initial 1959 land reforms (Khan 2000).

Land distribution continues to be highly skewed. The Land Reform Act of 1977 – Pakistan's third and most recent effort at addressing inequality of land access and land-tenure insecurity since Independence – failed to meet its objectives of plugging gaps in prior legislation and implementing tenancy, land ceiling, and land distribution reforms. The 1977 Act was followed by the imposition of martial law, and much of the momentum fueling reforms dissipated. In the years that followed, the courts ruled various provisions of the Act un-Islamic, and political will to address land issues waned. A resurgence of interest in land reform and attendant revisions to the Act (mostly to pave the way for expansion of commercial farming interests) took place in the 1980s but without addressing the large numbers of landless people. Occasional uprisings occur. In March 2010, landless peasants marched toward Lahore to demand land, and in April 2010, the Punjab

government announced a program to provide 255,024 plots to landless peasants (Khan 1981; Khan 2000; Critical PPP 2010; *Nation* 2010).

LEGAL FRAMEWORK

The Constitution of the Islamic Republic of Pakistan, 1973 (as amended and restored) provides that Islam is the state religion and that all laws must be in alignment with the Qur'an. The Constitution provides that every citizen shall have the right to acquire, hold, and dispose of property, subject to reasonable restrictions imposed by law in the public interest (GOP Constitution 1973; Reynolds and Flores 2009).

Much of Pakistan's civil law, which is retained from colonial legislation originating in India, has been adapted over the years to reflect the Islamic character of the country (97% of the population is Muslim). The structure of Pakistan's legislation is fluid and in a near-constant state of amendment as it continues to conform and adjust to Islamic jurisprudence, which is itself evolving (GOP Constitution 1973; Reynolds and Flores 2009).

Statutory law specific to land rights in Pakistan is dated, fragmented, and incomplete. More than two dozen laws govern a variety of land matters at national and provincial levels. Provincial revenue legislation provides for landholding categories, recordkeeping, land transactions, surveys, partition, and authority of revenue department officials. Property rights of the tribal population of FATA are subject to a separate legal framework, the majority of which consists of customary law (GOP Constitution 1973; Khan 1981; GOP 2006a; USAID 2008).

Pakistan has a well-developed and highly diverse body of customary law governing land rights. Customary law differs among provinces and geographical subdivisions, tribes, classes, and residential status, and is enforced by established tribunals known as *jirgas*. Customary law governing land issues ranges from marital property rights to principles governing boundaries. Particularly in the Tribal Areas, people regulate their own affairs in accordance with customary law, and the government functions through local tribal intermediaries. Tribes recognize individual land ownership, ownership by a joint or extended family, and collective landownership by a tribe (Shirkat Gah 1996; GOP 2006a).

TENURE TYPES

Land in Pakistan is classified as state land, privately held land, or land subject to communal rights under customary law. Land for which there is no rightful owner vests in the Provincial Government if within a Province, or with the federal government if not (GOP Constitution 1973; GOP 2006a; USAID 2008).

Major tenure types are summarized as follows.

Ownership. Ownership is the most common tenure type in Pakistan. Private individuals and entities can obtain freehold rights to land, and communal ownership rights are recognized under customary law (Anwar et al. 2005; World Bank 2007a; GOP 2006a).

Lease. Term leases are common for parcels of agricultural land over 30 hectares. Leases are for fixed rates, generally run at least a year and may have multi-year terms. Leases may be written or oral agreements (Anwar et al. 2005).

Sharecropping. Sharecropping arrangements are common on small- and medium-sized parcels of agricultural land (less than 30 hectares). Roughly 67% of Pakistan's tenant-operated land was sharecropped in 2000, and 48% of sharecropper households fell below the national poverty line. Sharecropping arrangements usually provide the landowner with half the production from the land; arrangements vary regarding provision of inputs. Most agreements are unwritten (Haider and Kuhnen 1974; Anwar et al. 2005).

SECURING LAND RIGHTS

Freehold land in Pakistan tends to be retained by families and passed intergenerationally by inheritance. Ownership is rarely registered. Despite formal laws mandating registration, incentives for registering land are weak or nonexistent, procedures complicated, and loopholes numerous. Land is typically titled in the name of the head of household or eldest male family member of an extended family. While community property rights are recognized in formal law, joint titling of land is uncommon. Islamic law is often inconsistent with

statutory law; Islamic law permits oral, unrecorded declarations of gifts of land, while statutory law requires a writ, with the Benami Act legalizing documented but unrecorded transactions. Land in FATA is not recorded. The amount of land actually registered countrywide is unreported (Dowall and Ellis 2007; GOP 2006a; SDPI 2008a).

Landowners who cannot or do not want to cultivate agricultural land routinely lease it out under fixed-term agreements or sharecropper arrangements, and the land-lease market is quite active. Leasehold interests tend to be considered secure within the circumscribed terms agreed to by the parties. In rural areas, tenants on smallholdings have seasonal or annual contracts that as a matter of practice are generally renewed for a number of years. As a matter of formal law, however, tenancy reforms have been ineffective in increasing security, and tenants have little legal recourse in the event of eviction (Jacoby and Mansuri 2006).

In urban areas, those with economic means can purchase houses and house plots; those with limited means usually rent shelter in informal settlements or encroach on surrounding land (Dowall and Ellis 2007; Jacoby and Mansuri 2006).

