

THE DEVELOPMENT POTENTIAL OF
FORESTS IN THE KYRGYZ REPUBLIC



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Author: **Asyl Undeland**

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This report was prepared by Asyl Undeland based on document review and field work, as well as data and information provided by the Rural Development Fund (RDF), an NGO based in the Kyrgyz Republic. In addition, Willie Bourne, an international consultant for the value chain of Non-Timber Forest Products, undertook detailed study and field work concentrating on the most important tree product – walnuts. (The executive summary of this work is included in appendix 3.)

RDF conducted a survey and in-depth interviews for this study from November 2010 to March 2011, collecting and processing information on the forest sector in the Kyrgyz Republic and supporting the study with a review of actual forest management and use practices. The RDF team was led by Umut Zholdosheva and included Altynai Davletalieva and Surya Israilova. The study team expresses its gratitude to Emilbek Ibraev, Rysbek Akenshaev, and Urmat Mambetaliev for their valuable insights on the issues involved in forestry sector development.

This work was done under the general guidance and with the support of Andrew Mitchell, Senior Forestry Specialist at the Europe and Central Asia Region of the World Bank.

The team is grateful for financial support for this work from the Program on Forests (PROFOR). PROFOR finances forest-related analysis and processes that support the following goals: improving people's livelihoods through better management of forests and trees; enhancing forest law enforcement and governance; financing sustainable forest management; and coordinating forest policy across sectors.

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FOREWORD

*Peter Dewees,
PROFOR Manager*

Forests cover a small area of the mountainous and landlocked Kyrgyz Republic, in the heart of Central Asia, but play a vital economic, social, and environmental role. In a country prone to landslides and avalanches, forests help prevent disasters; forests regulate water flows and reduce erosion; and forests represent a significant part of local livelihoods in isolated and poor rural communities. Yet this vital resource is underestimated (only 44 percent of actual forest uses are captured in formal agreements) and often mismanaged, to the detriment of the more than 2 million people who live near or on state forest land.

This study presents recommendations to lift the legal, policy, social, institutional and governance constraints that prevent rural communities from increasing the benefits they derive from the use of forest resources while preserving fragile forest ecosystems. The study was shared and discussed with major forest sector stakeholders in 2011 and is a timely contribution to the Kyrgyz Republic's "green growth" agenda. This study may also help to guide a round of forest policy reforms announced in January 2012.

The challenges found in Kyrgyz forests will sound familiar to development experts working on natural resource and land management issues in other regions: inadequate funding for the forest sector, lack of transparency in forest enterprises, elite capture, high poverty, insecure tenure, growing land scarcity, and increasing livestock pressure. In this respect, the study provides detailed recommendations that may be relevant beyond the country's boundaries.

But there are also exciting opportunities tied to the specific natural heritage of the Kyrgyz Republic: the country's walnut fruit relict forests are the largest in the world.

Global demand for this nutritional crop is expected to grow considerably in the coming years. While walnuts have been widely domesticated all over the world, the fact that there are large and viable remaining wild populations will be critically important for maintaining plant health in the future. A detailed analysis of the walnut value chain, commissioned as background material for the main Kyrgyz forest sector study, charts ways in which management of these wild forests could unleash investment and growth in the sector. If the incentives are right, walnut harvests can help to diversify local incomes, while at the same time increasing household's resilience to climate shocks and to environmental uncertainty.

Changing global markets and commodity prices are making scaled-up investments in sustainable forest management increasingly viable and attractive: Wild walnut forest management offers unique opportunities to strengthen the ability of small and medium forest enterprises to tap into global markets for a product with truly unique characteristics. This study is one of several efforts funded by PROFOR to help better understand how these opportunities can be tapped and developed.

