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PROPERTY RIGHTS AND RESOURCE GOVERNANCE

TAJIKISTAN

SUMMARY

Tajikistan is a mountainous country with a primarily rural population dependent on livestock and small-scale agriculture. The snow and glaciers of the high mountains feed the country's many rivers and streams and permit intensive, irrigated cultivation of farms established in the valleys. Two great river systems – the Amu/Panj and Syr Darya – dominate. Both are shared with neighboring countries and end in the Aral Sea basin in Uzbekistan. The rivers also provide significant hydropower for Tajikistan's aluminum industry. High-altitude plateaus provide seasonal grazing for herds of large and small animals.

Tajikistan's critical water resources are not, however, well used. While nearly 70 percent of the farmed land is irrigated, water productivity is relatively low. Water has been treated as a free input, and investments were not made to ensure its efficient, sustainable use. The irrigation infrastructure is now badly in need of rehabilitation and development if problems related to salinity are going to be effectively managed. Land degradation and deforestation are major environmental challenges for the country.

The dissolution of the Soviet Union in 1991 was followed by a devastating civil war (1992–1997), which claimed over 50,000 lives, displaced approximately 1.2 million people, and led to economic collapse and food and fuel shortages. It effectively delayed legal and institutional reforms in Tajikistan. Since the end of the war, the state has passed a series of laws, presidential decrees and regulations promoting private property and land reform, but land use and ownership continue to be restrictive. For example, the government continues to mandate production of cotton on irrigated farmland, even for the privately owned *dehqan* farms.

The 1996 Land Code, as amended through 2016, provides every rural household with the right to enjoy a small household plot of land, also called kitchen gardens (GOT 2016a). In Tajikistan, all rural households have kitchen gardens, which are close to rural homes. Rural dwellers, including workers on large farms that were formerly state or collective farms have exercised the right to produce food for their families and, through the reform process, have expanded these small plots via applications for additional land for subsistence farming or via leasing. These additional plots come from outside the confines of the former collective or state farms. Unlike other rural dwellers--such as teachers, doctors and those who had not been directly involved in agricultural production--workers on collective and state farms were given the right to withdraw their share of the collective/state farmland and establish their own independent *dehqan* farms.

BOX 1. MACRO INDICATORS

	Year	Score
Population, total	2018	9,100,837
Population ages 0-14: 15-64: 65+ (% of total)	2018	36.8: 60.2: 3.0
Population growth (annual %)	2018	2.5
Rural population (% of total population)	2018	72.9
Population density (people per sq. km)	2018	65.6
Literacy rate, adult total (% of people ages 15 and above)	2014	99.8
Land area: Surface area (sq. km)	2018 138,790:	141,380
Arable land (% of land area)	2017	5.2
Agricultural land (% of land area)	2017	34.2
Permanent cropland (% of land area)	2017	0.001
Irrigated land (% of cropland) ¹	2019	70.5
Forest area (% of land area)	2017	2.9
Nationally protected areas (% of total land area)	2018	22.3
Renewable internal freshwater resources per capita (cubic meters)	2014	5932.2
Annual freshwater withdrawals, agriculture: domestic industry (% of total freshwater withdrawal)	2016,2015,2015	91.8: 13.7: 20.8
Crop production index (2004-2006 = 100)	2016	160.5
Livestock production index (2004-2006 = 100)	2016	128.0
GDP (current US\$)	2018	7,522,947,810
GDP growth (annual %)	2018	7.3
Agriculture: industry: manufacturing: services, value added (% of GDP)	2018	19.2: 27.4: 10.5: 42.1
Ores and metals exports: imports (% of merchandise exports: imports)
Aid (% of GNI)	2017	3.7

Source: World Bank Open Data, TAJSTAT 2019¹

Rural civil servant households can also establish an independent *dehqan* farm by petitioning for land held in the Special Land Fund. However, relatively few collective and state farm members have exercised these rights. Resistance from farm managers, and the high costs associated with running an independent farm, have left many rural people working on large *dehqan* farms that continue to operate on state/collective farm principles. These workers generally receive very low wages and are paid mainly in cotton byproducts. Depending on the level of farm productivity, workers in some cotton farms receive a combination of cotton stalks for fuel, cottonseed oil for cooking, and cottonseed meal for animal feed as payment.

KEY ISSUES AND INTERVENTION CONSTRAINTS

Donors should consider offering support in the following areas:

Address Barriers to Growth of Private Sector Agriculture. With over 70 percent of the country's population living in the rural

areas, and the demonstrated success of smallholder private farmers in increasing production, outstanding issues on the privatized mid-size *dehqan* farms need to be addressed. These include technical issues regarding land and water management as well as policy issues regarding debt, production financing, choice of crop, and marketing. They also include the fact that many *dehqan* farms were formed from state/collective farms to meet a deadline for privatization in 2005 without really engaging the members in the process. As a result, farming operations continue to be run the same way they were in the Soviet era.

Support the Revision of the Legal Framework and Institutional Capacity for Sustainable Natural Resource Management. Current laws and regulations are inadequate for ensuring that Tajikistan's land, water, pastureland, and forests are used efficiently and sustainably. Public-sector capacity to implement these laws and regulations also needs to be enhanced if compliance is to be monitored and enforced. Donors have provided considerable support to institutional development, including the operations of the *khukumat* and *jamoat* (district- and township-level executive authorities) and the Land Committees, but more needs to be done to increase effectiveness and accountability.

Promote Women’s Access to Land. Some projects have helped agricultural workers to become aware of their rights and to claim access to land. Women’s rights, however, have not been fully recognized. This issue is even more critical now that male out-migration for work has continued. Donors could expand assistance that enables potential female smallholders, or those interested in establishing larger farms to exercise their rights to land. Support could include a livelihoods component that would enable new landowners, especially in female-headed households, to make best use of their land, including provision of agricultural extension advice and marketing support.

I. LAND

LAND USE

Tajikistan’s total land area is 141,380 square kilometers, of which less than 7 percent is arable. The country’s 2018 population was estimated at 9 million, with 73 percent classified as rural. In 2018, the total GDP was US \$7.5 billion, of which 19 percent was attributed to agriculture, 27 percent to industry, and 42 percent to services. The agricultural sector employs 51 percent of the country’s workers. As of 2017, 29 percent of the population was living below the national poverty line. Tajikistan remains the poorest country in the European and Central Asian region (World Bank Group 2019).

BOX 2. LAND TENURE		Score
INDICATORS		
<u>Millennium Challenge Corporation Scorebook, 2009</u> — Land Rights and Access (Range 0–1; 1=best)		0.73
<u>World Economic Forum’s Global Competitiveness Index, 2008-2009</u> — Property Rights (Range: 1–7; 1=poorly defined/not protected by law)		4.6
<u>World Economic Forum’s Global Competitiveness Index</u> — Ease of Access to Loans (Range: 1–7; 1=impossible)		4
<u>International Fund for Agricultural Development, Rural Sector Performance Assessment, 2007</u> — Access to Land, 2007 (Range: 1-6; 1=unsatisfactory access)		3.0
<u>World Bank Group, Doing Business Survey, 2019</u> — Registering Property-Overall World Ranking (Range: 1–181; 1=Best)		77
<u>World Bank Group, World Development Indicators, 2009</u> — Registering Property-Number of Procedures		4
— Registering Property-Days Required		33
<u>Economic Freedom of the World Index, 2020</u> — Economic Freedom-Overall Score (Range 0-100; 0=repressed, 100= free)		47.8
— Property Rights (Range 0-100; 0=no private property)		49.1
— Judicial Effectiveness (Range 0-100; 0=lowest degree of effectiveness)		50.00
— Government Integrity (Range 0-100; 0=lowest degree of integrity)		32.0

Tajikistan is land-locked and mountainous; 93 percent of the country’s land area is covered by mountain ranges. The region is prone to landslides, avalanches, earthquakes, and mudflows. Roughly 34 percent (4.7 million hectares) of the country’s total land area is classified as agricultural, 77 percent (2.8 million hectares) of which is pastureland. Seventy percent of the 867,700 hectares of cropland is irrigated. The main agricultural products include cotton, grains, fruit, vegetables, cattle, sheep and goats. Tajikistan has the lowest ratio of irrigated land to population in Central Asia, and is considered food insecure (ADB 2016a; FAO, IFAD, UNICEF, WFP and WHO. 2019). Protected areas make up 23 percent of the land area. Roughly 3 percent of the land is forested with no reported rate of deforestation. Deforestation however may be significant, especially as rural households use firewood for fuel (ADB 2016b; Feed the Future

Feedback 2014) or expand their agricultural acreage (GOT 2015; Akhmadov 2008; UNDP 2009; World Bank 2008; ARD 2007; World Bank 2009a; Lerman and Sedlik 2008; Robinson et al. 2008; IWMI n.d.).

The geographic conditions of Tajikistan have led to uneven population distribution. There are few people in the arid and high-altitude areas, leaving the majority of the rural population residing on the limited arable land, with an arable land availability of about 0.10 hectares per capita (ADB 2016a).

As a result of the civil war, much of the population reverted to subsistence practices in the mid-1990s, a trend that further strained the fragile mountainous ecosystem. Steep hillsides were reclaimed for crops, winter pastures were overgrazed, and forests were more heavily utilized for wood. Today, the majority of the country is threatened by mudflows and boulder-move risk zones, which are a result of the fragile soil structure in mountainous areas and poor vegetative cover, both in turn worsened by natural causes and human activity. From 1990 to 2018, floods affected 806,238 people and caused economic damage worth more than US\$ 600 million, stretching the state budget and forcing the government to seek additional foreign assistance (World Bank Group 2019).

LAND DISTRIBUTION

During the Soviet era, 99 percent of agricultural land was in the hands of large state or collective farms, and 1 percent of agricultural land was cultivated for household subsistence by families. The 1996 Land Code granted every household a permanent, heritable use right to their kitchen garden plots, which are adjacent to people's dwellings. Article 71 of the 2016 Land Code states that the citizens of Tajikistan can have up to 0.12 hectares of irrigated land, and up to 0.25 hectares of rainfed land to establish a new kitchen garden in most areas of the country. However, citizens who live in districts with newly reclaimed land, or in mountainous areas can have up to 0.15 hectares of irrigated land and 0.40 hectares of rainfed land (GOT 2016a). These household gardens or kitchen plots had generally been granted to rural dwellers, including members of state and collective farms in the Soviet era.