Foreign-controlled companies that are incorporated in Pakistan can own land in Pakistan. Foreign individuals must obtain permission from the Home Department before acquiring land in Pakistan (Martindale- Hubbell 2008).

Squatting and land-grabbing are common in Pakistan. The lack of land available for housing development and lease by individuals in growing urban areas has forced migrants into informal settlements and squatting on vacant land. Pakistan is also home to individuals and groups known as the Land Mafia who illegally take possession of land or claim ownership of land and dispossess true owners through legal or extra-legal means. The Illegal Dispossession Act of 2004 was passed in an effort to address the problem but has had little effect to date (USAID 2008).

In provinces adopting the national Transfer of Property Act, 1882, the Registration Act, 1908, and the Stamp Act, 1899, all documents transferring interests in land (including leases and conveyances) must be registered with the Provincial Land Registrar, the Provincial Board of Revenue, or certain private housing and development authorities – parallel systems that have overlapping authority and do not coordinate information. Provinces that have not adopted the central legislation can adopt their own registration requirements, and in any province, local authorities can adopt regulations that are contrary to the requirements of the central legislation. In the Punjab, land can be transferred through oral expression made in front of the local revenue officer. Urban land granted to the Army or housing development authorities is registered under separate systems maintained by those bodies, with no record maintained by the Provincial Registrar or revenue department (USAID 2008).

Lack of a comprehensive legal framework governing land rights, absence of standardized documentation and registries of land rights, ineffective formal dispute-resolution systems, and the strength of multiple customary laws create insecurity of land tenure for owners and potential purchasers (Jacoby and Mansuri 2005).

INTRA-HOUSEHOLD RIGHTS TO LAND AND GENDER DIFFERENCES

Women in Pakistan have a legal right to own land under statutory, religious, and customary law. In urban areas professional women are increasingly purchasing house plots in their own names, but women’s ownership of land in rural areas continues to be rare in most regions, despite provisions in customary and Islamic law that expressly provide such rights. Men continue to dominate in social, economic and political spheres in the Tribal Areas and are presumed to control land and other family assets (Mehdi 2002; SDPI 2008a; SDPI 2008b; GOP 2006a; USAID 2008).

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)		0.8
— Women’s Access to Property other than Land (Range: 0-1; 0=no discrimination)		0.5
— Women’s Access to Bank Loans (Range: 0-1; 0=no discrimination)		0.7
<u>FAO: Holders of Land Classified by Sex, 1993</u>		
— Percentage of Female Holders of Agricultural Land		..

Neither customary nor Islamic law in Pakistan recognizes community property rights, but various provisions are made for the support of women, including agreements regarding payments and repayments of dowry, dower, *mehr*, and maintenance. In some regions, dower paid by the groom's family is substantial and often takes the form of land or a house that the husband's family is expected to construct and put in the bride's name. However, the impact on the bride is usually minimal because she will seldom exercise any control over the property in her name (Shirkat Gah 1996; World Bank 2005a).

Customary law grants widows use-rights to land until they remarry or their children come of age. Islamic law divides the deceased's property into 12 shares and grants widows a one-quarter or one-eighth share, and mothers a one-third or one-sixth share. Daughters may inherit land rights (half the share of a son), depending on the practice within the family. If daughters receive land, they most often relinquish the land to their brothers or other male relatives, a practice known as *tanazul*. If a woman receives land rights through inheritance, her rights will likely be challenged unless the bequest is supported by the family, even if the gift was consistent with Islamic law. In general, there is little acceptance under customary and religious law for women's ability to control and manage land. Under customary law the senior male of the family holds the family land in his name (Shirkat Gah 1996; Mehdi 2002; SDPI 2008a; SDPI 2008b; Mumtaz and Noshirwani 2008; World Bank 2005a).

LAND ADMINISTRATION AND INSTITUTIONS

Pakistan has poorly functioning, inadequate, and duplicative systems of land administration, and an overburdened and ineffective formal court system. Parallel customary systems of transferring land and resolving land disputes prove more accessible and efficient, creating a pluralistic legal environment (Dowall and Ellis 2007; USAID 2008; Ali and Nasir 2010).

The Provincial Land Registrar and Provincial Board of Revenue have responsibility to maintain registries of landholdings and revenue payments, but the records are not comprehensive. Junior revenue officers known as *patwaris* survey land, perform boundary demarcation, resolve conflicts, and in many jurisdictions register land ownership, land transactions and mutations of records, and manage land distribution. The *patwari* has custody of the original land records (17 separate registers) for rural and urban land in a given area. Records of land owned by the military and granted to housing and development authorities are maintained by those separate institutions, and the registrations are not lodged with the registrar or revenue departments. In some cases, provincial revenue departments bypass the land registrar. The number of institutions with responsibility over land registration has created an environment ripe for rent-seeking by officials and others involved in the land registration process (Ali and Nasir 2010; USAID 2008).

Registering a land transaction in Pakistan involves six procedures, requires an average of 50 days, and costs 5.3% of the total property value. The formal land-registration process begins with engagement of a lawyer or deed writer to draft the transaction document on required stamp paper. The parties to the transaction present the document to the Land Registrar who verifies the identity of the parties and their authority to enter into the transaction, and enters certain endorsements. The owner must take the document to the Board of Revenue, or to the *patwari*, to enter a record of the mutation in the Record of Rights. The *patwari* issues a *fard*, which is an extract of the Record of Rights and evidences ownership of the land (World Bank 2008; USAID 2008).

