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PROPERTY RIGHTS AND 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 208 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 produces the commodities that drive industry, with raw cotton and cotton textiles accounting for some 50–60 percent of exports. The Indus river basin is a resource shared with India, China and Afghanistan, with 47 percent of the IBIS land area is in Pakistan (FAO 2011b). The 1960's Indus Water Treaty with India governs Pakistan's access to water and maintains a precarious balance in an already water scarce region. 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 50 percent of rural households are reported to be landless or near-landless. The landlord-tenant relationship based on patterns of unequal land distribution remains strong in Pakistan. Tenant farmers 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, has 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. Achieving commitment to drafting such land-reform legislation will require considerable political will. While it might be a challenge to create the right mix of political and economic incentives that will compel political and business elites to sponsor and pass legislation that privileges other socio-economic and class interests over their own, political leaders at the federal and provincial

levels will need to work creatively and proactively to establish such incentives. 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 and informality in the urban land-tenure sector are significant, a more proactive role for local development authorities to address housing and industrial land is both necessary and 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.

Cities and municipalities still must clarify and understand the balance of power between the federal and provincial government as they operationalize the 18th amendment to the Constitution, but weak and politicized municipal governments cannot maintain peace and security in ethnically and religiously diverse and densely populated areas.

KEY ISSUES AND INTERVENTION CONSTRAINTS

- **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, including cultural heritage tourism. 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 including those in historic areas. 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 lack of a national water policy, and what that means for water management and distribution, has direct ties to and must be formulated within the context of 1960 Indus Water Treaty, which regulates much of the country's water supply. 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. Moreover, Pakistan's constitution assigns provincial governments the main responsibility for drinking water and sanitation service delivery, making national policies difficult to enforce. Donors could provide technical

assistance and support to assist the government in creating the political will as well as assisting its current 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 improving inter-sectoral coordination.** Donors might continue to support the systematic upgrading of land, water and forest administration in urban areas as well as between the federal government and the provinces when other assistance and investments are being made. Over time, integration of resource governance responses with other kinds of assistance could lead to greater tenure security, broader access to land and water and sustainable use of forests. All of this could promote economic and social development and enhance political stability and inter-provincial harmony.
- **Climate Change, Law and Institutional Capacities.** With growing global interest in carbon emission reductions and the Government of Pakistan embarking on its own Reducing Emissions from Deforestation and Degradation (REDD+) readiness, donors could provide technical assistance and support to assist the government in its efforts to create a comprehensive legal framework governing carbon rights and financial payments. Improving the ability of a range of institutions who historically have not been involved in development projects and programming, such as the Meteorological Department, is needed to 'climate proof' both the EIA process and infrastructure planning.
- **Forest Management and Policy.** Private and communally-owned forests and woodlots provide the majority of the country's wood and fuelwood requirements. Watershed and rangeland management are needed to enhance biodiversity, maintain fodder for livestock and reduce the costly impact of flooding. Donors could provide technical assistance to forestry departments at the federal and provincial levels in an effort to improve forest quality and develop a strategy of public-private partnerships for commercial timber production that would include strengthening business management skills and record keeping.
- **Disaster Risk Reduction.** Pakistan has experienced heavy rains, flash floods, landslides and droughts since 2010. The recent establishment of provincial disaster management agencies provides donors with an opportunity to promote integrating disaster risk reduction measures within this new decentralized management structure. Given the multi-tiered nature of implementation at the federal and provincial level, horizontal and vertical integration driven by land use and management exercises coupled with community enumeration exercises would strengthen coordination and resilience in disaster risk reduction and post-disaster management. Legal and policy reform is needed, as current environmental laws do not fully include climate change, disaster risk reduction or climate mitigation or adaptation.
- **Rule of Law.** Rule of law in many densely-populated urban areas and in remote rural areas remains weak due to corruption and collusion. Donors could support police to disarm criminal gangs and land mafias. Capacity building and strengthening an internal check and balance system is needed to dismantle collusion between police and local bureaucrats. Resources are needed for a range of public institutions, including municipalities, to help officials reclaim their administrative functions. This, in turn, would improve the provisioning of goods and service and increase residents' quality of life.

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SUMMARY

Land ownership is highly concentrated in rural Pakistan, and is a root cause of persistent poverty and instability countrywide. Only two percent of households have land holdings larger than 20 hectares, accounting for 30 percent of total land holdings (World Bank 2014). In urban areas, a lack of coordination between land-owning institutions, and weak local governance, continue to perpetuate power imbalances that not only enable violent extremism, but also exploitation of poor communities that reside in squatter settlements.

Land with access to water is the principal asset in the rural economy and poverty is strongly correlated to landlessness. While, the highest rate of landlessness is in the Sindh Province (PILDAT 2016b), about 50 percent of the rural population is landless or near-landless and lacks access to irrigation water, rights to surface and groundwater and other factors of production (Ghosh 2013).

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. Furthermore, as bank loans for agriculture and other productive activities are tied to using land as collateral, a large percentage of women and landless farmers are unable to secure loans.

Only one-third of the population has access to safely-managed drinking water. Access to sanitation is much lower, with no safely managed sanitation in the country. Less than half of the rural population has access to basic sanitation. Shared latrines are common in urban areas, with an estimated 20 persons per toilet (Shaikh and Naib 2017).

Box 1. Macro Indicators

	Year	Score
Population, total	2017	207,774,520
Population ages 0-14: 15-64: 65+ (% of total)	2017	32.1: 61.4: 6.5
Population growth (annual %)	2017	2.4
Rural population (% of total population)	2017	59.4
Life expectancy at birth in years (m/w)	2017	65.8 / 68.2
Population density (people per sq. km)	2017	260
Literacy rate (% of people ages 10 and above)	2017	58
Land area: Surface area (sq. km)	2013	770,880: 796,100
Arable land (% of land area)	2014	39.5
Agricultural land (% of land area)	2014	47
Permanent cropland (% of land area)	2014	1.1
Agricultural irrigated land (% of cropland)	2014	0.1
Forest area (% of land area)	2017	5
Nationally protected areas (% of total land area)	2014	11
Renewable internal freshwater resources per capita (billion cubic meters)	2014	296
Annual freshwater withdrawals, agriculture: domestic: industry (% of total freshwater withdrawal)	2014	94.0: 5.0: 1.0
Crop production index (2004-2006 = 100)	2014	117.0
Livestock production index (2004-2006 = 100)	2014	158.4
GDP (current US\$ in billions)	2016	284
GDP growth (annual %)	2017	5.58
Agriculture: livestock: industry: mining: services: finance & insurance (% of GDP)	2017	19.53: 11: 20.88: 2.9: 59.9: 3.4
Net ODA received (% of GNI)	2015	1.3

Sources: FAO 2014; UNEP-WCMC 2014; World Bank 2015 and 2016b; GOP 2017a and 2017b

Table I. Drinking water, sanitation and hygiene data—Pakistan

Pakistan	Drinking water			Sanitation			Hygiene		
	National	Rural	Urban	National	Rural	Urban	National	Rural	Urban
	2015	2015	2015	2015	2015	2015	2015	2015	2015
Safely managed	36	32	41	-	-	-	-	-	-
Basic service	53	54	51	58	48	74	60	46	83
Limited service	3	3	2	8	9	8	31	43	12
Unimproved	6	6	7	22	24	18	-	-	-
No service	2	4	0	12	19	0	8	11	5

Source: WHO/UNICEF JMP (2017) <https://washdata.org/data#!/pak>

The Land Reform Act of 1977—Pakistan’s third and most recent structural 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. Pakistan is considered the third most water-stressed country in the world (Shams 2017b). Ninety percent of the Pakistan’s water resources are used in agriculture, which is much higher than the global rate of 70 percent (Worldometers n.d.; Tanzeem 2017). Water scarcity is such that the country could face a critical water shortage by 2025. Recognition of an impending water crisis increases tensions not only between Pakistan and India, but also within the country, as provincial governments compete for scarce water resources (Shams 2017b). The Indus Basin Irrigation System (IBIS) is the largest contiguous irrigation system in the world (FAO 2011b). Only 60 percent of the water from the IBIS reaches farms and with loss of water during transmission, only 35-40 percent of canal water reaches the crop root zone (World Bank 2014). The demand for irrigation and drinking water is increasing. About 50 percent 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. In urban areas, water supply is only available between four and 16 hours per day (Shaikh and Nabi 2017).

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.

Due to pressure of customary law and traditional practice, women in Pakistan have difficulty exercising the rights to land granted to them by constitutional, statutory and religious law. 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. Federal National Mineral Policy, and procedural laws and policies at the provincial level, regulate mining operations and investments.

In 2013, Pakistan witnessed its first democratic transition to power in 65 years with the completion of a full term of elected government (GOP 2014). The Government of Pakistan's Vision 2025 aims to halve poverty by that year and raise the country to upper-middle income status by pursuing an export-led development strategy and doubling productivity with strong social values that promote peace, security, inclusiveness and inter-provincial harmony. Vision 2025 includes youth-centered programming and promotes increases in the quality of life through more efficient and effective water conservation and development, and investments in sewage treatment and sanitation. In order to increase economic growth, the vision includes energy and infrastructure development (GOP 2014; GOP 2015d).

I. LAND

LAND USE

Pakistan has a total land area of 770,875 square kilometers. The total area does not include the disputed territories of Jammu and Kashmir (CIA 2017; 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 [KP], Punjab and Sindh) and four federally administered territories (Azad Jammu & Kashmir, Federally Administered Tribal Areas (FATA), Gilgit-Baltistan and Islamabad Capital Territory or ICT). The Government of Pakistan does not recognize indigenous peoples, rather referring to them as tribal. The Federally Administered Tribal Areas, a semi-autonomous tribal area in northwest Pakistan, is divided into seven agencies and six Frontier Regions bordering on south-eastern Afghanistan (ICG 2015). The Provincially Administered Tribal Areas (PATA) are administrative subdivisions in the Balochistan and Khyber Pakhtunkhwa provinces that include areas such as Chitral and Swat (IFAD 2012; ICG 2015).