To alleviate rural poverty during the civil war, the government expanded the distribution of these small plots in two phases, corresponding to Presidential Decrees in 1995, 1996 and 1997. The government thus transferred a total of 75,000 hectares of land from collective and state farms to household plots. The Land Code allows each household to receive, in addition to their kitchen plots, 0.15 hectares of irrigated land or 0.5 hectares of rainfed arable land to establish an additional private subsidiary farm. The 2011 Law on Subsidiary Farms, refers to these lands as “additional private subsidiary land plots” or “additional land plots” for short. Unofficially, they are known as presidential lands. These plots are different from kitchen plots in that they are typically of poor quality and far from villagers' houses (GOT 2011a; Nekbakhtshoev 2016; Porteous 2003). Nonetheless, the Law on Subsidiary Farms uses the category “private subsidiary farm” to include both kitchen plots and additional land plots.

Dehqan farms occupy most of the cropland in the country and range in size from 0.01 to over 30,000 hectares. These farms are, in theory, run by private individuals, families or collective/associative groups. Many are collective *dehqan* farms that resemble their state-run predecessors, where a member/shareholder is a tenant in common¹ and lacks direct control over any parcel of the collective's land or over what is produced. Additionally, the law governing *dehqan* farms states that shareholders are supposed to get a share of the annual profits. In practice, however, they are more likely to receive a token wage or in-kind payment, mostly in the form of cotton stalks for fuel (Hierman and Nekbakhtshoev 2018; TAFF 2010; Robinson et al. 2008; Porteous 2005).

Government statistical yearbooks use the general term *dehqan* farm to lump together individual/family *dehqan* farms and collective *dehqan* farms, which makes it difficult to obtain accurate information about the amount of land under each farm type. A recent study examining the original land records compiled by the country's Land Committee, found that in 2013, *dehqan* farms with holdings greater than 10 hectares, accounted for about 70 percent of arable land in the three cotton growing regions of the country, and individual and family *dehqan* farms

¹ Tenancy in common is when two or more parties co-own an undivided share of a property (an interest) and possess rights to alienate their interest. However, tenants do not have rights to inherit the shares of other tenants (rights of survivorship).

occupied the remainder (Nekbakhtshoev 2016). To date, this is the best available evidence about the patterns of land distribution among large and small *dehqan* farms.

Under the present Land Code, district- and local-level governments, with the approval of the national Land Committee, have the power to allocate up to 10 hectares of land for citizens to use on a permanent or limited basis, or as inheritable shares. Permanent use rights can be granted on land obtained outside of the collective *dehqan* farm structure, and the laws do not provide any guidance on whether such rights are heritable. According to the Law on *Dehqan* (Commercial) Farm, citizens of Tajikistan wishing to establish a *dehqan* farm with inheritable land shares, with or without the right of alienation, must petition the district chair.

Land plots are provided from one of the following sources of land:

1. Land from larger collective type *dehqan* farms created when former collective and state farms underwent restructuring in the mid-90s. Members of the *dehqan* farm are entitled to receive an equal share of land from these farms, however, the shares are hypothetical because neither the law, nor the land certificate, specifies the location of the plots on the farm. Members can apply to the district Land Committee to withdraw their share from one edge of the farm.
2. Land held by the Special Land Fund, which is made up of unused, devalued, or expropriated agricultural land, reserved land, deforested land suitable for agriculture, and other former state and collective farm land that has not been used in agricultural production. *Dehqan* farmers, part-time farmers, people using the land for household garden plots, and people with agricultural knowledge and qualifications receive priority in distribution. The government also uses the Special Land Fund to allocate plots for establishing private subsidiary farms.
3. Land from state seed-growing and cattle-breeding farms; institutions involved in research, production, training, and experimenting; professional and technical colleges; and land from the state-water fund.

Dehqan farms can be established upon application by individuals, families, or collectives. As amended in 2016, the Law on *Dehqan* (Commercial) Farm no longer explicitly distinguishes between family, individual and collective *dehqan* farms. Instead, it distinguishes between *dehqan* farms created by a private individual versus a legal entity. A *dehqan* farm established by a private individual operates as an individual enterprise and can include up to 50 members. A *dehqan* farm established by a legal entity operates as a company or association and can include any number of members. *Dehqan* farms, at least those established by a private individual, operate by appointing a head who officially holds the farm's land registration certificate and legally represents the interests of the farm.

Under the Law on *Dekhan* (Commercial) Farms passed in 2016, citizens of Tajikistan can augment their household plots and *dehqan* farms by leasing land for a period of up to 20 years. A survey of 1800 rural residents conducted in 2011, found that 6 percent of respondents rented land from others, and 17 percent seriously considered doing so. Additionally, 7 percent rented land to others and about 13 percent seriously considered doing so. The study found an overall increase from 2007, the last time the survey was conducted, in the proportion of respondents who reported leasing land (World Bank, USAID and DFID 2012). Since the study used a sampling frame only at the village level to randomly select households, the findings may not be representative of other villages in the same district, let alone other districts nationwide.

Article 4 of the Law on Private Subsidiary Farm states that foreign citizens can establish a private subsidiary farm if there is land available in the State Reserve Land, but the law does not provide any guidance on what type of use right foreign citizens would have over that land. State Reserve Land differs from the Special Land Fund in that it includes both agricultural and nonagricultural land, whereas the Special Land Fund includes only land suitable for agriculture. Contradicting the stipulation of the Private Subsidiary Farm, Article 25 of the 2016 Law on *Dekhan* (Commercial) Farms states that foreign citizens can only be

assigned limited use rights to nonagricultural land for a period of up to 50 years; they do not have rights to land designated for agricultural purposes or the land of protected areas.

Farmland restructuring has occurred unevenly in the decades since the break-up of the Soviet Union. All workers on formerly state-managed farm enterprises had an unconditional right to withdraw their land share and receive land in-kind to start their own *dehqan* farm, a process which the law required to be completed by 2005. The response to this ultimatum was often the superficial creation of a private collective farm (*dehqan*) operating within the same physical parameters as the original collective or state farm. Although members are legally allowed to withdraw their physical shares from these collective *dehqan* farms, very few have been able to exercise this land right, in part because of resistance from heads of the collective *dehqan* farms, and in part because of the high costs associated with operating an independent farm (Hierman and Nekbakhtshoev 2018; World Bank, USAID and DFID 2012).

According to recent empirical studies, collective *dehqan* farms occupy a large share of arable land in *jamoats* (townships) with more reliable access to irrigation water (Nekbakhtshoev 2016), or in districts where farms produce high cotton yields per hectare and are located near a major domestic market (Hierman and Nekbakhtshoev 2018). Individual members of the collective *dehqan* farm who reside in such townships or districts in most cases have not been able to withdraw their land share to establish an individual or family *dehqan* farm. They continue to work as laborers on the collective *dehqan* farms, receiving extremely low wages, and often get paid in-kind (a sack of wheat and/or cotton sticks for household fuel use). In addition, many men have emigrated to look for work, leaving women and girls to provide the bulk of agricultural labor. The existing research suggests that to date, those with the right political and family connections have been the largest beneficiaries of the restructuring process, whereas poorer and less connected families have received little, if any right to land (Hierman and Nekbakhtshoev 2018; Nekbakhtshoev 2016; World Bank, USAID and DFID 2012; ARD 2005a; ADB 2005; World Bank 2007b; Robinson et al. 2008; Robinson et al. 2009; Porteous 2005).

LEGAL FRAMEWORK

The 1994 Constitution and a large number of laws, Presidential decrees, administrative regulations and government resolutions govern land rights in Tajikistan. The Constitution states that land and natural resources are the property of the state, which is charged with their efficient management (GOT 1994). The laws have evolved to become more emancipatory, and until recently, quite explicit about the procedures required to establish an independent farm.

In 1992, Tajikistan began its land reform efforts by enacting the Law on *Dehqan* Farms and the Law on Land Reform. Together, these laws provided every citizen with the right to create a *dehqan* farm from collective and state farmland in the form of individual, inheritable land shares. Every member of a collective or state farm received the right to a property share. The laws also required that the land of collective and state farms be restructured into privately held *dehqan* farms, lease-share enterprises, and agricultural cooperatives. The 1996 presidential decree gave farmworkers the “unconditional” right to withdraw land from the privately held *dehqan* farms. Farmworkers no longer needed to gain the consent of other farm members to withdraw their land share. The 1992 Law on *Dehqan* Farms was amended in 2002, 2009, and 2015. The 2002 law explicitly recognized the *de facto* existence of collective *dehqan* farms in addition to the individual and family *dehqan* farms that were expressly created by the 1992 law and set forth the right of land-shareholders to transfer their parcels to others and to use their land shares as collateral.

Additionally, the 2002 Law on *Dehqan* Farm and the 2006 Law on Land Reform simplified the registration process for shareholders to establish an independent farm by allowing them to register their farm at the district-level instead of the regional-level government. According to the 2006 Law on Land Reform, the procedure for a member of a *dehqan* farm to establish an individual/family *dehqan* farm is as follows: 1) the shareholder petitions the district chair, who submits the petition for further review to the State Committee on Land Management and

Geodesy (SCLMG), which is the National Land Committee; 2) the Committee's surveyor visits the farm, and measures and maps the plot; 3) based on the land survey, the dispatched Committee member draws up land tenure documents and sends them to the national-level Land Committee; 4) after reviewing the documents, the Land Committee issues land certificates (titles) to each member of the newly created farm; and lastly, 5) the District Land Committee registers the land certificates and creates farmland accounts. Upon obtaining the certificate, members of the farm become entitled to the land. The farmers then must register the farms with the local statistical committee and tax agency.

As amended in 2009 and 2016, the Law on *Dehqan* (Commercial) Farm does not categorize *dehqan* farms in terms of individual, family or collective *dehqan* farms. Instead, it distinguishes between *dehqan* farms created by a natural or legal entity. The amended versions also recognized the explicit right of farmers to choose their own crops, and removed vague terms such as “non-rational use” from the list of reasons for which a land plot could be withdrawn by the state (GOT 2009a; GOT 2016b). To eliminate disagreements on how land is to be subdivided, article 15 the 2009 law stipulated that members of the *dehqan* farm are entitled to an equal share of land and that land is to be distributed beginning from one edge of the property, moving inwards; therefore, members of the peasant farm do not choose specific plots. Perhaps, envisaging a scenario where multiple members would claim land at the same time, a 2006 presidential decree prescribed the use of a lottery system as a mechanism to divide the land of the peasant farm, with local authorities (district-level officials, farm managers and elders) executing it. The 2016 amendment, however, omits article 15, signaling a step backwards in terms of legislative clarity, one that could exacerbate conflicts over land and impede further progress in farmland restructuring.