Landholders report that the land administration system is complicated, the procedures are not published for the public, and the processes are not transparent, leaving opportunities for corruption and insecure land tenure. Women report visiting the Provincial Land Registrar without incident or special concerns, and some offices report willingness to make home visits for women who are uncomfortable entering the office. In some areas women report difficulties dealing with *patwaris* who are reluctant to deal with women or to record women as land owners (Ali and Nasir 2010; USAID 2008; Mehdi 2002).

LAND MARKETS AND INVESTMENTS

Rural land in Pakistan is rarely bought and sold. Land leases are more common, and the lease market is active. Thirty-three percent of cultivated land was under some form of tenancy arrangement in 2000; in 2001–2002, 18% was sharecropped (the percentage sharecropped in 2010 is estimated to be about 66%). The productivity of sharecropped land is about 20% lower than that of owner-operated land (World Bank 2007a; Jacoby and Mansuri 2006; Barnhart 2010).

All of Pakistan's cities are experiencing high rates of urban growth. Land and housing are scarce, and prices are escalating. The state owns a substantial amount of urban land and is criticized by the business community for failing to develop the land or place it on the market. A survey of 700 firms in Pakistan identified land-market issues as the most significant barrier to investment; the business community contends that the government creates artificial shortages through inaction or occasional bans on the sale or transfer of state land. Populations living in informal housing and squatting have increased (Dowall and Ellis 2007; USAID 2008; World Bank 2007a).

Pakistan recognizes simple mortgages, mortgages by conditional sale, and usufructory mortgages. Mortgage law was developed with attention to protecting farmers against moneylenders, and procedures for recovering the investment in the event of default are lengthy and costly for lenders. Ambiguous property rights have limited the availability of mortgages to wealthy individuals purchasing land in large urban areas (Martindale-Hubbell 2008; Dowall and Ellis 2007).

Constraints to the development of a more effective land market include high transaction costs, inaccurate land records, lack of efficient dispute-resolution procedures, high land prices in relation to income (especially agricultural income), and lack of credit. In urban areas, public land ownership is high, and local development authorities are identified as the primary vehicle of housing development. The performance of the development authorities has been poor, and much of the public land remains vacant (World Bank 2007a; Dowall and Ellis 2007).

COMPULSORY ACQUISITION OF PRIVATE PROPERTY RIGHTS BY GOVERNMENT

The 1973 Constitution and the 1894 Land Acquisition Act (including federal and provincial amendments) provide that the state can acquire property for a public purpose upon payment of compensation required by law. Specific circumstances in which the state can acquire property include: when necessary to prevent danger to life, property, or public health; when the property belongs to an enemy or evacuee; when necessary for the proper management of the property, and to provide housing and services such as roads, water supply, and power (GOP Constitution 1973).

The Land Acquisition Act requires public notification of an acquisition, an assessment of impacts and the valuation of affected assets by the District Land Acquisition Collector. Thereafter, the Act stipulates that the state will pay compensation in cash at market rates for land and crops to titled landowners and tenants who are registered with the Land Revenue Department or who possess formal lease agreements. Land valuation is usually based on recent 3- to 5-year averages of registered land sales rates, with an added 15% compulsory land acquisition surcharge. Local governments and donors implementing programs have considered the Land Acquisition Act to be too narrow, and its safeguards inadequate to protect populations affected by land acquisitions. In 2002, a National Resettlement Policy and Resettlement Ordinance were drafted. The draft policy and ordinance legislation expanded the categories of people entitled to compensation to include unregistered tenants, occupants and users of land, employees, and businesses. The drafts also allowed for compensation in the form of land. The government has not adopted the draft policy and ordinance, but their terms guide some resettlement projects (ADB 2007).

LAND DISPUTES AND CONFLICTS

Land disputes are prevalent in rural and urban areas throughout Pakistan. A revenue court system has jurisdiction over disputes regarding land documents, tenancy, land revenue, and land transactions. Disputes are heard at the *tehsil* level (a level of local government similar to a county) by the *tehsildar*, the officer responsible for the collection of land revenue and land administration. A Chief Settlement Officer and the provincial-level Board of Revenue are the appellate authorities within the revenue court system. The revenue court system, which is designed to provide a specialized, local, rapid resolution of disputes, has been criticized by landholders as time-consuming, complex, and subject to corruption. Land administration offices do not publish procedures for bringing a claim, documentation of land rights is often missing, land records maintained by the local authorities are often incomplete or of questionable validity, and land administration officials such as the *patwari* often do not appear to provide evidence. Cases may take years to resolve (Ali and Nasir 2010).

Pakistan's formal court system also has jurisdiction to hear land cases, creating a parallel structure of courts. Land disputes are the most common form of dispute filed with the formal court system, perhaps in part because filing a case may stay a pending revenue court proceeding. Pakistan's judiciary is hampered by low pay, poor training, and a large volume of cases. Between 50% and 75% of cases brought before lower-level civil courts and the high courts are land-related disputes. By one estimate, over a million land cases are pending countrywide. Major causes of land disputes are inaccurate or fraudulent land records, erroneous boundary descriptions that create overlapping claims, and multiple registrations to the same land by different parties. Credible evidence of land rights is often nearly impossible to obtain. Land cases can take between 4 and 10 years to resolve, with the party in possession of the land delaying adjudication in order to prolong the period of beneficial use. Appeals are assumed (USAID 2008; Dowall and Ellis 2007; Ali and Nasir 2010).