Pakistan is the second most urbanized country in South Asia (World Bank 2014). It has a population of 208 million people, and had an annual average population growth rate of 2.4 percent between 1998 and 2017. Population growth during that period was greatest in Islamabad, Balochistan and Khyber Pakhtunkhwa (GOP 2017b). Nearly 60 percent of the population lives in rural areas. Even though the average per capita income is \$1,512 (IFAD 2016b), there is significant income inequality. The bottom 40 percent of Pakistan's population lives on less than \$2.27 a day (World Bank 2016a) and 53 percent live on less than \$1.90 per day (UNDP 2016e). Nearly 30 percent of the population lives below the poverty line (UNDP 2016b). In 2013-2014, 29.5 percent of the population was estimated to live in poverty (Jamal 2017).

Ninety-seven percent of the population is Muslim. Pakistan's population is made up of six principal ethnic groups: Punjabi 45 percent, Pashtun (Pathan) 15 percent, Sindhi 14 percent, Sariaki 8 percent, Muhajirs 8 percent, Balochi 4 percent and other 6 percent (IFAD 2012; CIA 2017). 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 (GOP 2006a; Mongabay 2010; World Bank 2015).

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 2014)

About 40 percent of Pakistan's total land area is arable land, approximately 90 percent of which is located in the Indus River Plain of Punjab and Sindh provinces (FAO 2011c). Seventy-six percent of agriculture land is irrigated (PARC n.d.). 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 Khyber Pakhtunkhwa (KP) provinces and seasonal floodplains in the Indus Delta. Pakistan's main crops are wheat, maize, rice, sugarcane and cotton (World Bank 2009; PARC n.d.; GOP 2017b). Wheat, rice and sugarcane are all high intensity water use crops that contribute to water scarcity in the agriculture sector (Tanzeem 2017).

Box 2. Land Tenure Indicators		Score
<u>Millennium Challenge Corporation Scorebook, 2017</u>		
- Land Rights and Access (Range 0–1; 1=best)		0.66
<u>International Property Rights Index, 2017</u>		
- Physical Property Rights Score (Range: 0–10; 0=worst)		4.2
<u>World Economic Forum's Global Competitiveness Index, 2016-2017</u>		
- Property Rights (Range: 1–7; 1=poorly defined/not protected by law)		3.5
- Ease of Access to Loans (Range: 1–7; 1=impossible)		3.6
- Legal Rights Index (Range: 0-10; 10=best)		3.0
<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, 2015</u>		
- Access to Land, 2015 (Range: 1-6; 1=unsatisfactory access)		3.5
<u>Food and Agricultural Organization: Holdings by Tenure of Holdings</u>		
- Farm Area, Privately-owned farms (in acres), 2010		39,431,999
- Farm Area, Owner with Tenant (in acres), 2010		7,584,079
- Farm Area, Tenant only (in acres), 2010		5,894,340
- Owner-operated area (in acres), 2010		42,530,879
- Tenant-operated area (in acres), 2010		10,379,52
<u>World Bank Group, Doing Business Survey, 2017</u>		
- Registering Property-Overall World Ranking (Range: 1–181; 1=Best)		169
- Quality of Land Administration (Range: 0-30; 0=lowest quality)		6.8
- Registering Property-Number of Procedures		8.0
- Registering Property-Days Required		154.8
- Enforcing Contracts-Overall World Ranking (Range: 1-190)		157
<u>World Bank Group, World Development Indicators, 1998</u>		
- Percentage of Population with Secure Tenure		..
<u>Heritage Foundation and Wall Street Journal, 2017</u>		
- Index of Economic Freedom-Property Rights (Range 0-100; 0=no private property)		36.4
<u>Economic Freedom of the World Index, 2016 (2014 data)</u>		
- Legal System and Property Rights (Range 0- 10; 0=lowest degree of economic freedom)		3.96
- Protection of Property Rights (Range 0-10; 0=lowest degree of protection)		4.12
- Legal Enforcement of Contracts (Range: 0-10; 0=lowest degree of protection)		5.0
- Regulatory Costs of the Sale of Real Property (Range: 0-10; 0=highest amount of restrictions)		6.59

About 65 percent of Pakistan's total land consists of desert, mountains and urban areas. These areas include about 52.3 million hectares of rangeland (Ahmed 2016) and 35,872 square kilometers of urban land (World Bank 2016b). Balochistan covers 42 percent of the country, and 93 percent of its land area is classified as rangeland (PARC n.d.; GOP 2017b). Pakistan has an estimated livestock population of about 232 million cattle, buffalo, sheep, goats, camels and other animals (GOP 2017b). 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 often kept on rangeland and are tended by nomadic and semi-nomadic groups. Pakistan's leading livestock industry is dairy, placing it among the top ten milk-producing countries in the world (FAO 2015b). The country's annual milk production is estimated at 55 million tons (GOP 2017b). Given population growth in urban areas, the demand for high-value perishable products such as dairy is growing, with increasing government investment to increase rural dairy production through infrastructure improvements and joint ventures. In December 2016, one of the largest foreign private direct investments in the dairy sector took place when Royal Friesland Company acquired 51 percent of Engro Food Pakistan for \$450 million (PARC n.d.; GOP 2017b).

Forests cover approximately 5 percent of the country's total land area (GOP 2017b). Most coniferous forests are located in KP province and the Northern Areas. Mangrove forests are found in the Indus Delta and along the coastline of the Arabian Sea. Nationally protected areas cover 11 percent of total land area, and the annual rate of deforestation is estimated between 1.66 to 2.24 percent (UNEP-WCMC 2014; Nazir and Olabisi 2015). Forestry accounts for nearly 15 percent of the country's GDP (GOP 2017b).

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 as well as 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 percent 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 2016 was an estimated \$284 billion (World Bank 2016b), with 59 percent attributed to services, 20 percent to industry and 21 percent to agriculture. Livestock accounts for nearly 60 percent of agricultural GDP and contributes just over 11 percent of the country's GDP (GOP 2017b). Much of Pakistan's industry (e.g., textiles, sugar) is also linked with agricultural production (World Bank 2009; World Bank 2007a; UNDP 2009). While approximately 45 percent of the population works in agriculture, rural transformation is accelerating with more than 50 percent of rural workers employed away from farms (IFAD 2016a). Structural transformation within the national economy and annual poverty reduction are slow partially due to the fact that annual growth of agricultural labor productivity is less than 1 percent per year (IFAD 2016a). Pakistan is also among the world's 20 leading producers of cement (Renaud 2015).

In 2013, the GermanWatch Climate Index ranked Pakistan as the eighth most-affected country by climate change between 1991-2010 due to flooding, drought and other climatic events. Maplecroft ranked the country as the 16th most vulnerable to climate change impacts over the next 30 years (cited in Fisher 2014). The main reasons for the country's vulnerability include but are not limited to: population growth, ecosystem degradation, lack of land tenure and low institutional capacities. Climate

change poses a serious food and water security risk to the country due to the importance of subsistence and rain-fed agriculture in rural economies (Fischer 2014).

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. The Government of Pakistan conducts an agricultural census every ten years. In 2010, smallholders with less than five acres of land made up 67 percent of privately-owned farms. Countrywide, six percent of privately-owned farms were over 25 acres. The average size of operational farm holdings in the country was 6.4 acres (Zaidi 2015).

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 percent 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). Average farm sizes have decreased with land reform from just over 5 hectares in 1971 to just over 3 hectares in 2000 (IFAD 2011).

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). The percentage of farm area that is under tenant farming decreased from 21.6 percent in 1980 to 11.1 percent in 2010 (Ziadi 2015). It is unclear if the land that has been taken out of tenant farming has been redistributed to peasants and now categorized as privately-owned farm land or if it has been consolidated into larger farms. The average size of larger operational land holdings (over 150 acres) increased between the 1990 and 2010 from 312 acres to 435 acres (GOP 2010; Zaidi 2015).

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).

The 18th amendment to the Constitution passed in 2010 represents the decentralization of fiscal, administrative and political power from the federal to the provincial level (Fischer 2014, GOP 2014). A total of 17 ministries devolved power in 2010-2011 including: environment, food and agriculture, livestock and dairy, local government and rural development, education and health (Resnick and Rana 2016). Provinces are adapting federal regulations to meet their needs and development goals at different

rates. While the Punjab adopted the 1997 Pakistan Environmental Protection Act or “Federal Act” with a limited number of changes in 2012, the Government of Balochistan in 2013 made significant changes to the Federal Act, in some cases making provincial environmental policies stronger than federal mandates. In 2014, Sindh and KP passed their own Environmental Protection Acts (Fischer 2014).

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 percent 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 the national and provincial levels. There are numerous laws that regulate ownership, transfer, acquisition and tenancy. Land laws in rural and urban areas are often different (UN Habitat 2012b). 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 and PATA are subject to a separate legal framework, the majority of which consists of customary law (GOP Constitution 1973; Khan 1981; USAID 2008, UN Habitat 2012b; United Kingdom 2017).

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 or village common land 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; UN Habitat 2012b).

Major tenure types in agricultural systems 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. Formal term leases are common for parcels of agricultural land that exceed 30 hectares. Leases are for fixed rates, generally run at least a year and may have multi-year terms. Tenant farmers also may have informal and unwritten lease arrangements for much smaller plots from landlords. In 2010, approximately 26 percent of tenant farmers held leases (GOP 2010). Leases may be written or oral agreements (Anwar et al. 2005; FAO 2011c).