The Land Code, adopted in 1996 and amended seven times with the last amendment in 2016, provides a framework for current land-related legislation in Tajikistan. The 1996 Land Code reaffirmed state ownership of land and made provisions to secure the rational use and protection of land. The present Code (post-amendments) frames land tenure types created by previous laws, permits individuals to collateralize and sell their land use rights and assigns servitudes to land-shares, establishes expanded rules regarding compulsory acquisition of land, and clarifies the allotment procedures for additional household plot land. Under the current Land Code, pastureland is considered agricultural land and so is subject to the same laws as arable land. The 1999 Civil Code also governs certain matters related to land (ARD 2003; GOT 2008, 2016a; Duncan 2000; Robinson et al. 2009).

The Law on Specially Protected Areas introduced in 2002, and amended in 2011 and 2014, shields areas from overexploitation, with different protection and use regimes. Introduced in 2003 and amended in 2006 and 2011, the Law on Subsidiary Farms governs the establishment and operation of kitchen plots and additional private subsidiary plots.

The 1994 Regulation on Procedure for Transfer of Land from One Category to Another and the 2002 Presidential Decree on Preservation and Rational Use of Irrigated Land, prohibit decreasing the area of irrigated land and other highly productive land. The regulations also prohibit allocating plots of land for housing if the land could be an irrigated subsidiary plot. Consistent with these, the 2011 Law on Private Subsidiary Farms prohibits any type of construction on additional subsidiary plots but allows for it on kitchen garden plots. This framework sets a legal preference for use of land as irrigated farmland. However, as amended in 2016, the Land Code provides for conversion of agricultural land for constructing a house. It also expands on the reasons justifying compulsory acquisition of land to include establishment or expansion of a city or settlement area (GOT 2016a).

Prior to Soviet rule in 1929, Islam and Shari'a law governed many aspects of social life. Traditional non-formal leaders still exist in Tajik communities, but they are significantly weaker than the local government (*khukumat*) in most areas. Shari'a has been revitalized throughout Tajikistan as a local custom (Khaidarova 2003; ARD 2007), but it does not play any role in governing land relations. Overall, customary land arrangements, typical for example of countries in sub-Saharan Africa, do not exist in Central Asia.

TENURE TYPES

By law, land and other natural resources in Tajikistan are owned exclusively by the Republic of Tajikistan, which is responsible for their effective use. As amended in 2008 and 2016, the Land Code sets forth several tenure options for agricultural land, distinguishing primary use rights from secondary use rights. Primary use rights include the following:

Perpetual use. This right has no fixed term. It is granted to private individuals and legal entities of the Republic of Tajikistan such as state and cooperative agricultural enterprises, public and religious organizations and charities, providers of transportation and national defense, industries, public enterprises and public-private partnerships.

Limited or fixed-term use. This right may be granted to private individuals or legal entities for either a short-term (up to 3 years) or long-term (3–20 years), with the exception of certain conditions specified in the law (GOT 2016a); foreign entities are limited to leases on non-agricultural land only.

Life-long heritable tenure. This right may be assigned to ordinary persons or collectives. Ordinary persons must re-register the right in the case of inheritance. This right applies to land-shares used to organize a *dehqan* farm, as well as household plots. If the land is transferred to a legal entity, the use-right over the garden plot will change to limited or fixed term (GOT 2016a).

The Land Code permits the establishment of secondary use-rights for natural and legal persons through lease agreements and/or public-private partnership agreements. According to the Land Code, primary rights holders may lease out their plots for a term not exceeding 20 years (GOT 2008, GOT 2016a). One older study indicated that household farms were primarily leased, with 67 percent of the land leased from farm enterprises and about 12 percent leased from other individuals; the remainder held use-rights directly from the state (Lerman and Sedlik 2008).

All use-rights are subject to state-imposed land-use standards, and use-rights may be terminated for a long list of reasons, which include termination of activities by the land user, exclusion from membership in the *dehqan* farm, non-use for two years, use of the land contrary to the use established in the use-rights document, use that leads to deterioration of environmental conditions, and use that causes losses in soil fertility or pollution of the soil through chemical, radioactive or other means. Additionally, they can end due to termination of a land use designated for state and public needs or on early or timely completion of a state-private partnership contract (GOT 2008, 2016a). If a land user decides to relinquish control over a land plot, and provides a signed letter to the local government to that effect, the local government will provide a market-based compensation for the land-use right (GOT 2016a). Perhaps because the government is still developing the legal mechanisms to govern land markets, the law does not specify either who determines the market value of the land-use certificate or how this is determined.

SECURING LAND RIGHTS

Land-use rights must be registered by the *raion* (district) Land Committee and *khukumats*. Rights of perpetual use, limited use and lifelong inheritance use must be recorded in a certificate, while leases must be registered in the Land Use Registry. Individuals who receive land through inheritance must re-register land in their names (GOT 2016a, 2008; ARD 2003).

On collective and family *dehqan* farms, two tiers of documents must be issued and registered. First, the Land Committee issues a Land Use Certificate to the farm manager or leader, describing the farm's physical location and boundaries. Second, the Land Committee issues individual Land Use Sub-Certificates to all permanent workers on the farm. Land Use Sub-Certificates were introduced in 1998 and were followed by a Government

Resolution in 1999 to simplify procedures for registration of land-use rights. However, individuals must still petition their local *khukumat* to apply for and register a physical land-share.

Laws governing land rights give wide discretionary powers to local governments, especially as it pertains to distributing land from the Special Land Fund for purposes of establishing a *dehqan* farm. District-level governments have discretion in determining when and what land to distribute and to whom (ARD 2004; Lerman and Sedlik 2008; Robinson et al. 2008). To create accountability, the law requires district government officials to make a decision on citizens' request for land from the Special Land Fund within a month of receiving their petition, put them on a waitlist until land becomes available, and inform them about the amount of land in the district's Special Land Fund that is available for distribution (GOT 2016a).

Upon recommendation of the Land Committee, local governments can order a termination of land-use right for the following reasons: a) if for a period of two years, land is not used for agricultural needs, or construction has not been started on non-agricultural land, b) land is not used for purposes indicated in the land-use certificate, and c) when land is needed for state and public use as designed in the Land Code. In the first two cases, the process of termination requires issuance of a penalty and warning, after which the local government or the Land Committee can petition the court for a forcible termination of the use-right if the problem is not rectified within three months. Local governments do not have authority to withdraw or terminate the use of a plot except per rules on compulsory acquisition (see below), implying that they may not withdraw use-rights from one farmer to transfer them to another.

Under 2016 amendments to the Land Code, if a land user with an inheritable land share wishes to voluntarily terminate her/his use-right, and provides a signed termination request to the government, government officials must, within a month of receiving the request, offer the land user a market price compensation for the ceded use-right. The Land Code does not consider the possibility that land users might object to the compensation amount. In cases of compulsory acquisition of land, the Land Code stipulates that the government must offer land users a market-based compensation. Unlike in cases of voluntary termination, if the land user objects to the amount of the compensation, she/he can appeal it to the court. However, the Land Code does not provide any guidance on how soon after compulsory acquisition the government has to provide the compensation. Under the 2019 Law on Pasture, land users can get grazing land for perpetual and limited use from State Reserve Land, state forest land, township land, as well as state-owned agricultural land. The law does not treat pastoral land as common property. To obtain land, ordinary persons and legal entities, including commercial *dehqan* farms, other agricultural entities and pasture users' unions can petition the local government (GOT 2019c).

Past research found that lack of specific knowledge regarding land-use rights acted as a barrier to gaining access to land. A 2003 study found that the major reason why shareholders in several cotton-producing districts of Khatlon region did not get land was because they lacked the knowledge of how to get land (Porteous 2003). Corroborating this study, surveys of over 1000 rural residents carried out in 2007 and 2011 in Khatlon, Sughd and Regions of Republican Subordination found that shareholders' knowledge of the general land laws increased, but they still lacked knowledge of the procedures for creating individual or family *dehqan* farm (World Bank, USAID and DFID 2012). The survey does not break down responses by *dehqan* farm type to determine whether shareholders of individual/family *dehqan* farms were more aware of their land rights than those associated with collective *dehqan* farms. Using the same survey data, a recent study found a gender gap in awareness about land rights, with men having better knowledge and access to information about the process of farmland restructuring than women (Hierman and Nekbakhtshoev 2019). However, the study is dubious about whether having legal awareness regarding land rights is sufficient to gain independent access to land. Their skepticism is borne out by another study, which found that respondents who were aware of the laws and the steps required to establish an individual farm were no more likely than a respondent lacking such knowledge to actually have an independent *dehqan* farm (Nekbakhtshoev 2016).

INTRA-HOUSEHOLD RIGHTS TO LAND AND GENDER DIFFERENCES

Under the 1994 Constitution, women have the same legal rights to use land as men. The Land Code strengthens women's property rights by stipulating that upon marriage, the couple will share rights in land equally, enabling surviving spouses to inherit land upon the death of the other spouse. While both spouses may alienate their land-use rights, the law does not provide guidance on whether the agreement of both spouses is needed first. Land rights can be registered in the name of either the husband or the wife. The spouse does not have to be the head of the household to have the land right registered in her/his name. Women, including, single, divorced and widowed, can also obtain kitchen plots.

In practice, however, women often face discrimination in securing access to land. A woman who marries loses her use-rights to her own land, unless she continues to live on or adjacent to that land in order to maintain it. Women rarely inherit use-rights from their parents or husbands because local customs privilege the interests of surviving male relatives, such as sons or brothers (Shahriari et al. 2009).

Women's role in agriculture has become increasingly salient, especially with the out-migration of men. However, this has not resulted in women's empowerment. In 2014, women managed about 10-13 percent of *dehqan* farms, corresponding to 6.4 percent of all planted cropland, and the average size of female-headed farms was smaller than male-headed farms: 2.32 hectares compared to 5.07 hectares for male-headed households (ADB 2016b; Hierman and Nekbakhtshoev 2020). According to more recent data, in 2017 female-headed farms accounted for 15.4 percent of all small (0.2 hectare) farms, and 23.3 percent of all large farms in the country (FAO 2018). Gender disparities also exist with respect to household plots and livestock. Relying on government statistics, a donor report states that female-headed households tend to have smaller household plots than male-headed households (9.2 *sotka*² compared to 15.2 *sotka* for men), and that 38.7 percent of female-run households reported owning some type livestock compared 58 percent of households owned by men (ADB 2016b).