Inhabitants of Pakistan's Tribal Area do not have access to the High Court and Supreme Court except for constitutional claims and challenges. Land disputes are handled by the traditional *jirga*: a round-table conference in which there are no leaders, and participants are selected at the time of convening based on age, reliability, and shrewdness. Decisions must be unanimous and the *jirga* can impose fines for wrongful behavior. In Punjab and Sindh Provinces, local leaders and elected *panchayat* (local governance body) members often hear and resolve land disputes. In most areas, women are not permitted to participate in the *jirga*, and resolutions reached often perpetuate existing biases against women's land ownership and control (Ali and Rehman 2001; GOP 2006a).

KEY LAND ISSUES AND GOVERNMENT INTERVENTIONS

While the World Bank and other donors have identified the role that unequal land distribution plays in perpetuating rural poverty, there is no current call for another large-scale effort at land reform. Some commentators note that most members of parliament are drawn from large landowning families, and religious and military leaders do not support land reforms. There is evidence of some land redistribution efforts at the provincial level in Punjab and Sindh provinces. A project initiated in Sindh Province in 2008 plans to distribute 91,000 hectares of cultivable land to landless and poor peasants, with a focus on including women beneficiaries. As of late 2009, the province had distributed 17,400 hectares of land to 4200 beneficiaries, with each beneficiary receiving between 1.6 and 10 hectares of land. The project reports that about 70% of the beneficiaries are women. The project has been challenged by local elites, and some women have had difficulty obtaining documents of their rights and defending their rights against male relatives (*Nation* 2010; World Bank 2007a; Niazi 2003; Ebrahim 2010).

With support from the World Bank, the government of Pakistan undertook a five-year (2007–2013) US \$51 million Punjab Land Records Management and Information Systems Project to improve the land records service delivery of the Province of Punjab. The project's goals are to contribute to long-lasting tenure security and more efficient operation of land markets by upgrading the land records management system for Punjab Province. The project includes revising current business processes and associated legislation and regulations, establishing Service Centers where land records will be maintained and available to the public in digital form, and establishing linkages between the land records system and the system for registration of deeds (World Bank 2007c).

DONOR INTERVENTIONS

USAID increased its budget to provide substantial support to Pakistan's agriculture sector in FY 2011, with interventions designed to: assist in infrastructure development, improve staple and horticulture cropping systems; enhance productivity, incomes and employment; strengthen the GOP's capacity in agricultural research, education, and policy analysis; support the development of markets; and reform policies to increase annual agriculture GDP. USAID plans to concentrate low-income farming families, and impoverished areas that are susceptible to extremism (USDOS 2010; USDOS 2009).

The Asian Development Bank (ADB) is the largest multilateral donor in Pakistan and has ongoing projects focusing on agricultural growth and rural poverty-reduction. ADB's strategic focus is on: promoting

sustainable, modern, and diversified agricultural production and marketing systems; providing ongoing support for agriculture sector reforms aimed at facilitating a progressive increase in agricultural productivity and profitability; and supporting area development projects in regions with high incidences of rural poverty, including *barani* areas of Punjab and the FATA. ADB is also supporting a coastal area development project in Sindh and providing ongoing assistance for development of a national agricultural sector strategy. The Department for International Development (DFID) has been the lead donor on health initiatives in Pakistan and also has programs devoted to building local institutions and developing governance structures (ADB 2009; Malik 2005; DFID 2008).

The Aga Khan Foundation's Rural Support Programme (AKRSP) has been active in Pakistan since 1982. AKRSP works through communities in the northern regions focusing on institutional development, women's issues, natural resource management, infrastructure development, and access to credit. Shirkat Gah is an NGO founded in 1975 and devoted to women's issues in Pakistan. The organization engages in advocacy, capacity-building, training, research, and has extensive publications on issues of women and law. The National Rural Support Program (NRSP) and the Punjab Rural Support Program (PRSP) are large NGOs active throughout the country in mobilizing and organizing farmers, managing microfinance and credit programs for the rural sector, identifying entrepreneurial activities at the village level, and facilitating communication among government institutions, development organizations, and communities to improve service delivery at the grassroots level (World Bank 2007a; Shirkat Gah 1996; Weidemann Associates 2009).

2. FRESHWATER (LAKES, RIVERS, GROUNDWATER)

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Pakistan is one of the world's most water-stressed countries. Pakistan has a semi-arid climate with an average rainfall of under 240 millimeters per year countrywide and internal renewable water resources of 55 cubic kilometers per year, which equals the amount of groundwater resources. Pakistan is dependent on a single river, the Indus, for its surface water, and is close to using all the available surface and groundwater to meet increased demands of its agricultural, domestic, and industrial sectors. Pakistan is expected to enter a condition of water scarcity by 2035 (World Bank 2005b; FAO 1997).