Sharecropping. Sharecropping arrangements locally known as *battai* are common on small- and medium-sized parcels of agricultural land (less than 30 hectares). Roughly 71 percent of Pakistan's tenant-operated land was sharecropped in 2010, and 84 percent of sharecropper households are vulnerable to living in poverty (GOP 2010; Jamal 2017). Sharecropping arrangements are often intergenerational, as over time landlords form close bonds with tenants and their families (Khan et al. 2017). Sharecropping arrangements usually provide the landowner with half the production from the land; arrangements vary regarding provision of inputs. Middlemen known to both landlords and tenants may broker sharecropping agreements. Most agreements are unwritten (Anwar et al. 2005; Khan et al. 2017).

SECURING LANDED PROPERTY RIGHTS

Freehold land in Pakistan tends to be retained by families and passed inter-generationally by inheritance. Ownership is rarely registered. Despite formal laws mandating registration, incentives for registering land are weak or nonexistent and procedures complicated and lengthy. 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 currently is unreported, but will be known once digitization across all provinces and territories is complete (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. There are two types of tenancy: occupancy tenants who have statutory rights to occupy land; and simple tenants who occupy land on the basis of a contract with a landlord (Bisht 2011). 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. The social hierarchy and consequential power relationships between landed families and tenure-insecure tenants however, creates dependency and keeps tenants in subordinate social and political positions. 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; Sayeed et al. 2016).

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 2005 was passed in an effort to address the problem, and its execution has been improved with new evidentiary protocols passed in 2016 (see Box 4).

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. 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).

The Government of Pakistan, with assistance from donors, has started to improve land tenure security through the introduction of the digitization of land records. Improvements though are needed to create a comprehensive legal framework governing land rights and processes across the provinces and territories to address administrative inefficiencies and ineffectiveness within formal dispute-resolution systems. Finally, strong and multiple customary laws create insecurity of land tenure for owners, women and potential purchasers, particularly in Balochistan and FATA (Jacoby and Mansuri 2006; Malik 2013; ICG 2015).

INTRA-HOUSEHOLD RIGHTS TO LAND AND GENDER DIFFERENCES

Box 3. Land and Gender Indicators		Score	Women in Pakistan have a legal right to own land under statutory, religious and customary law. While women comprise 72.7 percent of the agricultural labor force (UNDP 2016c), more men than women own land. Only 4 percent of women own land (either alone or jointly) compared to 31 percent of men (UNDP 2016d). Women are active in land rights movements and are advocating for jointly-titled land rights through their involvement in the <i>Thappa Force</i> (Yusuf 2016; Bano and Ghaffar 2014). With respect to women's land rights and gender equality more generally, Pakistan has a Gender Inequality Index value of
<u>FAO: Gender and Land Rights Database, 2011-2012</u>			
- Distribution Agricultural Holders by Sex (Female)		--	
- Distribution Agricultural Land Holders by Sex (Female)		--	
- Incidence of Female Agricultural Landowners		--	
<u>International Property Rights Index, 2017</u>			
- Gender Equality Score (Range: 0–10; 0=complete discrimination against women)		4.47	
<u>OECD: Social Institutions and Gender Index (SIGI)—Restricted Resources and Assets, 2014 (Range: 0-1; 0=no inequality)</u>			
- Women have equal and secure access to land use, control and ownership (Range: 0-1; 0=no discrimination)		0.4607	
- Women have equal and secure access to non-land use, control and ownership (Range: 0-1; 0=no discrimination)		0.5	
- Women have equal access to financial services (Range: 0-1; 0=no discrimination)		0.5	
Sources:			
FAO. <i>Gender and Land Rights Database</i> . Rome: http://www.fao.org/gender-landrights-database/data-map/statistics/en/			
International Property Rights Index, 2017: https://ipri2017.herokuapp.com/IPRIGender			
OECD, 2014. SIGI: http://www.genderindex.org/country/pakistan/			

0.567 ranking it 123 out of 148 countries (GOP 2015c). Pakistan's ranking on the Human Development Index is also low – 148 out of 188 – due to low education and literacy rates, high infant and maternal mortality rates and a low number of women serving in Parliament. Strong patriarchal norms inhibit women's ability to own and manage land and property. Many women do not inherit land which is a constitutionally protected right and are often threatened with violence if they do not waive their rights to land and property. Women in landed families might be more likely to inherit land, as a way to avoid

land redistribution policy (Gul Khatak, Brohi and Anwar 2010). Nevertheless, women have a legal right to land after their father's death through internal partitioning called *khangi taqseem* or family division. However, even when women possess such legal ownership, men deny their ability to access and control that land (Ali 2015). Further complicating women's ability to exercise their land rights and increasing conflict within the family is inadequate parcel demarcation which comes to a fore when a woman (as a sister) tries to cultivate or build a house. Such confusion could be reduced if plot demarcation was required to take place at the time that partitioning takes place and name transfers are recorded in the revenue record. A limited number of inheritance violation cases make it to the Supreme Court (see Box 4).

There is momentum for gender equality at the Federal level. In 2011, Parliament passed The Prevention of Anti-Women Practices [Criminal Law Amendment] Act. The Act not only has strong prohibitions against child and forced marriage thereby criminalizing them, but also prohibits depriving women from inheriting any movable or immovable property at the time of succession. Forced marriage includes marriage for purposes of land, for settlement of personal disputes or disputes between two tribes [often referred to locally as "swap marriage" (Ahmad et al. 2016)] and marriage to the Holy Quran. Marriage to the Holy Quran is a common way for families to keep a female's land inheritance within the family. Land cannot be lost as she cannot be married to an outsider.

Punishment for forced marriage to the Holy Quran includes imprisonment for whoever compels, facilitates or arranges it (quite often a brother or father). The punishment may extend to seven years, shall not be less than three years and shall be liable to a fine of 500,000 rupees (Noreen and Musarrat 2013; Zaman 2014). Punishment for depriving a woman of her inheritance includes a prison term which may extend to ten years but not be less than five years, or a fine of one million rupees, or both (Zia Lari 2011). Such crimes against women continue due to a lack of law enforcement, a lack of political will, a weak criminal justice system and lack of public pressure (Munshey 2015).

Nevertheless, Pakistan is a patriarchal society with an uneven practice of patriarchal social norms across the country and depending on area of residence (urban/rural). 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 particularly in tribal areas in FATA, PATA and in parts of Balochistan and Sindh. Men are presumed to control land and other family assets (Mehdi 2002; SDPI 2008b; USAID 2008; Gul Khatak, Brohi and Anwar 2010; Malik 2013; ICG 2015).

Customary law differs among provinces and geographical subdivisions, classes and tribes, creating differential impacts for women. For example, land ownership for women in the Jamaldini and Badini tribes of the Noshki District in Balochistan is nearly non-existent as these tribes practice '*mard bakhsh*' (literally: willed to a man), meaning that only men with sons may own land (Gul Khatak, Brohi and Anwar 2010). Women's access to land and property is particularly dire in FATA and PATA. Violent extremists operating in these regions have an overt agenda of gender repression. Discriminatory legislation that has been overturned at the federal level still operates in these areas. For example, the enforced Hudood Ordinances (1979) do not accept the testimony of women and the FATA Frontier Crimes Regulations (FCR 1901) suspends constitutionally guaranteed rights for gender equality and pro-women legislation. Women and girls are still considered property and are given away to settle disputes even though this act

called *swara* was criminalized in 2006 by the Protection of Women Law (Malik 2013; ICG 2015). Similarly, these provinces do not follow Parliament's lead regarding the 2011 Prevention of Anti-Women Practices Act that bars depriving women of their inheritance and a range of forced marriage practices (Zia Lari 2011; ICG 2015).

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, *haq 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 share of her husband's property if she had no children or one-eighth of his property if she did (Hasan 2011). Daughters may inherit land rights (half the share of a son), depending on the practice within the family. If daughters receive land, they often relinquish the land to their brothers or other male relatives, following the religious practice known as *tanazul* (relinquishment). If a woman receives land rights through inheritance, her rights will likely be challenged by male relatives even if the bequest is supported by her parents and even if the gift was consistent with Islamic law (Ali 2015). Furthermore, women often do not challenge male relatives who usurp their land rights as they do not wish to upset their parents or lose the love and support of other family relatives (Ahmad et al. 2016) or because women themselves believe that they received dowry instead of land (Gul Khatak, Brohi and Anwar 2010).

There has been 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; Gul Khatak, Brohi and Anwar 2010). Following the passing of the 18th amendment to the Constitution, important legal steps are being made at the provincial level to promote gender equality in land ownership. The Government of Punjab passed both the Punjab Partition of Immovable Property (Amendment) Act, 2015, and the Punjab Land Revenue (Amendment) Act, 2015, to ensure property and inheritance rights for women living in the province (PILDAT 2016a).

LAND ADMINISTRATION AND INSTITUTIONS

Pakistan's poorly functioning, inadequate and duplicative system of land administration has been improved with government and donor investments in digitizing land records. In June 2012, the Supreme Court of Pakistan directed all provinces to computerize land records. The Government of Punjab Province has completed the digitization process with the other three provinces in various stages of the process. Digitization is underway in KPK and in May 2017, the Government of Balochistan announced its intention to digitize land and revenue records (Zafar 2017). Once computerization of land records is complete, Provincial Revenue Boards stand to increase revenue via fees from crop inspection, tenancy, identification of tillers and other services that integration of the land system with Agriculture Department will enable. Digitization also improves transparency in record keeping and increases efficiency in revenue assessment. Automated, computerized systems promote secure and reliable transactions, real time updating of record and provision of reliable data to resolve land disputes. It will

also help ease access to land revenue records by all stakeholders, maintaining efficient record for ownership title and data mining for taxation plans. Improving land administration and land governance contributes to at least four out of eight pillars of Pakistan's Vision 2025, namely: empowering women, inclusive growth, modernization of the public sector and food security. Vision 2025 highlights land governance as a key factor for an enabling environment for the private sector and urban development (GOP 2014).