Women also suffer from outright land dispossession. A report based on a survey of 1800 rural residents carried out in select districts of the country found that managers of collective and family *dehqan* farms removed the names of 10 percent of women from land certificates. According to that report, one main reason for such exclusion was the reluctance of managers to pay more social taxes, which are based on farm membership size (World Bank, USAID and DFID 2012). The report stated that the social tax policy at the time levied taxes using a flat rate per member as opposed to income-based taxation, including for *dehqan* farms. However, the Tax Code, last amended in 2019, stipulates an income-based taxation (GOT 2019a). Women are also poorly paid or receive negligible in-kind payment for work on *dehqan* farms. Discrimination against women is reflected in official incomes from work on state farms, with women earning an average of 15-20 Tajik Somoni per month, while men earn an average of 60 Tajik Somoni per month (ADB 2016b).

With a push from international organizations, including the United Nations Development Fund for Women (UNIFEM), the government has adopted gender sensitive farmland restructuring policies, but much remains to be done to truly empower women (ADB 2016b).

Male out-migration exposes women and their children, especially girls, to poverty and exploitation. In cases where labor migrant husbands stop sending remittances, their abandoned wives will sometimes agree to enter into a polygamous marriage as a second or third wife or resort to prostitution (ADB 2016b). Polygamy is illegal but socially accepted, and government officials often overlook it. Even if a labor migrant sends remittances, it is typically the parents of the labor migrant, not his wife, who decide on how to dispose of the money. Parents may prefer to spend the money on household expenditures, instead of making purchases or investments that would enhance the welfare of the migrant's wife and her children (ADB 2016b).

² One *sotka* is equivalent to 100 square meters.

Under the Soviet system, women had high levels of political representation and participation in the workforce. With the collapse of the Soviet Union and the subsequent civil war, women suffered from the deterioration of the state social safety net and support they had previously enjoyed. Although the country scores high in women's education attainment, health and survival, as measured by the World Economic Forum's 2014 Global Gender Gap Index, its scores could be improved by giving women more economic opportunities and political power. Since independence from Soviet rule, there has been a revival of Islamic practices. However, women often do not know their rights under Islamic law (ADB 2000).

LAND ADMINISTRATION AND INSTITUTIONS

Authority over land is shared between: (1) the State Committee on Land Management and Geodesy (SCLMG)³, and its district-level committees on land management; and (2) local and district-level governments (*khukumats* and *jamoats*). The SCLMG is the national body that prepares regulatory legal acts on state control of land, develops and maintains the land cadaster, monitors the condition of the land, and issues land use certificates. At the district level, Committees on Land Management are charged with executing these tasks, including measuring and mapping land plots, drawing up land tenure documents, registering the land certificates, and creating farmland accounts (GOT 2016a).

Under the Land Code, the district-level executive branch of the government has the authority to allocate and withdraw most land plots and individual small holdings. However, the SCLMG and its district subunits have the right to terminate land use on agricultural land if they find the use to be in violation of the Land Code, and to withhold implementation of government land allocation orders if they find the order to be in violation of the Land Code. They also have the authority to stop construction, mining, building use, geological exploration, irrigation of forested areas, and any type of land use on non-agricultural land they deem to be violation of the Land Code (GOT 2016a).

Were it not for the 2006 presidential decree on farm reorganization, SCLMG and its district subunits would not have enjoyed the same level of authority described above. The decree granted SCLMG the power to carry out land reform. Previously, the Ministry of Agriculture was in charge of agricultural land management. In the lead up to the decree, the president directly placed SCLMG under his office to give land reform more political visibility (World Bank 1998), and in 2001, made the SCLMG's chair, "a full member of the Government (council of ministers) of Tajikistan" (Van Atta 2008).

LAND MARKETS AND INVESTMENTS

The Land Code permits the sale of land-use rights. However, legal mechanisms are still lacking that would permit a functioning land-sales market in Tajikistan. Through its Feed the Future Tajikistan Land Market Development Activity, USAID seeks to facilitate the creation of land markets. In 2019, it supported the first ever land auction in Yovon, a district in the southwestern part of the country where participants bid in the auction to get a three-year lease on agricultural land. The real market for land is the rental market and users with lifelong inheritable tenure can lease their land to others and allow the sub-leasing without the approval of the Land Committee and the local *khukumat*. However, local government approval is required to lease land acquired from the Special Land Fund.

COMPULSORY ACQUISITION OF PRIVATE PROPERTY RIGHTS BY GOVERNMENT

Prior to 2008, the state had the power of compulsory acquisition for both public and private uses, and the law was vague on what "public purpose" meant. The 2008 amendments to the Land Code (retained following the 2016 amendments) limit acquisition to public purposes. Additionally, they set forth revised and expanded rules for compulsory acquisition of land, which limit the state's acquisition power to exceptional cases in the absence

³ This body has been repeatedly renamed since its establishment.

of other options about where to locate a structure. Furthermore, public purposes are limited to infrastructure, state buildings such as schools, discovery of mineral deposits, as well as establishment and expansion of cities and settlements (GOT 2016a, Art. 38).

The 2008 amendments establish a number of procedural protections for compulsory acquisition of land, including that: (1) the landholder must be notified in writing at least one year prior to the anticipated acquisition; (2) the landholder has the right to go to court if in disagreement over acquisition, and may continue use of his or her land while the case is pending; (3) any development project put forth as having a public purpose must demonstrate feasibility by presenting urban planning documents, technical and economic calculations, and other relevant draft project approvals; and (4) all acquisitions for public purpose projects must be published in the state-owned newspaper within five days of the acquisition (GOT 2008).

According to the amended Land Code, compensation in the event of compulsory acquisition consists of allocation of a new plot of equal value, compensation for improvements to the land (such as housing) through construction of a structure of similar value on the replacement plot (or payment of cash), and payment for any other losses associated with the use of the land, including lost profits. Compensation for improvements and other losses shall be made according to market value. The Code states that those private individuals and entities standing to benefit from the acquisition shall provide relevant compensation to the original landholder (GOT 2008).

LAND DISPUTES AND CONFLICTS

Tajikistan's formal courts have jurisdiction over claims relating to land leases. However, the majority of disputes relating to land-use rights are settled by the SCLMG. The Land Committee holds the power to legislate, enforce, and adjudicate land claims. If a party is not satisfied with the Land Committee's decision, it may appeal to the formal courts (GOT 2016a; ARD 2003; GOT 2008).

Government corruption in distributing land, especially household/kitchen plots, creates tenure insecurity and social tension. In 2018, the General Prosecutors Office reported about 4000 cases of wrongdoing involving government officials (RFERL-Tajik Service 2019). By law, local governments do not have the authority to distribute land. However, local authorities, including employees of the land committee or township heads, were found guilty of illegally selling, without actually distributing, use-rights to household plots. In some instances, local officials sold use-right to the same plot of land to more than one claimant. In other instances, they demanded additional payment for the promised plot (General Prosecutor's Office, GOT 2020c; RFERL-Tajik Service 2013).

Household/kitchen plots are highly coveted in Tajikistan because the law permits construction on them, and housing shortages are acute. As such, rural residents are prepared to pay a high price for land, and even protest or take matters to court when they do not get it (RFERL-Tajik Service 2016; 2013).

Along Tajikistan's border with Kyrgyzstan, in the northern Sughd Province, conflicts over pastureland have escalated since 2003, when political tension between the two countries led to restricted border movement. Most Tajik households living in the border region have at least a few heads of livestock, but they have no grazing land. Prior to 2003, these households had relatively free access to Kyrgyz pastureland, as the border was porous and not clearly defined. Violent outbreaks followed the border closing of 2003, as Tajik households were left with no option for grazing their livestock – a critical means of livelihood for many rural households (Toktomushev 2017; Scalise 2010).

Recognizing the high potential for escalating violence, both countries established conflict committees that helped to negotiate arrangements, permitting the Tajik livestock owners to pay Kyrgyz shepherds and local governments to graze Tajik livestock on Kyrgyz land. The Tajik households must pay between four and six times the amount that Kyrgyz households pay to graze livestock, and the Kyrgyz shepherds, while taking care of Tajik livestock, retain the milk produced by them. These arrangements are not formal, transparent or enforceable,

and thus fuel ongoing conflict. Underlying sources of continued tension include the unequal bargaining power between the Tajik livestock owners and the Kyrgyz shepherds and institutions, a lack of information on legal rights, a lack of transparency in decision-making, and the fact that most parties have little recourse in the event that a problem arises. USAID funded a one-year pilot project Approach to Participatory Management of Natural Resources from 2009 to 2010 in the Fergana Valley, with the goal of developing an approach to conflict management in the borderland regions of Tajikistan and Kyrgyzstan (Scalise 2010). Despite this initiative, cross-border tensions have been on the rise, sometimes escalating into violent conflict (Usmanov 2018; Toktomushev 2017). In 2019, one border guard died, and 16 others were injured as a result of a shoot-out in a section of disputed border along Tajikistan's Ghafurov district.

KEY LAND ISSUES AND GOVERNMENT INTERVENTIONS

Tajikistan's approach to land reform has been phased in gradually since the first legal acts on land reform were passed in 1992. Since 1996, the government of Tajikistan, with the assistance of the World Bank and USAID, created laws and projects to promote farmland restructuring, much of which have paved the way for farmworkers to establish individual or family *dehqan* farms through withdrawing their shares from the large collective-type *dehqan* farms. The latter emerged when Soviet state and collective farms underwent restructuring or downsizing. However, the manner in which reforms unfolded in Tajikistan left most prime farmland concentrated in collective *dehqan* farms. As of 2013, 71 percent of farmland in the country was held by collective *dehqan* farms (Nekbakhtshoev 2019). In many cases, Soviet rural elites (collective farm chairs, brigadiers, etc.), their children, and others with financial wherewithal and government connections became managers of these farms and the beneficiaries of the reform, while the farmworkers continue to labor as shareholders on these farms for negligible in-kind payment.