Ninety percent of water in Pakistan's rivers originates from northern mountainous watersheds. One of the most valuable functions of forests and rangelands in Pakistan is the sustained supply of sediment-free water for the generation of environmentally-friendly and cheap electricity and water for agriculture. The Indus is fed by snow-melt off the Himalayas in Indian-held Kashmir, and by river-flow from neighboring countries. The Indus Basin covers 71% of Pakistan and is home to the world's largest contiguous irrigation system – covering 14 million hectares of barrages, canals, and watercourses. As a result of low efficiency in water delivery, the seasonal availability of water, and inadequate reservoirs, only 60% of the water in the system reaches the farms (GOP 2009; World Bank 2005b; Khan Qureshi et al. 1994; FAO 1997).

Agriculture is the biggest water user in the country, consuming an average of 96% of available water resources. Eighty-five percent of Pakistan's cultivated land is irrigated, and demand for labor is 50% to 100% higher on irrigated land. Labor is provided by landless and near-landless laborers. Water drives the demand for labor and for more stable employment for those in the poorest sections of the rural economy (World Bank 2005b; Khan Qureshi et al. 1994; World Bank 2007b).

Patterns of water use are causing environmental degradation (salinity and soil erosion), and inefficient water use causes lower agricultural productivity. Increasing numbers of livestock are stressing the Indus Basin, and the growth in private-sector development of groundwater has threatened water-table levels. Most major cities depend on tube wells for tapping local aquifers. Rapid urbanization is expected to create demand that exceeds supply. In addition, large quantities of untreated, often toxic industrial and municipal wastes are dumped into open drains and leach into the aquifers (World Bank 2007b; FAO 1997; World Bank 2005b).

LEGAL FRAMEWORK

Pakistan has no comprehensive water law defining rights to resources. Multiple studies have identified the need for formal, enforceable communal and individual property rights to water, and the government has

drafted numerous water policy statements and prepared several water resource strategies. A 1991 Water Accord defines rights to water among the provinces, and the Canal and Drainage Act governs irrigation systems. Pakistan and India are signatories to the Indus Water Treaty, which governs use of Indus River water. The process of reaching agreement was arduous, but the two countries have abided by its terms (FAO 1997; Stimson 2007).

As a matter of customary law, and consistent with principles of Islamic law, groundwater is owned by the person or entity that owns the land above it. In practice, the groundwater is owned by the person who operates the pump. Water in the Indus Basin canal irrigation system is considered state property until it enters a watercourse managed by a group of farmers and owned by them as common property. Water entering a private farmer's land becomes the property of the farmer (Meinzen-Dick 1996; Kamal 2005).

TENURE ISSUES

Individuals and communities obtain water from trenches, canals, and wells. Groundwater markets through which tube-well owners sell water to other farmers have become a major source of water for those who do not have wells. Wealthier farmers tend to have tube wells, and poorer farmers either pay by the hour for pumping or bring diesel for the pump and pay a lesser charge (Meinzen-Dick 1996).

In groups that depend on open-access sources of water, women and men appear to have similar rights to the resource for drinking, watering animals, and small-scale cultivation. However, women and girls have primary responsibility for collecting water, a task that can amount to between 400 and 600 hours of work per year. The consequences of water scarcity are borne more heavily by women. Women and children are unable to migrate from areas impacted by drought; they are often forced to remain in areas with lower food availability and without access to safe drinking water (Kamal 2005; Mumtaz and Noshirwani 2008).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Water and Power Development Authority (WPDA) is a semi-autonomous entity responsible for generation and distribution of power, irrigation, water supply and drainage, prevention of water-logging, and flood control. The Authority manages water-flow from reservoirs based on estimated need of the provinces, as identified by the Provincial Irrigation Departments. The Indus River System Authority (IRSA) is responsible for managing shared water issues among the provinces (FAO 1997).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Pakistan has devoted substantial time and resources to determine how to reorient the government to manage its water resources. The government developed a Ten Year Perspective Plan (2001), a National Water Policy (2002), and the Pakistan Water Sector Strategy Study (2002). The key findings of these studies indicate a need for: creation of a legal framework defining surface and groundwater rights; provisions for equitable water distribution and improvement of services; modernization and increase of infrastructure; and the development of a financially sustainable water system (World Bank 2005b).

With World Bank funding, the government supported creation of the first Water Users Associations (WUAs) in 1981. By 1991 there were 17,000 WUAs covering 16% of watercourses and involving 85,000 farmers. With the support of the ADB, Pakistan undertook a 7-year Rural Water Supply and Sanitation Project. The Ladies First Accessible Water for Entrepreneurial Women in Punjab Province brought water to 325 remote villages and engaged women to manage and maintain the projects (FAO 1997; Kamal 2005).

The KPK government's 7-year Swabi SCARP (Salinity Control And Rehabilitation Project), supported with funding and technical assistance from the ADB and the Swiss Agency for Development and Cooperation (SDC), established a drainage system for waterlogged areas, converted and renovated watercourses, formed WUAs, and introduced new techniques and technologies to improve agricultural production in relation to the increased water supply. Out of 933 WUAs formed, 903 signed Terms of Partnership agreements for watercourse remodeling and 903 watercourse renovation schemes were completed (NRSP 2009).