The formal court system remains overburdened and ineffective. 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).

In other provinces and territories, the number of institutions with responsibility over land registration continues to enable an environment ripe for rent-seeking by officials, local *patwaris* (the lowest level revenue officer who collects and keeps land records) and others involved in the land registration process. In some areas, women report difficulties dealing with *patwaris* who were reluctant to deal with women or to record women as land owners (Ali and Nasir 2010; USAID 2008) or women do not approach a male *patwari* for cultural reasons (Pott 2017).

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. Until digitization is complete, junior revenue officers known as *patwaris* survey land, perform boundary demarcation 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.

Land record digitization changes the role of the *patwari* over land at the village level with respect to registration and record keeping. Following digitization a registered land owner, for a small fee, can obtain a certificated duplicate of land records from the local land record service center and keep such records at home. Land record service centers have separate seating areas for women and women's counters specially to provide land records services to women (Pott 2017). The *patwari*, however, still has a role to play in land-related dispute resolution at the local level.

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 an average of 7.7 procedures. Registration steps are not standardized across the country, for example, there are seven procedures in Lahore and eight procedures in Karachi. Overall, land registration requires an average of 154.8 days and costs 4.6 percent of the total property value (World Bank 2017b). Registering property has been made more expensive by the recent doubling the capital value tax to 4 percent (World Bank 2017b). In an urban area such as Karachi, the formal land-registration process in the context of a sale begins by obtaining a 'no objection' certificate from the District Revenue Officer at the town or city level. The 'no objection' certificate written in favor of the seller permits the sale of a property. To make sure that there are no other claimants or interests in the property to be sold, public notice of the transaction must be published in

two widely-circulating newspapers in both English and Urdu inviting objection to the sale. During the seven-day objection period, the buyer will verify the authenticity of the documents provided by the seller followed by a title search conducted at the sub-registrar's office. A lawyer or deed writer is engaged to draft the sale purchase agreement. Thereafter, the buyer pays stamp tax, capital value tax, town tax and registration fee either to the Government Treasury or the National Bank of Pakistan. The receipt of payment for the property is brought to the Stamp Office for the issuance of the stamp paper which registers the value of the sale (money deposited) on the deed. The stamp paper is presented to the Registrar who records the change of ownership. The execution of the new deed is done before the Sub-Registrar of Conveyance/Assurance, with the name of the buyer recorded on the new deed. The last step, mutation or transfer of ownership, takes place after registration and includes obtaining a new title document (World Bank 2017b).

Despite reform, titling remains out of reach for the poor as even when squatter settlements known as *katchi abadis* (KA) have been regularized, only about one-third of regularized KA households obtain title deeds (Sayeed et al. 2016).

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 percent was sharecropped (the percentage sharecropped in 2010 is estimated to be about 66 percent). The productivity of sharecropped land is about 20 percent lower than that of owner-operated land (World Bank 2007a; Jacoby and Mansuri 2006; Barnhart 2010). In tribal areas, land transactions are verbal (Sabir et al. 2017). Land fragmentation is increasingly becoming a barrier to investment in small-scale production and underutilization of agricultural land. The compulsory requirement to divide land within the family following a father's death is one reason for land fragmentation.

All of Pakistan's cities are experiencing high rates of urban growth, due to an average annual population growth rate of 2.4 percent (GOP 2017a). Land and housing are scarce, housing is often of low quality (Shaikh and Nabi 2017) 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 KAs have increased (Dowall and Ellis 2007; USAID 2008; World Bank 2007a; Sayeed et al. 2016). Regularization of KAs has started to take place, especially in Karachi where an estimated 55 percent of the population resided in them in 2012 (Sayeed et al. 2016).

Pakistan recognizes simple mortgages, mortgages by conditional sale and usufructuary 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. Pakistan has the lowest rates in the world for commercial bank lending for all types of mortgages at 0.2 percent of GDP (Sayeed et al. 2016). While 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), alliances between provincial-level ruling parties, financiers and real estate developers have expanded the

markets for upper-middle class housing, residential schemes and shopping malls at the expense of affordable housing for the poor (Sayeed et al. 2016).

Local land markets are highly inefficient (World Bank 2014). 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 together with political elites guide housing development (World Bank 2007a; Dowall and Ellis 2007; ICG 2017).

There are two categories of land available for foreign investment: state farmland and uncultivated land. The Government started promoting corporate farming with the passing of the Corporate Farming Ordinance in 2001 that allowed 99 leases held by foreign companies to be extended by 49 years and with no upper ceiling on land leases, and includes a number of tax holidays (FAO 2011c; Settle 2013; Ali 2015). In 2009, the government introduced an agricultural investment policy package and one million acres of land to attract international agricultural investors. The Board of Investment (BOI) advertised state farmland in Punjab and Sindh and hundreds of thousands of acres of uncultivated land in Balochistan and the Thar desert region of Punjab and Sindh. Investor inquiries were primarily of Middle Eastern origin (Settle 2013; Ali 2015). Agriculture also is a primary target for the Government's Investment Promotion Strategy, 2010-2015 (FAO 2011c).

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 percent 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. Compensation of land-based assets in cultural heritage sites, for example, is difficult.

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).

Finally, a culture of environmental impact assessment (EIA) and a strategic environmental assessment (SEA) exists in Pakistan following the passing of the Pakistan Environmental Protection Ordinance, 1983.

This Ordinance made the EIA a requirement for any proposed project with possible adverse impacts on the environment and was made mandatory from July 1, 1994 (Fischer 2014). The EIA process has implications for sustainable development and resettlement for communities affected by infrastructure and other economic development projects. The public participation component of the EIA process is weak, used primarily to disseminate project-related information rather than to provide an opportunity for the public to ask about how a project might affect them and with consultation normally taking place after project construction has started. However, stakeholder concerns during the consultation process for the Sundar Industrial Estate Project resulted in a rejection of the project, as villagers whose land was compulsorily acquired for the project were not involved in the original EIA consultation. There is an ongoing effort to integrate the effects of climate change into EIA procedures. The SEA process began in the early 1990s and continues to be used in the context of transport, large-scale irrigation and industrial development. The SEA process has been used to mainstream environmental sustainability into Pakistani policy (Fischer 2014).

LAND DISPUTES AND CONFLICTS

Land conflicts are prevalent in rural and urban areas throughout Pakistan. There are three major causes for large-scale conflict in Pakistan with antecedents in British colonial rule. First, the British frequently gifted land to officers, bureaucrats and members of the judiciary and drew on the Land Colonization Act of 1904 to allot 10 percent of newly available irrigated agricultural land to the military rather than making such land available to local farmers (Settle 2013). Second, in order to protect British colonial interests from external forces, the colonial government did not develop transportation infrastructure in northern regions and frontier regions along the Indian border, which has resulted in the marginalization and regional underdevelopment due to the lack of infrastructure for economic growth. These underdeveloped areas also happen to be inhabited by nomadic populations and minority tribal groups. Third, migration between the two newly-independent nations of India and Pakistan during partition in 1947 created ethnic and linguistic demographic shifts in Pakistan, particularly evident in large cities and in the Provinces of Sindh and Punjab, which when politicized, leads to political instability (ICG 2017).

The impact of colonial-era history is visible in contemporary peasant protests and social land-based movements in Punjab and Sindh, in the separatist and independence movements in Pakistan's northern regions of mineral-rich Balochistan, KP and FATA, and finally, in the presence of ethno-political violence in Pakistan's largest urban city, Karachi. These violent conflicts over land and territory expose the fragility of the post-colonial state as federal, provincial and municipal administrative institutions struggle to govern in both densely-populated urban areas and scattered settlements in remoter ones.

First, the military is a significant landlord in both the Sindh and Punjab Provinces and in rural and urban areas. In rural areas, the military maintains a tenancy relationship with landless peasants on state farms that have existed since the colonial period. The state continues to allocate both forest and agricultural land to retired army personnel (to reward their service), heirs of martyred soldiers and to wounded military personnel (Jaffer 2016). There has been a long-running dispute between tenant farmers in central Punjab's Okara District and the Pakistan Army. The disputed area includes 17,000 acres of agricultural land also known as the Okara Military Farm. The Government of Punjab owns the land, which includes seven farms, two dairy factories, a seed research institute and approximately 20 villages (Sheikh 2016). Okara farmers are part of and represented by the Tenants Association of Punjab (AMP, Anjuman Muzareen Punjab). The AMP is a movement of over one million landless peasants across 10 districts of

Punjab Province that has been engaged in a struggle for land ownership rights. The struggle for secure land rights started in 2000 following the military's introduction of a new piece rate system and new yearly lease agreements as well as unfavorable loan terms for inputs and daily expenses. Tenants who are sharecroppers refused to sign these new agreements and would not leave farms when verbally evicted. Other attempts at forced eviction took place in 2002 and 2003, as water and power supplies were disconnected (Sheikh 2016). At least 18 farmers have lost their lives since (Bano and Ghaffar 2014).