Despite the existence of legal mechanisms for withdrawing one's share to create an individual or family *dehqan* farm, rural elites are reluctant to cede control over these collective farms and use different strategies to deny shareholder their land rights (World Bank, USAID and DFID 2012; Nekbakhtshoev 2016; Hierman and Nekbakhtshoev 2017). One common strategy is to demand that shareholders repay farm debt before they withdraw their land share (Nekbakhtshoev 2016). The debt problem originated in the early 1990s when state banks worked through local loan brokers known as "futurists" to finance cotton production. Once futurists received money from the banks, the futurists purchased farm inputs, which they then lent to cotton farmers in exchange for a portion of the cotton harvest. The futurists also owned cotton gins, and the tax laws gave the gins *de facto* monopsonist control over different cotton-growing districts of the country. A controversial practice of the gins was to claim they did not receive high enough yields from the farms, and then use a hypothetical expected yield to impose a debt on the farmer based on the difference between the expected and actual crop value. Cotton financing done this way is believed to have imposed widespread cotton farm debt (Kassam 2011).

In addition to reported debt owed to cotton buyers, farms also incurred debt to the state in the form of taxes and irrigation service fees. Nonetheless, the former type of debt by far surpassed the latter. Since 2003, the government has enacted several laws and decrees to address the debt problem. The 2009 Presidential Decree No. 663 (On additional measures to support agriculture in the Republic of Tajikistan) and 2009 Government Resolution No 406 (On measures to implement the Decree of the President of the Republic of Tajikistan from 30 May 2009 № 663) stipulated debt write off. Like preceding measures, the decree and the accompanying resolution was ineffective (Lerman and Sedik 2008) because farm managers continued to remind shareholders that their land parcel was encumbered with debt, which had to be paid if they wanted to create an independent farm (Nekbakhtshoev 2016). Since most farmers lacked adequate resources to pay off the supposed debt, little progress was made toward decollectivization (USAID and the World Bank 2007, 2008; World Bank, USAID and DFID 2012).

The perceived high costs of operating an independent farm are another major reason shareholders have not secured individual and family land rights. A survey of 1800 rural respondents found that about 53 percent of *dehqan* farm members consider lack of access to farm machinery as the most important barrier to establishing an individual *dehqan* farm (World Bank, USAID and DFID 2012). Some respondents said that the limited availability of tractors and increasing fuel costs would have made operating a small individual *dehqan* farm less cost effective. To address this problem, the government of Tajikistan used an ADB loan to establish three Farm Mechanization Units in select districts. However, the project proved short-lived as farmers preferred to lease from alternative sources which offered “more modern, mobile and relatively cheaper equipment.” Nevertheless, the Asian Development Bank (ADB) credits the government initiative for “encouraging farmers to use machinery and the development of private rental markets for such equipment.” (ADB 2014)

In addition, the government has maintained a substantial administrative role in farm decision-making. Despite laws and regulations providing for individual discretion in land use, the state sets district production quotas for cotton, and the *khukumats* enforce cotton sowing targets in their districts. Foreign donors, most notably USAID, pushed the national government to introduce laws and champion programs to strengthen the tenure security of farmers in Tajikistan, mainly by giving them the right to farm the crop of their choice. In the 2009 Law on *Dehqan* Farms, the state explicitly codified the right of *dehqan* farmers to choose their own crops, which represented a change from previous versions of the law (Lerman and Sedlik 2008; ILRF and TSIYC 2007; GOT 2009a). Perhaps as a result, surveys of rural respondents carried out by foreign donors found that farmers’ confidence about their ability to make independent farming decisions increased. In 2011, close to a half reported being able to make independent decisions about crop choice, compared to only 25 percent in 2007. However, confidence levels were significantly lower among women in cotton-producing areas compared to men. Additionally, members of collective *dehqan* farms were less confident about being able to plant the crop of their choice than members of individual or family *dehqan* farms. Overall, respondents in cotton-producing areas were less confident about their choices than non-cotton producing areas (World Bank 2012). Another study of small *dehqan* farmers in six cotton-producing districts of the country, suggested that government freedom to farm policies led small *dehqan* farmers to diversify away from cotton, thereby causing a decrease in amount of land sown to cotton and an accompanying decline in cotton production (ADB 2014).

Attaining food security and strengthening agricultural capacity through the expansion and reclamation of agricultural land remain top government priorities (GOT 2012a). In 2010, 39,194 hectares of land were out of production due to dilapidated irrigation infrastructure and bad water management practices (Agency for Land Reclamation and Irrigation, GOT 2020a). To rectify this problem, in 2012 the GOT adopted the “State Program on Claiming New Irrigated Land and Rehabilitating Lands Left Out of Agricultural Production in the Republic of Tajikistan for the Years 2012-2023.” A total of 1028.4 million somoni, the Tajikistan currency, from the state budget and state investment projects were earmarked to restore irrigation networks and drainage systems, plus purchase spare parts for the irrigation pumps servicing restructured farms. This measure is credited with rehabilitating about 28 percent of 39,580 hectares of irrigated land that was deemed by the government to have been in unsatisfactory condition. Another measure, the “State Program on Improving the Irrigation Condition of Irrigated Agricultural Land for the years 2019-2023,” saw the government investing 7.1 million somoni to rehabilitate the irrigation and drainage systems nationwide, resulting in the improvement of 8,586 hectares of land and the reclamation of 468 hectares of land that had been left out of production due to bad water management practices (Ato 2020).

DONOR INTERVENTIONS

Donor interventions in agriculture prioritize combating malnutrition and food insecurity and improving producers’ access to domestic and international markets. In 2019, USAID dedicated \$5.8 million to economic growth and \$7.9 million to agriculture in Tajikistan. Since 2015, USAID has funded three projects to support the establishment of a functioning agricultural land market, increase the availability and affordability of nutritious crops, increase the competitiveness of the agricultural sector through the production and export of higher value

commodities and value-added products, and strengthen the links between producers and domestic and international markets. These projects operate in 12 districts in the southwestern part of the country. USAID considers these 12 districts as falling under the Zone of Influence (ZOI) for its Feed the Future projects.

USAID/Tajikistan's new Feed the Future Agriculture and Land Governance (ALG) Activity will assist the Government of Tajikistan to sustainably reduce hunger, undernutrition, and poverty among smallholder farmers by developing more productive and efficient agriculture systems, building the resilience of smallholders, and improving the enabling environment to facilitate sustainable and long-term, ag-led growth. It supports the USAID Global Food Security Strategy's top-line goals of accelerated agriculture-led growth, better nutritional outcomes, improved food security, land tenure security, greater resilience, and better water security.

Feed the Future Tajikistan Land Market Development Activity (LMDA) (2016-2020) assists the government in adopting market-based principles that would allow for the transfer of land-use rights (such as buying, selling, or leasing land use rights), introducing a simplified process of registering land and other immovable property and increasing legal awareness about land rights. In 2020, at the recommendation of the LMDA (USAID 2019a) the GOT adopted the Law on "Introducing Changes and Amendments to the 'Law on Mortgage,'" which allows for the application of market value to land-use rights as opposed to cadastral value (Jumhuriyat 2020). The project supported the creation of a Council on Appraising, and an Association of Independent Appraisals which would facilitate the sustainable development of appraisal activities in the country. Additionally, the government amended the Law on "State Registration of Immovable Property and Rights to It" to simplify the process of registering a property through the creation of a unified registration system based on the "single window" principle. LMDA helped establish nine registration offices in ZOI districts which operate on the basis of this principle. The introduction of this system led to a decrease in the time it takes to register an immovable property from an average of 6-7 days to 3-4 days (Social Impact Inc. 2017). The unified system is also expected to minimize duplications in functional roles between the SLCMG and the State Unitary Enterprise for Registration of Immovable Property and their branch offices in the districts. LMDA experts also helped create a draft law on the "Regulation on Rights of Alienation," which would grant land users, including those with inheritable or permanent use-rights, the right to sell, buy, lease, mortgage, gift, or transfer their land-use rights (USAID 2019a). If adopted, the draft law would allow farmers to augment their holdings. Currently, under the Land Code, only land users with life-long inheritable land-use rights are permitted the right of alienation. LMDA also works to increase legal awareness about use rights and protect those rights. The project established 12 Legal Aid Centers (LACs) which provide consultation and representation to farmers in land disputes. Using mediation, LACs successfully resolved 19 out of 22 court cases of land disputes to the benefit of farmers with an additional 42 claims still pending as of January 2018 (USAID 2019a).

Feed the Future Tajikistan Agriculture and Water Project (2015-2018) advised smallholder farmers on the use of high yielding modern farming methods and provided them with equipment to increase the production of profitable and nutritious fruit, vegetables, and dairy products. In 2018, the project benefited a total of 27,021 households, including 21,745 farmers who applied new farming methods and irrigation and other management practices on 38,194 hectares of agricultural land. As a result, farmers were able to make US\$1,721,615 from incremental sales of their products and consume 957,400 kilograms of nutritious apricots, sweet peppers, and dairy products. In 2008 and 2009, USAID through the Land Tenure Reform project in Central Asia supported strengthening the Government of Tajikistan's capacity to undertake further structural reforms, reduce regulatory barriers, and strengthen property rights. The project provided technical and legal assistance to local authorities and farmers.

The World Bank is funding an eight-year (2014-2022) US\$25.92 million Agricultural Commercialization Project for Tajikistan. The project works with 12,500 participants, including men and women who operate small farms, and those involved in agri-business enterprises and agro-processors. Among other things, the project offers advice to improve the knowledge and skills of participants in the agricultural commercialization value chain related to agricultural commercialization, access to medium-term finance for larger agri-business enterprises,

and grants to small-scale farmers to help them deliver higher value products to the market. The project is reported to have helped 5,455 participants to improve their commercial activity in 2019 and aims to support a total 12,500 beneficiaries (World Bank, 2020).

Prior to this project, the World Bank launched an eleven-year (2005-2016) US\$ 10 million Tajikistan Land Registration and Cadastre System for Sustainable Agriculture Project (LRCSP), and a five-year (2004–2012) US\$16.7 million Community Agriculture and Watershed Management Project in Tajikistan (CAWMP). The objective of LRCSP was to encourage farmers to establish individual *dehqan* farms by providing on-demand free cadastral services, and land-use rights certificates in a transparent and fair manner. At closure in 2016, the project distributed a total of 122,723 land-use certificates (Independent Evaluation Group 2018). The project also aimed to facilitate the reallocation of shares to both arable land and, where relevant, pastureland (for example in the Gorno-Badakhshan Autonomous Region). In addition, the project offered training on land-use rights and the farmland restructuring process and helped with computerized production of land-use certificates. Some of the funding for this project was used for high-resolution digital satellite imagery (World Bank 2005a; Devex 2010; World Bank 2009b; Robinson et al. 2009).