With support from ADB, the Punjab Irrigation and Power Department (PIPD) is implementing the Barani Integrated Water Resources Sector Project (BIWRSP). In Punjab Province about 19% of cultivable lands are in *barani* (rainfed) areas that suffer from water scarcity. The Project intends to increase crop and livestock

productivity through irrigation development and increased access to water and sanitation. Activities will include: (1) the construction of dams and appurtenant structures to increase water availability; (2) watershed management to enhance dams' life expectancy; (3) development of the rural water supply for communities in the vicinity of a dam; (4) development of community-managed irrigation distribution networks; (5) agriculture extension services to support the transition to irrigated agriculture; and (6) institutional support. To address the problem of sustainability and low economic returns observed in previous dam projects in *barani* areas, the Project will change the subsector implementation practices and follow an integrated approach, looking simultaneously at dam development, watershed management, and command area development. The Project also plans to support the devolution of the water scheme to organized water users and foster a demand-driven approach through the inclusion of social mobilization support (ADB 2008).

DONOR INTERVENTIONS AND INVESTMENTS

More than 50 projects, funded by various donors, address water supply and sanitation in Pakistan. USAID and the Food and Agriculture Organization (FAO) are working with the Ministry of Food, Agriculture and Livestock on a 6-year (2004–2011) US \$15 million project in Balochistan to improve water resource management that increases on-farm water-use efficiency. The project includes components to introduce water-efficient crops and new animal husbandry, feed and rangeland management practices. USAID plans to invest in the development of water storage, canals, and irrigation services to improve water management, especially of the Indus Basin Irrigation System. Programs will include rehabilitation and/or expansion of irrigation to help make Pakistan's agricultural industry more stable and profitable. Assistance will be implemented primarily through provincial irrigation departments, thus helping build long-term capacity at the sub-national government level to manage water in a sustainable fashion. USAID is also concentrating efforts on providing safe water and sanitation facilities in rural areas (AIDA 2009; USAID 2010a; USAID 2009a; USDOS 2010).

The World Bank funded a 6-year (1998–2004) US \$126 million National Drainage Programme to improve the irrigation and drainage system in Pakistan. The Programme's objectives included governance, policy, and institutional reform. The Bank assessed performance at the end of the project in 2004 and rated the project unsatisfactory, in large measure due to lack of appreciation for centuries-old systems of water management, lack of accountability of government entities, and the need for a legal framework. The World Bank also prepared a comprehensive evaluation of the country's water resources and the foundation for a strategic plan (World Bank 2007b; World Bank 2005b).

3. TREES AND FORESTS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Forest covers 2.5% of Pakistan's land area. The country has 3.4 million hectares of state-owned forest and about 4.5 million hectares of private forest. The country's forests are mostly located in the KPK and Northern Areas. The primary forest type is coniferous and scrub forest, followed by juniper, chilghoza, scrub, riverine, and mangrove forests. Most of the country's irrigated plantations are in Punjab and Sindh provinces (GOP 2009).

Pakistan's major forest-based industries include paper and furniture production and construction of wood items. Forests provide timber, fuelwood, and forest products such as honey, medicinal plants, wild fruits, nuts, and gums. Access to forest land and forest products is a critical component of rural livelihoods, especially for the poorest members of the population. Forests provide forage for livestock and protect watersheds from floods, soil erosion, and siltation. The most valuable coniferous forest is declining at a rate of 40,000 hectares annually, and Pakistan's public forests cannot supply sufficient wood to meet the demands of the population. Trees grown on private land provide 90% of Pakistan's wood and fuel requirements. In 2007, there was a gap of about 29 million cubic meters in demand and supply for timber and fuelwood. The gap has been filled by overexploitation of forest resources and import of paper products and timber (GOP 2009; World Bank 2006; Asif 2008; Wani 2001).

Pakistan has one of the higher rates of deforestation in the world (2.1% annually). Every major forest type in the country is suffering from overgrazing, indiscriminate cutting, and poor management. Challenges facing the forest sector are: degradation of watersheds; deforestation (due to agricultural expansion, mining, infrastructure development); loss of habitat and species diversity; drought; conflicts over forest rights; weak institutions; and ineffective law enforcement. Forest encroachment, illegal logging, and theft of non-timber forest resources are common in Pakistan (Wani 2001; GOP 2002).

Loss of forests and vegetation in Pakistan's northern mountain watersheds can interfere with the hydrological cycle and cause destructive landslides and flash floods. The northern Pakistan floods of 1992 were attributed to large-scale deforestation in mountain areas, leading to an effort by the Government of Pakistan to ban commercial harvesting of forests (GOP 2009).

LEGAL FRAMEWORK

In 1947, Pakistan adopted the Indian Forest Act of 1927, renaming it the Pakistan Forest Act of 1927 (Act No. XVI of 1927). The Act grants the government the power to reserve forest or other land for forest land, create protected forest areas, grant or deny rights to forest land, form village forests, establish social forestry programs, and regulate timber production (GOP Forest Act of 1927).

Pakistan's 1991 Forest Policy has been under reconsideration since 2007, and a new policy has been drafted and was sent to the Cabinet for approval in April 2010. The draft policy contains support for the scientific management of forests, participatory forest management, and regulation of the encroachment of forest lands. The draft policy governs Pakistan's renewable natural resources (e.g. forests, watersheds, rangelands, wildlife, biodiversity and their habitats), and is intended to be an umbrella policy guiding the central, provincial, and district governments. The policy emphasizes the active participation of all concerned agencies and stakeholders in the sustainable development of the resources and enhancement of rural livelihoods. The policy stresses stricter control over the public forests and the importance of community management of natural resources (Shahbaz et al. 2006; APP 2010; Asif 2008).