Protests by landless peasants across the Punjab have not lessened since 2000 and include protests at the Okara Farm, the Kulyana Estate and other military run farms in the Province (Sheikh 2016), which have turned violent. With the increase in power and militarization across Pakistani society, landless peasants and other groups fighting for resource rights are being detained under Anti-Terrorism Act as the military uses a broad interpretation of counter-terrorism law to arrest top AMP leaders and conduct village raids (Jaffer 2016; HRW 2016a). Twenty-four protesters were brought before the anti-terrorism court in April 2016 alone (HRW 2016a). Twenty-three peasant leaders and members were still imprisoned as of April 2017 (Iqbal 2017). AMP leaders are being branded as 'anti-state' with connections to the Government of India's foreign intelligence unit, the Research and Analysis Wing or RAW (Jan 2016). In recent raids, police recovered hand grenades, rifles ammunition and foreign currency (Sheikh 2016). Conflicts between the military and peasants extend beyond land rights to fishing rights and environmental protection of the sea. In 2016, the head of the Pakistan Fisherfolk Forum was arrested by the Pakistan Rangers (a branch of the Pakistan Army). The exact nature of the charges was not released; however, Pakistan Fisherfolk Forum members had been actively protesting the construction of two coastal nuclear power plants built under a joint venture with the Government of China as well as protesting the acquisition of mangroves by the military-dominated Defense Housing Authority (DHA) (Jaffer 2016; ICG 2017).

The military not only controls land through large farms in rural areas, but controls land in urban areas through the DHA. The DHA is an autonomous body, managed by a military-dominated governing body, which controls and manages military cantonments across the country including in Karachi (ICG 2017). The DHA takes advantage of politicized politics and governance vacuums in urban areas such as Karachi to grab tens of thousands of hectares of land and construct exclusive residential communities (ICG 2017).

The Human Rights Commission of Pakistan (HRC), together with peasant and farmer's rights groups, have demanded land reform; namely the redistribution of state land to landless peasants, with 15 acres being given to each landless family and women farmers receiving land shares equal in size to that of men. In addition to demands for land reform and putting an end to land grabbing by wealthy landlords, improvements to transportation and marketing infrastructure, access to canal water and workers' rights and medical were among other demands (HRC 2014).

Second, violent extremism and inter-tribal conflicts in FATA and PATA, and a separatist movement in Balochistan along the border with Afghanistan, are territorial struggles that reflect long standing relationships between the Pakistan central government in the Punjab and communities that live in remote, peripheral areas. The Baloch have been waging a liberation struggle against the Pakistani state since the 1960s. Tribal group grievances pertain to decades of neglect as well as what is seen as a 'forceful' nation building strategy that attempts to incorporate tribal areas into the larger Pakistani body

politic. Independence movements in Sindh pertain to struggles over irrigation water between Punjab and Sindh (Settle 2013).

Underlying conflicts in remote areas of the country whether, in the north or in the Thar desert in the south, are buttressed by social, cultural and political bias that systematically discriminates against tribal peoples and is evident in low scores on social indicators such as education and health, landlessness, environmental degradation and lack of participation in political decision making and a lack of livelihood opportunities (IFAD 2012). Sectarian violence and tribal conflicts have displaced upwards of three million people in FATA and KP for more than a decade (IDMC 2015).

Insurgencies and anti-terrorist measures have consequences for tenure relations in other areas of the country. As example, following the December 2014 massacre by armed militants at the Army Public School in Peshawar, Khyber Pakhtunkhwa, new legislation was introduced across the Federation and the Provinces to improve existing security frameworks. The Punjab Security of Vulnerable Establishments Bill 2015, for example, requires landlords to share information on tenants and temporary residents for the sake of security (PILDAT 2016a). Within forty-eight hours from time of delivery of possession of the rented premises, the landlord and the tenant will provide information to police about new inhabitants.

Third, recent and increasing ethno-political violence in the city of Karachi centers on control of land and territory that is partially enabled by the country's land administrative system. Karachi's coastal location, and its port on the Arabian Sea, has made the city a significant place for commerce, trade and economic growth. Karachi's demographics changed significantly after partition, and politics since partition became increasingly politicized as parties vied for power in a newly-independent Pakistan.

Migration to Karachi has continued as counter insurgency and military operations against separatist movements have forced jihadist groups such as the Taliban Movement of Pakistan to migrate south to establish recruitment and fund-raising offices in Karachi. The People's Aman Committee from Balochistan has done so as well (ICG 2017). These groups, too, align themselves with local political groups and criminal gangs adding another layer of violence in the city. Political instability at the national level creates a power vacuum at the provincial and municipal level that elites, corrupt bureaucrats and criminal gangs exploited and that is exacerbated by uncoordinated land administrative institutions.

The large number of land-owning government agencies in Pakistan, each with their own standards and power to control land use and allocation, creates rent-seeking opportunities that are exploited by corrupt law enforcement and land and building authorities. In Karachi, for example, there are 17 land-owning government agencies. In the absence of a strong local government, there is uncoordinated urban planning (Sayeed et al. 2016; ICG 2017). The fragmentation of landholdings across municipalities, and the lack of coordination between land-owning agencies, create opportunity and space for the poor to squat on public lands. Private financiers and developers take advantage of this lack of coordination, colluding with and using political connections with bureaucrats to illegal access and regularize land for large scale real estate, commercial and housing development that benefits the upper middle class.

With this bias towards private development for the wealthy, the urban poor face a housing crisis that contributes to instability, corruption and violence, as they are pushed into densely populated areas such as squatter settlements called *katchi abadis* (KAs). More than 50 percent of the urban population lives in slums and squatter settlements (GOP 2015c) and at a population density of 4,500 persons per hectare

(Shaikh and Nabi 2017; Siddiqa 2012). In Karachi, approximately 50 percent of the population resides in KAs that cover only 8 percent of the city's land (Sayeed et al. 2016). Lack of government funds enable elites, criminal gangs and jihadist groups to capture not only of land as a bare asset, but also to control KAs and their resident population through the provision of public services such as transportation and electricity. The provision of this basic infrastructure to KAs allows mafias and extremist groups to create political patronage and recruitment networks that exploit the poor (Sayeed et al. 2016; United Kingdom 2017; ICG 2017). Furthermore, in the absence of any municipal regulation, the cost of private transportation in Karachi has increased by over 100 percent since 2000 (Shaikh and Nabi 2017). Taken together, all of these challenges reaffirm World Bank recent claims that urbanization in Pakistan is messy (Shaikh and Nabi 2017).

The nexus of politics, business interests, illegal land marketing and organized crime in urban extends to rural areas too (Crank and Jacoby 2015). There is considerable corruption in Education Departments across Pakistan connected to land mafias and powerful landlords. As provincial funds are often insufficient to improve educational infrastructure and the process of purchasing land legally is time consuming, wealthy land owners donate land to the Education Department or a politician in exchange for government employment for a family member. A Supreme Court inquiry into school closures across Pakistan found that many of the closed schools had been encroached upon by the donor as the promised employment was not provided or other powerful local interests occupy school premises. Schools also were closed when mutations in favor of the Education Department were not attested. The Education Department had filed against encroachers in either high or civil courts in only a few cases. Otherwise weak school administrations are unable or unwilling to evict encroachers (Supreme Court 2013). Police have been empowered to counter organized crime (mafias) forcefully grabbing land, which significantly increases their workload and strains their institutional capacity and resources (HRW 2016b; ICG 2017).

In addition to large-scale, violent land conflicts, smaller but nevertheless significant inter and intra-familial land conflicts exist with respect to boundary, inheritance, succession and tenancy. Such land disputes are addressed by the revenue court system (United Kingdom 2017). 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. Up to 80 percent of the civil case load has to do with land titling and acquisition disputes arising out of land grabbing and misappropriation of property (United Kingdom 2017).

Local land 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 and local 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 (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. Between 50 percent and 75

percent of cases brought before lower-level civil courts and the high courts are land-related. Pakistan's judiciary is hampered by low pay, poor training and a large volume of cases. 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 common (see Box 4; USAID 2008; Dowall and Ellis 2007; Ali and Nasir 2010).

Box 4. Land Conflict Case Studies

- 1. Contested Urban Development (Karachi):** "The Supreme Court restrained Bahria Town, a leading real estate firm, from undertaking any development activity on the state land allotted to it by the Malir Development Authority (MDA) illegally... The land in question involves the under-construction Bahria Town project located about nine kilometers from ... the Karachi-Hyderabad super highway... The MDA was ... restrained from consolidating any further portion of the private land for the Bahria Town or any other private enterprise under the garb of exchange of land in exercise of their powers conferred on them" (Siddiqui 2016).
- 2. Land Gifts to Military Officers:** Pakistan's former army chief "was given the land worth 1.35 billion rupees (12 million euros) by the country's army without consulting the civilian government. Pakistan's "The News International" newspaper cited defense sources ... there was nothing "unusual" about the allocation of the agricultural land to Raheel Sharif, as military commanders receive such perks after their retirement ... it is a routine affair [yet] We must not forget that General Sharif's ... army was cracking down on poor farmers in the Punjab's Okara region, trying to dispose them of their lands. Hundreds of cases have been registered against military officers, yet the civilian administration has no authority to ... interrogate them" (Shams 2017a).
- 3. Relaxed Evidentiary Changes for Land Grabbing Cases:** Victims of land grabs often "had no way to prove that they had been swindled or defrauded, because qabza groups [class of offenders who usurp the property of others in an organized manner] usually operated through proxies ... [now] in any proceedings initiated under the Illegal Dispossession Act, 2005, the deciding issues would be: whether the offence against a lawful owner or occupier... has indeed taken place and whether it is the accused who has committed it without any lawful authority ... [previously] a complaint ... was only maintained if the accused bore the antecedents of being a land grabber or member of a 'qabza group'Professional land grabbers ... first have ... property transferred in the name of a person who enjoys their confidence and...create a third party interest. In doing so, the land grabbers ... remain hidden because they do their business through proxies so that the real beneficiary cannot be identified" (Iqbal 2016a).
- 4. Water Rights in the Indus Valley:** Pakistan has asked India to stop building two dams, the Kishanganga and Ratle hydro projects on two rivers that start in India and flow into Pakistan. The Government of Pakistan has asked the World Bank to bring in a mediator, charging that the 'run-of-the-river' projects violate the 1960 Indus Water Treaty. The Government has asked the World Bank to create a court of arbitration (The Times of India 2017).
- 5. Woman's Inheritance Rights upheld by the Supreme Court (SC):** "The dispute between brothers and sister started soon after the death of their father [1990-1991] ... the deceased owned a house, four shops, godowns with rooms and corridors in addition to agricultural lands [in Swat]", which were supposedly gifted by the late father to his three sons on June 26, 1989. The sole evidence of this 'transaction' was a Pashto document... Noor Jahan [the deceased plaintiff] had instituted a suit against her brothers before a local court in Swat, contending that she was entitled to a 1/12th share in the estate of her deceased father as per Sharia law. The suit was partially allowed, with the qazi giving her a share in the agricultural lands, but not the gifted properties. Both sides then went into appeal ... the apex court held that the document was not registered and therefore remained unproved ... the property mutations, which were registered with the local *patwari*, only bore the deceased man's thumb impressions. ... expressing dissatisfaction over inordinate delays in dispensation of justice, a Supreme Court bench ... settled [this] extraordinary inheritance dispute ... ruling in favour of a woman deprived of a rightful share in her father's property by her three brothers" (Iqbal 2016b).