The objective of CAWMP was to build the productive assets of rural communities in selected mountain watersheds, to increase sustainable productivity and curtail the degradation of fragile lands and ecosystems. The global environmental objective was to protect significant mountain ecosystems by mainstreaming sustainable land-use and biodiversity conservation criteria when making agricultural and associated rural investment decisions. In addition, the land resource management sub-component would foster sustainable uses of fragile lands and provide land-use certificates after three years of continued good land-use (World Bank 2004). An Independent Evaluation Group (IEG) rated the project's overall performance as satisfactory, highlighting its achievement in curtaining land degradation. However, IEG was not able to accurately evaluate the true effect of the projects' intervention because the World Bank did not have systematic evidence regarding baseline conditions in the targeted areas.

ADB led the Central Asian Countries Initiative for Land Management (CACILM) project, a 10-year (2006–2016), multi-country, multi-donor program promoting sustainable land management in Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan. Several donors spent a total of about US\$1.4 billion. The initiative included a project entitled Rural Development and Demonstrating Local Responses to Combating Land Degradation and Improving Sustainable Land Management in southwest Tajikistan that focused primarily on sustainable management of irrigated arid lands (ADB 2007c).

In 2003, the United Nations Development Fund for Women (UNIFEM) and the Food and Agriculture Organization (FAO) collaborated on a pilot project that established 16 District Task Forces (DTFs) on land-related issues in three provinces. The task forces provided women with legal advice on land rights and offered classes on farm management and other skills. As of 2008, the DTFs served about 14,000 rural individuals. One positive result is that the proportion of farms registered to women rose from two percent in 2002 to 14 percent in 2008. District-level governments have adopted and are now funding the DTFs (UNIFEM 2010).

Since the civil war, Tajikistan has seen a growth of national non-governmental organizations (NGOs). At the local level, some NGOs provide legal aid, seeds to farmers and micro-financing (USAID 2019a; World Bank 2014). For example, USAID sponsored Legal Aid Centers help protect farmers' land-use rights. Several donor-supported NGOs work with communities and female-headed households to claim their land-use rights.

2. FRESHWATER (LAKES, RIVERS, GROUNDWATER)

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Tajikistan has substantial freshwater resources, more than any other Central Asian country. The nation's hydropower potential is enormous, the eighth-largest in the world, with an annual capacity to produce over 500

billion kilowatt hours. Precipitation, melting glaciers, and snowfields deposit 50.9 billion cubic meters of water in the country annually. There are 1,300 natural lakes, covering a total area of 705 square kilometers and holding 46.3 cubic kilometers of water, of which 20 cubic kilometers are freshwater. Tajikistan also has nine reservoirs covering a total surface area of 664 square kilometers and holding 15.3 cubic kilometers. The largest of these are the Nurek and Kairakkum. Several major rivers flow through the country, including the Syr Darya and the Amu Darya with its tributaries the Vakhsh, the Pyandzh, and the Kafirigan. The country has potential groundwater reserves of 6.9 cubic kilometers per year, although actual exploitation is lower, reaching 2.2 cubic kilometers per year (FAO 2012; ADB 2007a; ICG 2002; Lerman and Sedlik 2008; OIC 2008; Encyclopedia of Earth 2008).

During the 1950s and 1960s, Tajikistan constructed an extensive system of irrigation and drainage facilities. In 2018, about 70 percent of cropland was irrigated (TAJSTAT 2019). However, much of the irrigation system is either completely derelict or in urgent need of repair. The overall delivery efficiency of irrigation systems in Tajikistan is low, with losses from evaporation, seepage, general system deterioration, and unauthorized abstraction. According to the ADB sector assessment summary, in 2016, the area equipped for irrigation was 748,000 hectares, of which 700,000 was irrigated annually. The ADB identifies deteriorating irrigation and drainage infrastructure, soil salinity, waterlogging and unreliable supply of electricity to water pumps as the reasons for the incomplete irrigation of agricultural land (ADB 2016). As reported in a state-run newspaper, these issues might have worsened over time because in 2018, land equipped for irrigation was 757,800 hectares, however, water was delivered to only 552,300 hectares (Musozoda 2018). These numbers closely match the ones reported in the website of the Agency for Land Reclamation and Irrigation of the Republic of Tajikistan⁴, the main government body responsible for distributing water for irrigation. Although Water Use Associations are being formed, the centralized design and management of the irrigation systems continue to operate inefficiently (ADB 2013; ADB 2007a; ADB 2007b; World Bank 2005a; PA Consortium Group 2004; USAID 2004; IFPRI 2000; World Bank 2009a).

In 2016, 71 percent of the rural and 80 percent of the urban population had access to an improved potable water source. In rural areas, many households rely on water from open and unprotected sources, including rivers, lakes, ponds, and springs. Morbidity due to unsafe drinking water contributes to the cycle of poverty in rural areas (World Bank 2017; 2008; ADB 2000; ADB 2007b). Gender disparities also manifest themselves in community-based water management. Women often make long trips to collect drinking water. However, their outsized role in supplying household water needs compares unfavorably with their representation in water users' associations. Perhaps, more than their male counterparts, women have a genuine stake in the reliable delivery of water to the household, and their exclusion can undermine the accountability of these associations in performing that task.

According to estimates of the Ministry of Energy and Water, hydropower generated 95 percent of the country's electricity in 2017 and continues to be a significant power source. An estimated 95 percent of the current power-generating capacity in Tajikistan is hydroelectric, and this power can be produced at only US\$0.004 per kilowatt hour, which is low compared to production costs of other energy resources. However, many Tajik households lack access to electricity in the winter months (October to May), when the water used to generate hydroelectricity often freezes. During these months, rural households receive at most four to five hours of electricity per day, and on some days they receive none. Therefore, they depend on wood fires and kerosene, which results in respiratory diseases and environmental degradation. The Tajik Aluminum plant, the largest in central Asia, alone consumes 40 percent of the nation's electrical power (World Bank 2013; FAO 1997; World Bank 2008; ADB 2008a; *Asia Times Online* 2010; GOT 2010).

Water for hydroelectricity used to be a source of considerable tension between Tajikistan and Uzbekistan. The Soviet irrigation networks carried water across national boundaries and depended on fuel and water transfer

⁴ <https://alri.tj/tj/land-irrigation>

agreements between neighboring countries. In the absence of effective bilateral and multilateral agreements over the past two decades, cross-border tension over water has increased. When Tajikistan's water freezes in the winter months, the country must rely on imported electricity from Uzbekistan and Turkmenistan, but shortages in these countries have restricted the supply available for export to Tajikistan. If Tajikistan uses its (nonfrozen) water reserves extensively to produce electricity during the winter months, the water reserves will not be sufficiently replenished to supply summer irrigation needs of its neighbors. Past fuel –gas, and gas-generated electricity-- transfer agreements supplied Tajikistan's winter fuel needs, but these have been broken or neglected (Bhutia 2020; World Bank 2005a; World Bank 2008; ADB 2008a).

Another major source of tension is related to the construction of a hydroelectric power plant. The GOT is building a hydropower dam (the Rogun) on the Vakhsh river that would give Tajikistan almost complete control over the river (see below, Government Reforms, Interventions and Investments). This plan has increased tension with Uzbekistan, whose water security would reportedly be challenged by such a development (The Economist 2012; ICG 2002; *Asia Times Online* 2010). Since the coming to power of a new leader in Uzbekistan in 2016, interstate relations have become amicable, as Uzbek leadership no longer objects to the construction of the dam (Dalbaeva 2018). As a sign of improving relations, recently the countries reached an agreement on the joint construction of two hydropower projects worth US\$ 550 million on Tajikistan's Zarafshan river, which is estimated to produce up to 1.4 billion kilowatt-hours solely for Uzbekistan's use (Bhutia 2020).

Tajikistan's water resources are under threat due to the geography of the country as well as use-decisions. Irrigated areas are subject to substantial erosion, landslides and deforestation, which cause waterlogging and increased soil salinity. Water pollution is increasing with industrial production. The growing reality of climate change poses a serious threat, as rising temperatures lead to increased glacier-melt that could cause more floods and be disastrous to the country's water supply and hydropower potential (GOT 2012a; ADB 2013; FAO 2012; World Bank 2008).

LEGAL FRAMEWORK

Tajikistan's Constitution gives the state exclusive ownership of water. Tajikistan's Water Code, introduced in 2000 and last amended in 2012, governs water management, permitting, dispute resolution, and usage planning (GOT 2012b; World Bank 2017).

TENURE ISSUES

Under the 2012 Water Code, the state charges for water if it is supplied through infrastructure or technical equipment, and this applies to water used for domestic consumption or irrigation. Therefore, household consumers who are connected to the water delivery system pay for water supply services. Similarly, farmers pay irrigation service fees if they rely on pumping stations or channels. Because there are no meters, fees for domestic water consumption are estimated based on the number of people living in each dwelling unit and the estimated per capita consumption (World Bank 2017; ADB 2007a). According to the World Bank report, in 2016, 58 percent of Tajik households reported paying for drinking water, of which 88 percent were urban and 47 percent rural households. Most rural households do not pay for domestic water consumption because they are not served by the national water delivery system. Instead, they rely for drinking water on open water sources, rivers, springs, irrigation canals, and rain water. Some rural households pay to have drinking water delivered by truck (World Bank 2017). Irrigation service fees are determined by the amount of water use and the type of crop grown.

Water-use rights can be limited in the interest of the government or in the interest of other water users in the event of excessive shallowness, emergency situations at water bodies, danger of epidemic, and other reasons. Water-use rights are fully or partially stopped if payment for use has not been made. The 2012 Water Code defines primary water users as ordinary persons and legal entities who have been given rights over water for

individual use. Primary water users can coordinate with state agencies to limit the rights of secondary water users.

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Agency for Land Reclamation and Water Resources (previously, the Ministry of Land Reclamation and Water Resources) regulates activities related to land reclamation and irrigation. Additionally, the agency is charged with construction, operation and maintenance of irrigation and drainage canals between and among farms. Further responsibilities include: controlling water use and quality; distributing water to central farm access points; planning measures for maintenance and improvement of the soil; and assisting Water User Associations (see below) with implementing technology. The Agency of Land Reclamation and Water Resources has offices at the provincial and district levels.