Under the Constitution, forests are a provincial concern, and provinces can draft and implement their own forest policies within the framework and guidance of the national forest policy. In 2001, the KPK (formerly the NWFP) adopted a provincial forest policy, followed by the North West Frontier Forest Ordinance (2002), supporting community-based forest management and private investment in the forestry sector, and recognizing the problems of local fuel needs and illegal timber harvesting. That the ordinance authorizes forest department staff to use force in implementing the terms of forest policy has been seen by some commentators as contrary to principles of community forest management (Shahbaz et al. 2006).

TENURE ISSUES

Under Pakistan's Forest Act, forest users can submit claims to the Forest Settlement Officer for rights to forest land or forest resources. If applicants satisfy the conditions imposed by the Forest Officer and regulations, the Officer has the discretion to issue a limited grant of rights. The extent to which the Forest Act has been implemented, the number of applications made, and the number of grants issued are unknown. Most of Pakistan's forests are in the mountainous areas where tribal communities have lived for centuries, holding the land, including forestland, under principles of customary law. Documentation of forestland rights is rare and rights to open-access areas ambiguous, laying the basis for potential conflict (GOP Forest Act 1927; Wani 2001).

Under the Forest Act, the government can designate areas as protected and reserved for forests, and can restrict the use of the forest land and resources. Holders of grants can lose rights if they cause environmental damage, harvest unauthorized products, or engage in prohibited actions (GOP Forest Act 1927).

In most regions, forests that are not protected or reserved are considered the common property of a village, tribe, or clan and are known as *shamilat*. In some villages *shamilat*, which can also include rangeland and wasteland, have been divided up among the group members who develop their sections individually, usually for cultivation. Elsewhere *shamilat* are still considered common property and the manner in which they are managed varies by community. Where *shamilat* are productive, some communities ban felling of trees and

grazing in the forest during some periods and fine those who do not obey the ban. Decisions about forest management, fines, responsibilities, and enforcement are made either by the *jirga* or in more widely-attended village meetings (Shah and Husain 1998).

Under customary law, women in Pakistan generally have rights to collect firewood from forest areas and gather non-timber forest products such as herbs and tubers. Governmental restrictions on forest access through classification as protected or reserved forests have often deprived women and their families of critical resources (Mumtaz and Noshirwani 2008).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Ministry of the Environment, Forestry Wing, is responsible for national policy-making, donor negotiation and coordination, national forest surveys and assessments, reporting, and meeting international obligations. Provincial governments are responsible for the protection, management, and development of forests, forest law enforcement, and forest operations (Asif 2008).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

In April 2010, the Ministry of Environment sent a new Forest Policy to the Cabinet for approval. The Forest Policy is part of a program to address deforestation and promote sustainable use of the country's forests. The government has initiated a 6-year, US \$142 million tree-plantation and afforestation project and partnered with the World Wide Fund for Nature (WWF) in developing and implementing the National Forest Program. The Program will take a participatory integrated forest landscape management approach, and collaboration will be promoted among stakeholders like Federal and Provincial Forestry Institutions as well as the Ministry of Environment and the Provincial Forest and Wildlife Departments, local governments, communities, and NGOs. Provincial Level action plans have been developed for technical assistance and capacity-building, planning and monitoring, coordination, environmental education, awareness-raising, research and demonstration trials. During Phase I (first 5 years) the recommended models and approaches will be tested on a pilot basis through development and implementation of projects on the identified themes, coupled with the required capacity-building and institutional strengthening. Phase I will mainly focus on the Northern Mountainous Landscape of Pakistan. In Phase II (years 6–10) the lessons learned and experiences gained in Phase I will be replicated in the rest of Northern Mountainous Landscape; similar pilot-testing will be initiated in the other landscapes such as the Sub Mountainous, Riparian, Irrigated Plains, Deserts and the Coastal landscapes. During Phase III (years 11–15) overall strategies to replicate and institutionalize successfully tested approaches and models will be developed and implemented at federal, provincial and district levels (APP 2010).

DONOR INTERVENTIONS AND INVESTMENTS

The National Rural Support Programme (NRSP) is an NGO with regional and field offices in 46 districts in all the four provinces. NRSP is currently working with more than half a million poor households organized into a network of more than 57,179 Community Organizations on projects that include grassroots development initiatives, tree farming, and community farm nurseries (NRSP 2009).

In the Chakwal area of Punjab Province, Pakistan's World Wildlife Fund (WWF-P) office has worked with local communities to preserve the Jhangar forest from degradation related to the expansion of agriculture and mining. The forest covers about 3000 hectares and includes 40 different species of trees, shrubs and herbs, 31 species of birds, 16 species of mammals, and a large number of reptiles and insects. Three endangered species – the indigenous Punjab Urial, the common leopard and the peafowl – are found in the forest. WWF-P helped local residents form village organizations and the Jhangar Valley Conservation and Development Committee (JVCDC), which has been instrumental in limiting timber-cutting in the forest, preventing encroachment by nomads, and developing alternative energy sources through promotion of plantation schemes and fuel-efficient stoves (Wildlife of Pakistan 2002).

Two Pakistani NGOs engaged in forestry issues are the Society for Conservation and Protection of Environment (SCOPE), which focuses on desert communities and dryland forestry, and Subh-e-Nau, which is an environmental NGO advocating for the protection and development of forests (Asif 2008).