Given the shortcomings of the court system and with rising secular tensions across the country, falsely accusing one party in a dispute of blasphemy is becoming another tactic to settle localized land conflicts. Given the severe nature and punishment for blasphemy and the fact that blasphemy charges can often lead to mob violence against the accused, especially if the accused is from a minority group, a party accused of blasphemy, even if falsely-accused, is likely to back down (United Kingdom 2017).

Reforms of the land administration system, such as digitization of land records, once completed, has the potential to overturn some of the corruption and inefficiencies in the land conflict resolution system. Digitization of records and their central storage at Land Record Management and Information Systems

(LARMIS) service centers should make land records more easily accessible to land owners, increase transparency and reduce some of the delays and corruption associated with the previous *patwari* system. Given that the LARMIS process has only been completed in one province with remaining provinces still in the process of completing the digitization process, it is too early to tell what effect digitization of records will have on land-related conflict and associated corruption within the system. Anecdotal evidence suggests that transparency has increased and corruption has reduced. Yet, given that the justice system is overburdened, land-related cases may still take years to resolve (Ali and Nasir 2010; see Box 4).

The vast number of land-owning institutions that converge in one area is problematic given the fact that these institutions are uncoordinated and follow their own individualized standards and mandates. In the absence of strong local government, corrupt government officials, land mafias and the political and economic elite take advantage of these inconsistencies and gaps in land management. The state's land-owning institutions, therefore, contribute to localized conflict and violence.

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 must be represented by a man. The resolutions reached by all-male *jirgas* often perpetuate existing biases against women's land ownership and control (Ali and Rehman 2001; GOP 2006a; ICG 2015). In a nation-wide survey, women respondents reported that for a land-related dispute they would be most likely to approach family elders first before approaching the local *jirga* and the *panchayat*. In that same survey, not a single woman respondent reported that she would approach the police or file a court case for a land-related matter (Gul Khatak, Brohi and Anwar 2010).

Women may come before the alternative dispute resolution (ADR) body, the local-government formed *Masalahat* committee, to contest family members trying to usurp their control over land in their name and their right to sell such land to an outsider (Ali 2015). Due to women's exclusion from *jirgas* and provincial state's gender-insensitive and dysfunctional justice system in tribal-dominated regions, an alternative all-woman's *jirga* is being piloted in KPK (ICG 2015). Women and youth groups have been established in FATA and KPK to mediate property and family feuds before they erupt into conflict as well as to identify what drives youth to violent extremism (ICG 2015).

In January 2017, Parliament passed the ADR Bill-2016 that allows out-of-court settlements with the consent of the parties involved through government-chosen arbitrators called 'neutrals' (Dawn 2017; Raza 2017; GOP 2017c). Technocrats, social workers, jurists, retired civil servants and judges are among those persons at the district level that can be considered to serve as 'neutrals' leaving some parliamentarians to argue that women should be considered as 'neutrals' too (GOP 2017c; Raza 2017). The Alternative Dispute Resolution Act (2017) covers land and property disputes, disputes between landlords and tenants, disputes under Canal and Drainage law and disputes regarding mortgaged property and separate possession of joint moveable property (GOP 2017c).

KEY ISSUES AND OPPORTUNITIES FOR EXTERNAL SUPPORT

Coordinated, participatory urban planning: Investment in participatory forms of community planning, including community enumeration exercises and other inclusive forms of urban planning that works to vertically integrate civil society with land-owning institutions, can promote resilience and reduce instability (Caron et al. 2014). Revitalizing community participation in urban planning is essential as Community Citizen Boards were dissolved in 2008, and despite the desire of local government to work with and through community/village organizations, such cooperation has not materialized due to the lack of an effective engagement mechanism (GOP 2015c).

Rigorous monitoring and evaluation of land record digitization: Given the recent changes in the land administration system with respect to digitization and centralized storage of land records, donors might contribute to documenting the benefits and costs that LARMIS has for land owners including any gender-differentiated impacts and effects on streamlining the resolution of court cases.

In tribal areas: Continued work with the Government of Pakistan on the land settlement issues outlined in its 2015 Committee on FATA Reforms. Such support includes improvements to irrigation infrastructure to bring more of the region's cultivable land under cultivation and generate employment as well as investment in post-harvest technologies to improve incomes. Support for land titling and surveying is essential to support the rebuilding of damaged and destroyed houses in conflict-affected villages (GOP 2015f).

Strengthen alternative dispute resolution (ADR) for women: While women-only ADR such as the women-only *jirga* creates a parallel justice system to the traditional male-only *jirga*, given the nature of entrenched patriarchal norms and value, women in tribal areas are unable to access justice and have little understanding of how a justice system could potentially work. Until social/normative and political/institutional changes take place, alternative women-only ADR provides an important learning space for women to engage in justice seeking process.

Strengthen local municipal government and civil police force: Donors might invest in municipal and urban authorities to end illegal regularization and empower and equip the police to take on local mafias and the militant wings of political parties. Strong local government together with stronger law enforcement can remove the power of land mafia. There needs to be a commitment among provincial and local governments to “revive and properly resource public housing ... projects [ensuring] they benefit lower income groups rather than speculators, mafias and other elites, thus reconceiving the concept of land as a foundation of a peaceful body politic, not simply a market-provided good” (ICG 2017).

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 reform. There is evidence of some land redistribution efforts at the provincial level in Punjab and Sindh provinces (Nation 2010; World Bank 2007a; Niazi 2003; Ebrahim 2010, Ali 2015). In 2011, the Government of Sindh granted over 212,864 acres of state-owned agriculture land to landless peasants in the province. Over half of the farm land being given is prime *nehri* (land irrigated by canals) farm land, the remainder is rain-fed or *barani* land. Approximately 70 percent of

the 5,800 beneficiaries were women. The initiative includes various Rural Support Programs (RSPs) to develop support packages for availability of water and other inputs such as seed and fertilizer. Depending on geographic contiguity, the beneficiaries will be organized in a cooperative mode to enable them to access agricultural implements, farm machinery and micro credit on a collective basis. The government will provide support for at least a period of two years (Haq 2011; Ali 2015).

With support from the World Bank, the Government of Pakistan undertook a nine-year (2007-2016), \$115.65 million Punjab Land Records Management and Information Systems Project (LARMIS) to improve land records service delivery in the Province of Punjab. The project contributes to long-lasting tenure security and more efficient operation of land markets by upgrading the Province's land records management system. The project changed over 20 sections of the Punjab Land Revenue Act and Punjab Land Revenue Rules, ended the issuance of manual land records, and installed land registration and digitization software in 144 Arazi record centers (ARCs) across Punjab's 36 districts. In 2016, an average of 163,233 land records were issued per month and 51,341 transactions were conducted. The average time to conduct a transaction was one day (World Bank 2017a).

Under the implementation of its own Land Administration and Revenue Management Information System (LARMIS) the Government of Sindh has computerized land revenue records of all 29 Districts in the Province. The Sindh Land Revenue Act of 1967 was amended in 2013 under the Sindh Land Revenue (Amendment) Bill 2013 to facilitate establishment of service centers to house computerized records and act as an interface for record acquisition and land-related issues between the government and the public. Digital Mapping Facility (GIS) also integrated with computerized revenue record in order to increase transparency and public information about land possessions. At the end of 2014-2015, state of the art LARMIS service centers were established in 14 Districts (PILDAT 2016b).

Following the 2010 floods and the loss of physical land demarcations UN-Habitat, together with the Government of Khyber Pakhtunkhwa Province (KPK), established a Geographic Information Systems Laboratory in Charsadda District headquarters for the digitization of local land records (UN-Habitat 2012a). More recently, in 2015, the government started the computerization of land records in the provincial capital and KPK's largest city, Peshawar, which was to roll out across the Province (Dawn 2015). By 2016, the percentage of computerized land records in Khyber Pakhtunkhwa was 96 percent (PILDAT 2017).

In May 2017, the Government of Balochistan announced its decision to digitize land and revenue records starting in four important districts—Quetta, Jaffarabad, Pishin and Gwadar, the future commercial and finance capital of Balochistan. The project, called the Land Revenue Management Information System, will computerize the land and revenue records in all parts of Balochistan in a phased manner (Zafar 2017). The total estimated cost of this scheme is Rs. 120 million out of which Rs. 15 million were earmarked for 2013-2014 (PILDAT 2015).