The Ministry of Energy and Water Resources (previously, the Ministry of Energy and Industry) develops and implements state policies on water, regulates water resources, and manages water supplies for generating electric power. State and local governments jointly manage water resources and fix quotas for water and fee collection.

The State Utility Enterprise Khojagii Manziliyu Kommunalni, is the main the government agency for public utilities, including domestic water supply and treatment of wastewater, while the Committee on the Protection of the Environment ensures the protection and productive use of water resources.

Water User Associations (WUAs) are responsible for maintaining on-farm irrigation systems and collecting irrigation service fees (GOT 2011b). The law on “Water User Associations,” introduced in 2006 and last amended in 2020, classifies the WUAs as non-profit organizations. The creation of WUAs started around 2000, and as of 2016, more than 300 of them were established throughout the country. In Tajikistan, WUAs are found at the township (*jamoat*) level, which is an administrative unit below the district (*nohiya*) level, and have a specific geographical coverage, which usually contains several villages. The average land area under a WUA scope is in the range of 1400 -1600 hectares (Balasubramanya *et al.*, 2016). Most WUAs were established with the support of USAID. Other donors, including the World Bank, the ADB, the EU, and Swiss Agency for Development and Cooperation also provided funds for their creation.

Farming households can choose to become members of their *jamoat* WUAs. Their obligations include paying irrigation service fees and membership fees, participating in self-help activities, such as cleaning and maintaining the channels, and following the guidelines for water use. Guidelines include properly petitioning for anticipated water use and only irrigating when scheduled by the WUAs. Recent studies show that USAID-supported WUAs function much better than other WUAs in fulfilling their mandates, especially in collecting water fees from members and holding board meetings to plan water use before the next irrigation season. One study attributes improved performance to the longer training period USAID offers to beneficiaries on how to run a WUA (Horbulyk and Balasubramanya 2018; ADB 2013). Nonetheless, without the rehabilitation of the off-farm irrigation network, it is unlikely that even these WUAs would be able to perform their tasks effectively (World Bank 2017).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Chronic budgetary shortfalls and a desire for improving service delivery have led the Government of Tajikistan to promote irrigation sector reform. Along with the creation of WUAs, in 2006 the government established irrigation service fees for people who use water delivered by state entities. The amount of the service fee varies depending on the type of crop produced (the government charges more for cotton than non-cotton crops), and whether water is delivered using pumps, which is expensive (FAO 2012). State entities responsible for water resource management continue to be underfunded to perform their basic functions of oversight, repairing irrigation pumps, and maintaining the main canals and drainage networks.

Despite the increase in the cost of supplying drinking water, tariff rates are still too low to cover the operating and maintenance costs of irrigation and drinking water systems. To reduce supply costs, donors have recommended the involvement of local leaders and community members in the creation and operation of decentralized schemes to report on water delivery interruptions and infrastructure breakdown (World Bank 2017; World Bank 2005a; ADB 2007b; World Bank 2008).

The Government of Tajikistan is attempting to increase its hydroelectric capacity with three major new dams. One of these, Sangtuda-1, was funded by Russia and began operations in 2009. Another, Sangtuda-2, was funded by Iranian investment and it began operations in 2011. A final project, the Rogun Dam, is under construction. The Tajik government has prioritized the Rogun Dam as a national project. In 2017, the government issued Eurobonds to finance the project, and in 2018 the dam's second turbine was launched.

Tajikistan has initiated two water-related actions at the United Nations General Assembly over the past several years. The most recent one was the Declaration of 2005–2015 as the International Decade for Action: Water for Life. This initiative appears to have achieved its goals of raising the profile of water in the global agenda by focusing international attention on the work performed by anyone implementing water programs and projects, promoting cooperation between governments and diverse stakeholders, and ensuring the participation of women in water and sanitation (United Nations Department of Economic and Social Affairs 2020). Tajikistan has hosted several international forums on water, with the most recent being the High Level Symposium on SDG 6 and Targets: Ensuring that No One is Left Behind in Access to Water and Sanitation, which was held in 2016. The Symposium was designed to use country experiences to promote integrated water resource management; ensure improved access to water, sanitation and hygiene; increase water use efficiency; reduce water pollution; protect water basins and ecosystems; and advance international cooperation and partnerships.

DONOR INTERVENTIONS AND INVESTMENTS

Since 2000, USAID has been working in Central Asia to improve the integrated management of natural resources. The agency has succeeded in helping the government reorganize its management of river basin resources on hydrographic units rather than political subdivisions. It has provided technical assistance and equipment to rehabilitate pump stations and infrastructure and to improve communication systems. USAID started supporting the creation of WUAs in 2005, when it launched the Water User Association Support Program. Subsequently, through its Family Farming Program (2010-2015), USAID supported the construction and rehabilitation of 76 water systems allowing more than 242,000 people access to safe drinking water. Overall, since 2005 the agency supported the creation of 56 WUAs, which benefitted 200,000 people in terms of improved water availability and increased incomes from farming (USAID 2019b).

The World Bank and the ADB fund projects that ensure access to irrigation and drinking water. The World Bank is funding a three-year (2018-2020) US\$16.57 million Zarafshon Irrigation Rehabilitation and Management Improvement Project to improve institutional capacity for irrigation planning and management in the Zarafshon river basin, plus improve the condition and management of irrigation infrastructure in the river basin and the adjacent districts drawing water from the Syr-Darya basin. The overarching goal of the project is to increase food availability for rural people in the target area. Additionally, the World Bank is funding a six-year (2019-2025) US\$ 59 million Rural Supply and Sanitation Project to ensure access to clean drinking water and sanitation services in select districts in southern Khatlon.

The ADB funds a similar project, but it only targets the capital city Dushanbe. The ADB also approved funding for Preparing the Irrigation and Drainage Modernization in the Vaksh River Basin Project in 2019, which will help the government of Tajikistan conduct a feasibility study of irrigation and drainage systems in two districts in southern Khatlon. The ABD project builds on the success of its agriculture rehabilitation project, which was completed in 2012. That project was credited with rehabilitating irrigation and drainage systems in six districts

of the country, helping to provide a reliable supply of water to 85,000 hectares and benefiting 471,000 people. The project also succeeded in providing 198,600 people access to clean drinking water, thereby significantly reducing waterborne diseases (Performance Evaluation Report 2014). The ADB's Water Resources Management in the Pyanj River Basin Project, approved in 2016, helps the state to produce timely and accurate forecasting of extreme weather events, particularly in the Pyanj river basin. Its aim is to help local communities along the river be better prepared in the event of flood and landslides.

3. TREES AND FORESTS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Approximately 412,000 hectares of Tajikistan is forested, constituting nearly 3 percent of total land area (FAOSTAT 2020; Forest Sector Development Strategy of the Republic of Tajikistan for the Years 2016-2030). Most stands of forests are sparse and fragmented. Large-scale forest planting began on collective/state farms in 1947 (Akhmadov 2008). According to the Global Forest Watch, as a result of reforestation, from 2001 to 2012 the country gained 143 hectares of tree cover. Government source indicates that as of 2019, the country developed and performed rehabilitation work on about 1714 hectares of forest land (Sunnati 2020). The majority of forest land managed by the state is set aside for grazing, even though grazing has been shown to threaten forest resources.

Despite covering only a small percentage of land area, the government recognizes forest as extremely important in regulating moisture and climate, protecting soil, and providing non-timber resources and the limited timber itself. In the 1950s, the government cleared hundreds of thousands of hectares of forest for the cultivation of cotton, and during the civil war (1992-1997) people cut trees for fuelwood. As a result, the forested area of Tajikistan was reduced to one-quarter of its former size (GOT 2015; Mumin and Najibullah 2017; Akhmadov 2008). Recognizing the anti-erosion and anti-landslide functions of forests, the state now only allows felling of mature trees from broadleaved and small-leaved forests (GOT 2016c; Ahmadov 2008).

After the collapse of the centralized energy supply provided under the Soviet Union, forests became one of the primary sources of fuel (together with cotton sticks) and the main source of construction materials in the mountains. While the total percentage of forested land did not dramatically decrease, the density of forests declined. Data provided by Global Forest Watch indicates that between 2001 and 2018, Tajikistan lost 339 hectares of tree cover, which is equivalent to a 0.56 percent decrease in tree cover since 2000. Wood continues to be the primary source of fuel for cooking and heating. In 2013, about 47 percent of households reported using wood for cooking, and about 32 percent reported using wood for heating (Horbulyk and Balasubramanya 2018).

LEGAL FRAMEWORK

The Constitution vests exclusive ownership of natural resources, including forests, in the state, which guarantees their effective use in the interest of the people. Under the Land Code, the "Forest Land Fund" includes land covered with forests or areas not planted with trees that are used for forestry. The Land Code further states that boundaries of the forest reserve lands must be physically marked (GOT 2016a). State forest reserve land can be given for agricultural and non-agricultural use, provided the land is not allotted to the needs of the forestry. The 1993 Forest Code, last amended in 2011, aims to preserve, protect and ensure the sound use of forest resources. Additionally, it strengthens the legal protection of forests and provides for expanding nature-protection reserves (GOT 2011c; Akhmadov 2008; FAO 2005).

All state forests in Tajikistan are classified as Category I, which identifies them as having high environmental, economic and social value. Logging is allowed for forest maintenance and improvement. Felling of trees for timber and fuel is limited to mature trees from broad-leaved and small-leaved forests (GOT 2016c; GOT 2011c; Akhmadov 2008; FAO 2005).

Limited logging is permitted on small, privately owned tree plantations, with timber sold on local markets, primarily for construction. Private individuals must submit documentation to state and local authorities indicating the source of marketed timber. The government sets statutory prices for standing timber (GOT 2011c). Although updated information is unavailable, past research indicated that standing timber from communal forests was released free of charge for local communities, and standing timber from state forests was sold to individuals at a reduced price to ensure adequate access to fuelwood (Akhmadov 2008).