4. MINERALS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Pakistan has good deposits of quality gemstones, along with coal, copper, iron ore, limestone, and salt. Most of the country's minerals have not been explored or mined due to lack of infrastructure and investment. The country also has oil reserves, although these are not sufficient to meet domestic demand. The country has some large natural gas fields. Mineral production accounted for less than 1% of GDP in 2006. One and one-half percent of the labor force was employed in the mineral industry (Kuo 2007).

The minerals manufacturing sector is dominated by the cement industry, which uses indigenous limestone. Other minerals mined in Pakistan are antimony, aragonite, barite, celestite, chromite, gypsum, marble, and salt (Kuo 2007).

Groups of individuals throughout Pakistan are engaged in informal artisanal mining operations. Informal mining provides rural employment and non-farm income. However, informal mining is usually performed beyond the purview of government oversight using methods that can cause substantial environmental damage and are extremely hazardous to the employees, who are usually among the poorest rural laborers and often include children and bonded workers (GOP 2003b; AMRC 2007).

LEGAL FRAMEWORK

The Constitution provides that oil, gas, and nuclear materials and minerals occurring in special areas (FATA and disputed territories) are state-owned and -managed. All other minerals are under provincial control. The provincial governments are responsible for the development and exploitation of minerals within their domain (GOP Constitution 1973).

The Regulation of Mines and Oil Fields and Mineral Development (Federal Control) (Amendment) Act 1976 governs mineral rights. Recognizing the need for updated legislation, the federal and provincial governments jointly developed the National Mineral Policy of 1995 to establish a regulatory framework, institutional arrangements, and equitable fiscal regime. The government has yet to draft a new mining law as called for by the National Mineral Policy, although provincial-level regulations have been enacted (GOP National Mineral Policy 1995; GOP 2003c).

TENURE ISSUES

The National Mineral Policy contemplates adoption of Mining Concession Rules that provide for four types of mineral titles: reconnaissance license; exploration license; mineral deposit retention license; and mining lease. Pakistan permits private companies to own, produce, and market non-fuel minerals, but will grant mining leases to foreign companies only after they are incorporated locally. Under the Policy, the government will terminate licenses or leases for nonperformance of the terms of the agreement, misrepresentation, and bankruptcy (GOP National Mineral Policy 1995).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Ministry of Petroleum and Natural Resources (MPNR) is responsible for the exploration and production of hydrocarbons, transmission and distribution of natural gas, and exploration and development of mining ventures. The Ministry works through a series of private and quasi-governmental companies. The Ministry is responsible for the administration and control of the mining sector through the Federal General Direction of Mines. The National Mineral Policy of 1995 provides for the establishment of a Mining Investment Facilitation Authority (MIFA) in each province, FATA, and the disputed territories. MIFA members will include the Chief Minister of the province, the Minister of Mineral Development, and officials from other departments. The MIFA's responsibilities include: directing and monitoring mineral activities; reviewing the regulatory regime and administrative functioning of the sector within the province; reviewing progress on investment in the sector; ensuring protection of the environment, and assisting with support for investors (such as access to land). In this last, MIFA serves as an appellate forum for resolution of disputes between investors and the licensing authority. The Geological Survey of Pakistan is responsible for creating the geological and geophysical maps necessary for mineral exploration (GOP National Mineral Policy 1995; GOP 2003b).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

The government of Pakistan has recognized the need to develop further legislation to guide the mining industry, with particular attention to the need to coordinate the roles of central and provincial government, provide capacity-building for public mining institutions, provide infrastructure to support potential mining development, and address the issues of small-scale and artisanal mining operations, with particular attention to environmental impact (GOP 2003b).

The government of Pakistan recognizes that an increase in mining activities requires increased attention to environmental issues. The development of the mining sector will require administration, management, monitoring, and enforcement of environmental matters. The government plans to establish an environmental unit with the Ministry of Petroleum and Natural Resources that will coordinate activities with the Environmental Protection Agency of Pakistan and the provincial-level counterparts. The environmental unit will be responsible for: reviewing environmental impact assessments for new operations; preparing programs for environmental compliance and closure plans for mining sites; conducting environmental audit; and proposing laws and regulations (GOP 2003b).

DONOR INTERVENTIONS AND INVESTMENTS

USAID is providing US \$2.23 million in funding to support development of a modern machinery pool for the marble miners of Bajaur and Mohmand agencies in the Federally Administered Tribal Areas (FATA). The pool will allow quarries to rent machinery at low rates, which will help small players in the industry make use of the modern mining techniques. The modern equipment will reduce product loss and environmental damages caused by blasting, and raise production. The estimated marble production from Bajaur and Mohmand agencies is 1.7 million metric tons per year. With the new equipment, miners will produce an estimated 4.9 million tons per year (USAID 2010b).

The International Union for the Conservation of Nature (IUCN), with the support of the SDC, has been working in Abbottabad, a major mining area in the Northwest Frontier Province. The IUCN recognizes that while mining poses health, welfare, and environmental hazards, the industry also has the potential to contribute to the alleviation of poverty. The IUCN is advocating for adoption of environmental fiscal reform measures that include pro-poor and pro-environment policy changes and fiscal reform, including a revised tax structure (IUCN 2006).

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