The Sustainable Development of the Walled City of Lahore Project (SDWCLP), a World Bank and Government of Punjab partnership, aimed to improve infrastructure and restore historic assets of the walled core of Lahore City in order to tap into the cultural heritage tourism market. SDWCLP, implemented from 2006-2013, entailed significant urban involuntary resettlement and now provides an integrative and gender-inclusive model for citizen-based, participatory engagement in resettlement planning. The project used its own grievance redress mechanism and consulted with both formal and

informal shop owners, encroachers, youth and women during resettlement action planning, which included the design of an entitlement matrix for compensation (Roquet et al. 2017).

In the Federal Administered Tribal Area (FATA), the FATA Secretariat recently completed mapping of tribal areas and plans to record property rights and digitize land records by 2021. The estimated cost of this exercise is \$3.5 million (Firdous 2016).

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 among small-holder dairy farmers, 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. (USDOS 2010; USDOS 2009; USAID 2015). In July 2011, the International Food Policy Research Institute (IFPRI) started implementing the Pakistan Strategy Support Program (PSSP) that strengthens evidence-based policymaking in rural and agricultural development and includes competitive a grant program to enhance social science research within the academic community, supporting policy analysis in agricultural production and productivity; water management and irrigation; markets and trade; and poverty reduction and safety nets and that is in line with the Government's 2025 vision strategy. USAID's current economic and agriculture programming focuses on boosting private sector development, improving agriculture productivity and creating a business-enabling environment (USAID 2017).

IFAD's country strategic opportunities program (COSOP) for 2016-2021 will focus on sustainable rural poverty alleviation complementing the Government's 2025 vision, with priority themes by province. In Gilgit-Baltistan, COSOP will contribute policy and institutional strengthening through the development of a fair, enforceable land tenure system demonstrating its relevance for agricultural transformation especially for smallholders. One of the expected outcomes of this policy engagement is a gender sensitive and uniform land tenure system for the territory and that 10,000 households have land titles for newly-developed land. In the four provinces, COSOP will support the translation of the National Climate Change Policy for adoption at the provincial level and design roles and responsibilities between the Federal Ministry and provinces to improve communication, trust and coordination between the provinces and the Ministry (IFAD 2016b).

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).

The \$120 million USAID-funded Pakistan Earthquake Reconstruction and Recovery Program (PERRP; 2006-2012) increased the capacity of local officials and village leaders to address local land conflicts that were causing housing and infrastructure reconstruction delays following the 2005 earthquake in KP province and Azad Jammu and Kashmir. By using a participatory approach to post-disaster reconstruction and addressing unclear boundaries and inheritance claims at the beginning of the reconstruction process, not one court stay order was issued to stop construction. Over the project's six-year duration, only eight construction days were lost due to community conflicts (Thomas n.d.).

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. The majority of the country's available water comes from precipitation (rainfall and snowmelt). Mean annual rainfall falls within a range of less than 100 millimeters to more than 1,500 millimeters in the mountains. Nearly 81 percent of river flow and 65 percent of precipitation take place during the three months of the monsoon.

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 has a water storage capacity to last for 30 days (UNDP 2016d; GOP 2015d), and 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 percent of Pakistan and is home to the world's largest contiguous irrigation system—covering 14 million hectares of barrages, canals and watercourses. The irrigation system of Pakistan is its largest infrastructural enterprise, contributing nearly 25 percent of the country's GDP. As a result of low efficiency in water delivery, the seasonal availability of water and inadequate reservoirs, only 60 percent of the water in the system reaches the farms. Inadequate drainage facilities have left 18 percent of irrigated land waterlogged and 5 percent highly salinized and unavailable for cultivation (GOP 2015d; GOP 2009; World Bank 2005b; Khan Qureshi et al. 1994; FAO 1997).

Agriculture is the biggest water user in the country, consuming 90 percent of total annual water use (UNDP 2016d; Tanzeem 2017). Industry accounts for 2 percent of all water consumed. Eighty-five percent of Pakistan's cultivated land is irrigated and demand for labor is 50 to 100 percent 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; GOP 2015d).

Patterns of water use are causing environmental degradation (salinity and soil erosion), and inefficient and misdirected water use causes lower agricultural productivity. In some cases, in the absence of comprehensive land and water use planning, water pumped from aquifers is diverted to supply domestic water to housing schemes rather than directing water to 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. Currently, only 60 percent of the population has access to municipal water (85 percent in urban areas and 55 percent in rural areas). There are few sewage systems in Pakistan and those that exist are largely non-operational. Water contamination becomes acute when water supply in the distribution channels is low. 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; GOP 2015d).

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. Following the passage of the 18th amendment to the Constitution, provincial level governments are responsible for water and sanitation delivery. National water and sanitation laws are not always enforced at the provincial level.

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 (WPDPA), established in 1958, 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), established in 1992, 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 draft National Water Policy (2016) and the Pakistan Water Sector Strategy Study (2002). The key findings of these policy and planning documents 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 an efficient and financially sustainable water system (World Bank 2005b; GOP 2015d).

In January 2017, the draft National Water Policy of 2016, was agreed upon and sent to the Council of Common Interests for final approval. However due to tensions between the provinces over water allocation, final approval is pending. The draft water policy aims include, but are not limited to, optimizing water resources given population growth and urbanization, creating effective drainage interventions to maximize crop production, achieving equitable water distribution in various area and canal commands, balancing and prioritizing sectoral rights and needs for drinking, industry and agriculture, and undertaking institutional reforms to make water management institutions more responsive and dynamic (GOP 2015d).

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 percent 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 percent 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).

The Government is in the process of acquiring land to build Diamer Bhasha Dam in northern Pakistan. The \$13.368 billion project, which would add an additional 4500 megawatts of power and generate revenue of \$2.216 billion, was approved in 2012. The dam, located on the Indus River, straddles the border between the KP and Gilgit Baltistan (GB). The project, however, has failed to raise investment capital primarily due to land disputes at multiple levels and unclear land tenure relations in the project area. The project area involves not only a territorial border dispute between both the KP and GB provinces, but also an international border dispute, as India claims that GB is part of India. The dam will flood 32 villages, displacing over 30,000 persons. Land disputes have emerged as the government tries to acquire land for resettlement villages. While the Ministry of Planning, Development and Reform intended to hold a ground-breaking ceremony in 2016, it has yet to happen (Sabir et al. 2017).

Overall, investments in water projects such as small, medium and large dams and associated irrigation infrastructure and technologies could bring the 8 million hectares of cultivable waste land into productivity and improve lives of millions of small-scale farming households.

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), for example, worked with the Ministry of Food, Agriculture and Livestock on a 6-year (2004–2011), \$15 million project in Balochistan to improve water resource management that increases on-farm water-use efficiency. The project included components to introduce water-efficient crops and new animal husbandry, feed and rangeland management practices. USAID invested in the development of water storage, canals and irrigation services to improve water management, especially of the Indus Basin Irrigation System. Programs included rehabilitation and/or expansion of irrigation to help make Pakistan's agricultural industry more stable and profitable. Assistance was 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. In the

future, USAID will concentrate development efforts on providing safe water and sanitation facilities in rural areas (AIDA 2009; USAID 2010a; USAID 2009a; USDOS 2010).

The Gomal Dam project (2011-2017), a \$72 million investment, brought 191,000 hectares of previously rain-fed agricultural land in Khyber Pakhtunkhwa into production and increased overall land value. The project provides year-round irrigation through a 265-kilometer network of irrigation canals and flood protection structures, including a 42-kilometer flood protection bund (USAID 2016a). In addition to jobs created during construction, the opening of this land to cultivation is expected to increase trade, business and employment opportunities to 30,000 poor households and increase local food security and fodder and water for livestock. Project management created 400 water user groups and women's groups to assist in canal management. The dam also provides 17.4 megawatts of electricity and can store up to 1.14 million acre-feet of water (Ur Rehman, 2016).

With USAID/Pakistan's assistance, Pakistan's Water and Power Development Authority (WAPDA) completed the Satpara Dam near Skardu in Gilgit-Baltistan (GB) in 2012. The project constructed a network of primary, secondary and tertiary water ways to improve fodder and agricultural production on 15,500 acres of land and increase incomes for several thousand families (USAID 2016b). In 2012, USAID funded a follow-on agriculture development project to harness the additional irrigation waters the dam provided. The \$19.75 million Satpara Development Project is implemented through a cooperative agreement with the Aga Khan Foundation (AKF) and a sub-award to the Aga Khan Rural Support Programme (AKRSP). The project that runs from 2012-2017 includes a study of traditional and state rules on water rights and find gaps and formalizing WUAs and the Jheel (Lake) Committee and expanding the Jheel Committee's membership to develop representative water institutions with the authority and legitimacy to address emerging challenges and opportunities, such as redefining water rights, developing water markets and attracting investments (Hunzai et al. 2015).

USAID's \$66 million Municipal Services Delivery Program (MSDP), implemented in the Sindh (Jacobabad) and Khyber Pakhtunkhwa (Peshawar) provinces, serves to upgrade drinking water and sanitation systems, improve service delivery systems and create public awareness campaigns on good hygiene habits. Some of the project's main activities include institutional reforms, replacing damaged drinking water pipes, reconstructing drains to improve wastewater drainage, launching water, sanitation and hygiene campaigns and improving the solid waste collection and transportation system (USAID 2016c).

3. TREES AND FORESTS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Forest covers 5 percent of Pakistan's land area, and 25 percent forest cover is considered necessary for sustainable economic development (Zaman and Ahmad 2012). The country has 1.29 million hectares of state-owned forest and about 3.1 million hectares of private and communally-owned forest. The country's forests are mostly located in KP province and Punjab. The primary forest type is coniferous (fir and spruce) and scrub forest, followed by juniper, *chilghoza* (native pine), riverine and mangrove forests. Most of the country's irrigated plantations are in the Punjab province (Zaman and Ahmad 2012).