TENURE ISSUES

Land degradation, including deforestation, is a major environmental challenge facing the country. Tajikistan's forests are under pressure from cattle-grazing, farming, and uncontrolled logging for domestic needs. Past research shows that forestry authorities received 500–600 reports of violations of logging regulations every year, and the infrastructure for enforcement was reported to have been inadequate (Akhmadov 2008; ADB 2007a; World Bank 2008). According to the director of the country's State Agency for Forest, in 2018, 906 cases of illegal logging took place, which accounted for 60 percent of all forest-related violations, reportedly a 16 percent decrease from 2016. The official attributes the decline in illegal logging to the greater availability of coal and gas, the provision of electricity in winter, and people's awareness about the importance of protecting the environment (Sunnati 2018).

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The State Agency for Forest is the main government body responsible for the development and implementation of state policies and regulations in the area of forestry and hunting. Created by a presidential decree in 2013, the Agency for Forest and its district branches manage 42 forests, five seedling farms, and 13 forest nurseries (Agency for Forest, GOT 2020b).

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Tajikistan's nine-year (2006–2015) Forest Development Sector Program sought to promote sustainable forest and woodlands management, targeted research, integrated resource management, protected-area management and biodiversity conservation. As part of this initiative, the government performed rehabilitation works in 2000 hectares of forest land. In 2009–2010, it established a 600-hectare pistachio plantation, a 350-hectare walnut plantation, and 194 hectares of berry plantations, planting over 3 million fruit trees and shrubs. In 2015 the Government of Tajikistan adopted The Forest-Sector Development Strategy for the Years 2016–2030 to bring into balance the ecologic, economic, and social functions played by forests.

DONOR INTERVENTIONS AND INVESTMENTS

The German Federal Ministry for Economic Cooperation and Development (BMZ) supported a five-year (2013–2018) Adaptation to Climate Change through Sustainable Forest Management project to rehabilitate degraded forests in non-cotton growing areas of Tajikistan. According to the project's management plan, the project applied a Joint Forest Management approach that allowed local people to secure long-term leases on forest land and perform rehabilitation work on the leased plots. By 2015, the state registered more than 350 leaseholds. Additionally, the project supported women with processing and selling non-wood forest products, offered training for foresters, supported the development of a monitoring system, and helped develop the seedlings of climate-resistant tree species. This project drew on the strengths of the Sustainable Management of Resources in Gorno-Badakhshan Project, a three-year (2008–2010) forest-sector development initiative funded by the German Agency for Technical Cooperation (GTZ), and introduced a community-based forest management system to reduce the illegal harvesting of timber for fuel. The local, formerly illegal users receive long-term formal use rights based on lease contracts and management plans that have been developed with their participation (GTZ 2008).

Between 2013 and 2018, GIZ, another German development agency, promoted an integrative forest management approach to rehabilitate, protect and reforest forested areas. The approach was designed to bring

together forest authorities and forest users in planning, implementing and monitoring sustainable forest use (GIZ 2020).

The Protected Areas and Biodiversity Management in the Gissar Mountains Project (2006-2011)—first supported by CARE, and then UNDP—sought to improve conservation of globally significant biodiversity in Tajikistan. The project demonstrated new mechanisms and approaches to effective management of three protected areas and their biological diversity. The project also aimed to raise awareness among 101,000 individuals and improve the quality of life of selected communities located next to the protected areas. Project components included providing technical assistance to relevant government agencies and financial support to the three protected areas and selected communities (CARE 2010). Independent evaluators rated the project’s performance as overall satisfactory. The key contribution of this project included establishing an inter-ministerial working group to provide technical input to the drafting of legislation and to develop concepts around the purpose and value of protected areas. Additionally, it established *Jamoat* Resource Centers in four *jamoats*, which helped target communities to engage in environmentally sustainable livelihood activities and set up a regional microloan foundation that disbursed US\$33,000 to 1,500 clients for beekeeping, business enterprises, trade, agriculture, horticulture and animal husbandry (Green and Jumabaeva 2012).

4. MINERALS

RESOURCE QUANTITY, QUALITY, USE AND DISTRIBUTION

Tajikistan’s mineral resources include gold, antimony, silver and uranium. The mining industry was developed in close relation to the Soviet supply and trade networks. Tajik Aluminum Company (Talco) operates one of the largest aluminum-smelters in Central Asia. The company continues to import all of its inputs (other than power) and export the majority of its production. Most alumina is imported from Azerbaijan, Kazakhstan and Ukraine (ADB 2000; Levine 1998; Global Tenders 2010; World Bank 2008).

As of 2016, 36 mining production enterprises were in operation (USGS 2016). According to the United States Geological Survey (USGS), these enterprises extract antimony, coal, cement, clay, dolomite, gold, mercury and limestone. Artisanal mining is not common; USGS reported about the existence of one such entity without providing data on how much it extracted. There is potential for growth in the mining sector as more than 400 mineral deposits have been discovered and explored, including zinc, lead, bismuth, molybdenum, tungsten, gold, silver, antimony, mercury and fluorite, as well as gas and petroleum. The north of Tajikistan has deposits of construction and decorative materials such as marble, granite and limestone. Some 40 kinds of mineral raw materials are being extracted, such as fossil minerals (about 10), ores and non-metallic resources (about 90). Tajikistan has 29 coal mines and an estimated four billion tons of coal reserves, the largest coal reserves in Central Asia (Ruhulloh and Olimov 2019; ADB 2017; GOT 2009c; USGS 2005). In 2019, the country extracted 1.5 million tons of coal, reportedly 200,000 tons more than the previous year. Approximately 411,000 tons were kept as a reserve supply (Ruhulloh and Olimov 2019).

LEGAL FRAMEWORK

Under the Constitution, mineral resources belong exclusively to the state. The law on “Licensing Certain Types of Activities” requires payments to the state for geological prospecting and mining of mineral resources (GOT 2019b). The 1994 Law on Subsoil Resources, last amended in 2013, establishes procedures for land-use during mining and mechanisms of land rehabilitation after extraction of minerals (GOT 2013; World Bank 2008).

TENURE ISSUES

According to the law on “Subsoil Resources,” mining and use of mineral resources require formal licenses. The national government issues licenses for extraction of oil, natural gases, metallic ores and precious stones, while local-level governments issue licenses for sand, clay, gravel and other common mineral resources. The license fees are calculated based on a percentage of the value of the mined mineral and depend on the type of mineral.

Tajikistan's 2011 Law on Concessions regulates agreements between Tajikistan and foreign investors for the use of land and natural resources. Only the central government has the power to enter into these concession agreements. Likewise, the 2019 law on "Licensing Certain Types of Activities," authorizes only the central government to issue licenses for mining and use of mineral resources.

Mining sites generate 77 percent of industrial wastes – more than 200 million tons a year. Hazardous wastes are not generally treated separately from other waste (World Bank 2008). Under Soviet rule, Tajikistan was an important provider of uranium used in the mining process. Since the closure of the state-run mines in the mid-1990s, very little remediation work has been carried out on the sites. The European Bank for Reconstruction and Development and other international donor agencies are rallying support to minimize the danger posed by the large amounts of radioactive materials that continue to contaminate former mining sites.

GOVERNMENT ADMINISTRATION AND INSTITUTIONS

The Head Geological Office oversees the mining sector in Tajikistan, whereas the Committee on Environmental Protection regulates the environmental impacts of mining. Under the 2013 law on Subsoil Resources, the local government has the power to issue permits and concessions for the use of what the law refers to as "common beneficial ores," which include sand, clay, soil and gravel.

GOVERNMENT REFORMS, INTERVENTIONS AND INVESTMENTS

Tajikistan has abundant hydropower resources, and currently the country uses only about 4 percent of its hydropower potential. The country continues to face the challenge of supplying electricity to households, especially in winter, in part because climatic conditions affect the volume of water available for the hydropower plants, and also because TALCO consumes about 40 percent of the internally generated electricity (ADB 2017). As such, the county is forced to import electricity from Uzbekistan. Tajikistan also consumes significant quantities of oil, natural gas and coal, and imports them from Uzbekistan, Kazakhstan, Kyrgyzstan and Turkmenistan (Reuters 2019; ADB 2018). The government has identified several gas and oil fields within Tajikistan. However, private investors seem reluctant to invest in the face of an unfavorable investment climate featuring non-transparent practices, unnecessary costs and unreasonable competitive barriers (Asia-Plus 2018; GOT 2009c; USDOS 2009).

Nevertheless, the government has been able to attract foreign investors, predominantly from China, to develop gold, and silver mines. In 2019, the government issued a license to Kashgar Xinyi Dadi Mining Investment Company, a Chinese mining company, to develop the Yakjilva silver deposit in the remote eastern district of Murghob, GBAO Province. In 2007, China acquired a 75 percent equity stake in the Zarafshon gold mine in northwestern Tajikistan, which reportedly accounts for more than 70 percent of gold production in the country. Chinese mining companies also agreed to invest in Kumarghi Bolo and Duobai Sharqi gold mines in the northern Aini district (Najibullah 2018). Tajikistan is estimated to have 429 tons of gold deposits, and starting in 2022, the government plans to increase annual production to 17 tons. Tajikistan is reported to have given these concessions as a way to pay off its debt to China, which in 2018 stood around US\$ 1.2 billion (Eurasianet 2018).

DONOR INTERVENTIONS AND INVESTMENTS

In 2013, Tajikistan joined the international Extractive Industry Transparency Initiative (EITI). The EITI ensures that member governments use the revenues generated from mineral extraction for the benefit of their fellow citizens. Towards that end, it requires full disclosure of information from its members about extraction activities and revenues.

The World Bank supports mining-sector reform through its Private Sector Competitiveness Project, which seeks to strengthen the legal and regulatory framework for all economic activities. Additionally, it funded a two-

year (2010-2012) knowledge exchange program for mining sector practitioners from Tajikistan, who travelled to Brazil to learn about best practices in mining sector reform. Building on that experience, the practitioners were able to contribute to the formulation of the National Mineral Strategy for Tajikistan. In 2009, the government of Tajikistan worked with the International Finance Corporation to find a foreign investor to develop the Bolshoi Konimansur silver deposit, reportedly the largest deposit of its kind in Central Asia (Kozhevnikov 2009).

The United Nations Development Programme's project in Tajikistan (2010–2015) focused on sustainable natural resources management, improved environmental protection, and increased access to renewable energy. UNDP assisted the Government of Tajikistan with capacity-building support to negotiate, ratify and implement major international conventions, transnational policy, and legal frameworks on sustainable natural resources management. The project also worked to establish favorable policy and legal frameworks and an appropriate environment for business development to promote and broadly implement efficient, cost-effective and sustainable alternative and renewable energy technologies (UNDP 2009).

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