In 2011, the forestry sector contributed \$1.3 billion to the economy (Global Forest Watch n.d.). Revenues from timber continue to grow as timber production increases in KP (GOP 2017b). 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 over 90 percent of Pakistan's wood and fuelwood requirements (Zaman and Ahmad 2012). In 2010, there an annual wood shortage of 34 million cubic meters in demand. The gap has been filled by overexploitation of forest resources and import of paper products and timber. Imports of wood and wood products reached a peak in 2009. Lack of proper record keeping on private and communally-owned forest complicates calculating the gap between wood production and supply and current production. Forest departments only record production on state forests (Zaman and Ahmad 2012).

Pakistan has one of the higher rates of deforestation in the world. The FAO estimates the annual average deforestation rate between 1990 and 2015 was 2.1 percent (FAO 2015a). 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 (GOP 2002; Zaman and Ahmad 2012; Nazir and Olabisi 2015).

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). Both environmental degradation and climate change underlie the severe flooding that has occurred since 2010. Flood damages in 2010 and 2011 totaled \$10 billion (World Bank 2014).

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 was amended in 2011. The policy was not implemented, as the then Ministry of Environment was soon replaced by the Ministry of Climate Change (World Bank 2015). The Ministry of Climate Change is the first government ministry in the world featuring the nomenclature 'climate change.' The Ministry of Climate Change has the mandate to formulate national plans, policies and programs with regards to disaster management as well as more general environmental protection and preservation and biodiversity. Like other ministerial portfolios, duties and responsibilities of the Ministry of Climate Change devolved to the provincial level via the 18th amendment to the Constitution. The Government created, and the Federal Cabinet approved, a National Climate Change Policy in 2012

and a Framework for the Implementation of the National Climate Change Policy for 2014-2030 (Fischer 2014; IFAD 2016b).

A new national forest policy was adopted in 2015. This is an umbrella forest policy that buttresses provincial-level forest policies in the context of a renewed mandate of Federal Government and Rules of Business of Ministry of Climate Change (GOP 2015a). In 2013, the Government approved a National Disaster Risk Reduction (DRR) Policy that includes a National Disaster Management Plan.

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 KP 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). However, the provincial government's 'zero tolerance' or seizure campaign of illicitly-harvested timber together with vigorous prosecution of 'timber mafia' members as well as corrupt forest department officials might be reducing timber and walnut bark smuggling within KP (Aslam Khan 2017). The number of forest-related cases brought before forest magistrates fell from 47,167 in 2005-2006 to 26,486 in 2010-2011, and the role of community forest management is on the rise (Afridi 2012; Aslam Khan 2017).

In 2011, Pakistan became a member of the UN REDD Program, with the completion of the Readiness Preparation Proposal (R-PP) in December 2013. In 2015, a draft National REDD+ Strategy/Action Plan outlining institutional, policy, legislative and legal context for REDD+ in Pakistan was submitted to the Office of the Inspector General of Forests (OIGF). Later that year, a National Forest Monitoring System (NFMS) Action Plan was validated at a multi-stakeholder national workshop and endorsed by OIGF (UN REDD 2015a). There are a limited number of REDD+ initiatives across the country including in Khyber Pakhtunkhwa (KP) (ICIMOD 2013; UN REDD 2015).

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).

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).

From a tenure perspective, there are two main categories of forests—state owned and private. The state-owned forestland has been legally categorized into five classes: state, reserved, protected, un-

classed and resumed lands (World Bank 2015). Protected forests make up 59 percent of total forest area and production forests make up 41 percent of forest area (Nazir and Olabisi 2015).

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 government initiated a 6-year, \$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 takes 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 are 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).

In order to address deforestation in the KP province, which was 74 percent deforested in 2013, the provincial government together with former cricket star Imran Khan launched the Billion Tree Tsunami project in 2015. Due to high political will of the KP provincial government, the project is expected to reach its goal of restoring 384,000 hectares of forest by the end of 2017. Survival rates of newly-planted

seedlings is upwards of 70 percent. Community management and protection of natural regeneration is expected to contribute 60 percent of the billion tree goal, with the balance of 40 percent being met by expanding commercial plantations through public-private partnerships (Aslam Khan 2017; Gulf News 2017).

The Government, as part of its commitment to the Millennium Development Goals (MDG), plans to increase its forest cover from 5 percent by targeting state, communal, private and municipal lands (UNEP 2014, 49). The 2015 MDG target for land area protected for conservation of wildlife is 12 percent, which would be a 0.08 percent increase over the 2001/02 figure (IBRD and IFC 2014).

The estimated investment for the National Disaster Management Plan is just over \$1 billion spread out over ten years 2013-2022. The plan includes a multi-hazard early warning system (IFAD 2016b).

DONOR INTERVENTIONS AND INVESTMENTS

The National Rural Support Programme (NRSP) is an NGO with regional and field offices in 46 districts in all 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).

In 2012, the One UN Joint Environment Program and the International Centre for Integrated Mountain Development (ICIMOD) signed an MOU to jointly implement a REDD+ project with WWF-Pakistan under the supervision of the Government of Pakistan, Climate Change Division (ICIMOD 2013).

In 2015, the World Bank's Forest Carbon Partnership Facility (FCPF) provided the Government of Pakistan with \$3.8 million for a three-year period (2015-2018) to implement its REDD+ Readiness Plan (World Bank 2015). The grant funds four components that will help create the country's REDD+ National Strategy. The components are (1) REDD+ policy analysis, (2) REDD+ technical preparation, (3) REDD+ readiness management and (4) designing and testing of REDD+ payment for environmental services. Policies studies include: (1) analysis of drivers of deforestation and forest degradation, including those from agriculture and livestock sectors; (2) review of existing forest governance, policies, strategies and their implementation; (3) land tenure and natural resource rights; and (4) assessment of lessons and

experience from the rest of South Asia on community forestry programs applicable in Pakistan (World Bank 2015: 17).

4. MINERALS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Pakistan has good deposits of quality precious and semi-precious gemstones, along with coal, copper, iron ore, limestone and salt. Many of the country's minerals have not been explored or mined due to lack of infrastructure and investment. In 2017, mining and quarrying provided nearly 13.91 percent of industrial GDP and 2.9 percent of overall GDP (GOP 2017b). The country also has oil reserves, although these are not sufficient to meet domestic demand. The country has some large natural gas fields. The country has an estimated 5,000 operational mines employing nearly 300,000 workers (Maqbool 2015). Mining and quarrying accounted for 3.1 percent of GDP in 2012. Less than one percent of the labor force was employed in the mineral quarrying industry (GOP 2015e).

Pakistan is among the world's top five cement exporters. Afghanistan is the largest importer of Pakistan-produced cement (GOP 2017b). The minerals manufacturing sector is dominated by the cement industry, which uses local limestone. Other minerals mined in Pakistan are antimony, bauxite, chromite, dolomite, gypsum, marble (oryx), sand and gravel, sulfur and zinc. In 2013, exports of manufactured marble (oryx) accounted for 9.7 percent of the country's exports (Renaud 2015).

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). Until the passing of the 18th amendment to the Constitution in 2010, the federal government exercised control over mineral, oil and natural gas resources. Now the federal and provincial governments equally own oil and gas resources (UNDP 2015).

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 (NMP), although provincial-level regulations have been enacted (GOP National Mineral Policy 1995; GOP 2003c). The lack of such a National Mining Law or Act backed by an act of Parliament results in a legal vacuum that may affect foreign investment (Maluka 2016).

TENURE ISSUES

The 2013 National Mineral Policy updated the Mining Concession Rules for both small-scale and large-scale mining. The policy provides three types of mineral titles for small-scale mining: mineral permit; exploration/prospecting license; and mining permit/lease. The policy also provides four types of mineral titles for large-scale mining: 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 2013 Policy, mining companies need to undertake EIAs and implement environmental audits, comply with national environmental protection law and disseminate information to the public. The government will terminate a mineral title for breach or for nonperformance of the terms of the agreement, misrepresentation and bankruptcy (GOP National Mineral Policy 2013).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Ministry of Petroleum and Natural Resources (MPNR) implements the NMP and 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 [amended 2013] 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 2013; 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). To that end, in 2012 the Home department with the Government of Sindh imposed a ban on illegal sand and gravel excavation and precious stones mining, with prosecution under the Criminal Procedure Code (Renaud 2015).

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.

In February 2013, the government amended the National Mineral Policy in order to increase its mineral production and its contribution to national economic development by promoting the participation of small-scale producers, improving mining's environmental sustainability and becoming more competitive

for international investment and (GOP 2013). Investments in mineral production and exports could increase and create new jobs if infrastructure, electricity generation, processing technologies and technical capacity of the workforce are improved (Renaud 2015).

The Government of Sindh is investing \$400 million to develop the Thar coal reserves starting with extensive geological and hydro-geological investigations. Development of key infrastructure such as road networks, railway line, airport, water master plan and land use planning are also being undertaken (PILDAT 2016b).

The KP Province has established an oil and gas development company that has a Rs. 10 billion budget to develop a comprehensive action plan for oil and natural gas development in the Province (UNDP 2015). The World Bank also invested in improving the competitiveness of marble mining and processing value chains through its 2013-2015 Competitive Industries Project for Khyber Pakhtunkwa (CIPK). In addition to productivity related activities, CIPK entailed institutional strengthening of the Directorate General of Mines and Minerals, the Pakistan Stone Development Company and mines associations in KP as well as reviewing the Province's mining rules and regulations (World Bank 2014).

The government plans to establish an environmental unit within 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 \$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 modern mining techniques. Modern equipment will reduce product loss and environmental damage 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).

UNDP's four-year (2013-2017) Decentralization and Local Governance program includes civic education on Right to Information and ownership of mineral, oil and natural gas resources in Pakistan and holds stakeholder conferences to discuss existing structure of development and regulating oil and gas resources sector in Pakistan (UNDP 2017).

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