ABOUT THE AUTHOR

Asyl Undeland has more than 15 years of experience in the areas of land tenure and property rights, with particular focus on poverty and gender issues in access to land and natural resources. She has worked for the World Bank in designing and supervising community driven development, land management, biodiversity, and natural resources projects in the Kyrgyz Republic, Kazakhstan, Uzbekistan, Tajikistan, Armenia, and Bangladesh. Her social and institutional studies on access, use and management of land, pasture and forest resources were integral in designing programs to support reforms in the Kyrgyz Republic and Tajikistan. She has been a part of the global team for the development and testing of the Land Tenure and Property Rights (LTPR) assessment tool for the World Bank. Undeland has a M.A. in anthropology from Moscow State University, and a Masters of Sciences in public policy and management from the University of London.

EXECUTIVE SUMMARY

The overarching goal of this study was to understand the bottlenecks and the incentives present in forest management in the Kyrgyz Republic. It focused on the legal, policy, social, institutional, and governance constraints that prevent rural communities living within and around forest lands from increasing the benefits they derive from the use of forest resources, while preserving fragile forest ecosystems. It includes a review of formal institutions and the policy and legislation underpinning forest management, as well as the *de facto* governance and use arrangements of communities in and near forested areas.

The study was managed by Andrew Mitchell, Senior Forest Specialist in the Europe and Central Asia Region of the World Bank, and financed by the Program on Forests Facility (PROFOR), which is supported by multiple donors. The study was based on a review of official documents and data, a survey, and semi structured interviews conducted in five selected *leskhoz* areas in different regions of the country. The areas were selected because they are representative in terms of forest type, available non-timber forest products (NTFPs), community size, and level of well-being.

The Kyrgyz Republic is a mountainous country with a predominantly agricultural economy. Economic opportunities in mountainous and remote areas are limited to livestock and subsistence farming. The share of livestock output in agriculture is increasing, which in turn has heightened demand for grazing land. Forests cover a small land area of about 5.61 percent but play important economic, social, and environmental roles in mountainous areas at high altitudes. They are especially important for the livelihoods of communities nearby, which rely on forests not only for timber but also for NTFPs and agricultural purposes. There is also a high concentration of poverty among the populations of mountainous areas where forests are located.

Forests in the Kyrgyz Republic are almost all state owned. Government policy and management focuses on preserving and increasing the amount of forest cover, rather than on the relationship between the forests and the surrounding ecosystem and community, including the pressures of the community to utilize forests as a productive asset. Policy implementation has been weak due to a low level of commitment from the central government as well as to a lack of incentives from all level of the forest administration structure. Profound sector reforms, initiated with strong donor support in the late 1990s, have been stalled for the past few years.

The institutional framework for forest management is a vertical hierarchy within the Division of Forest Ecosystems, which is itself within the State Agency for Environmental Protection and Forestry (SAEPF), to oversee territorial divisions and ground level forestry enterprises, or *leskhoz*. *Leskhoz* were set up in the Soviet era and include both forested land as well as land set aside for afforestation—establishing a forest or stand of trees where none existed previously—which is often used for pasturage for animal herds. The SAEPF lacks sufficient resources to carry out hands-on oversight of its subordinate entities or to develop policy, leaving substantial discretion to *leskhoz*. Forests are managed only by forestry staff through working plans that are imposed from above. For example, the scope and time for afforestation is set by the central forestry agency in forest inventories, but *leskhoz* come up with implementation plans to meet these targets.

The separation of productive (i.e., economic utilization) and regulatory functions in forestry management has not been implemented, although regulations for selling timber for felling have been approved to provide a legal framework for transferring this production function to the private sector. However, forestry enterprises are not interested in giving up their production functions because they depend heavily on that revenue.

Funding for the forestry sector is inadequate. Wages for *leskhoz* workers are well below the average wages of public sector employees, which leads to poor motivation as well as the potential for corruption. *Leskhoz* budgets are funded by income from lease arrangements as well as by grant allocations from environmental user fees that are pooled at territorial levels. The total annual budget for salaries and all other operational costs of the SAEPP and its subordinate agencies and park management currently stands at approximately US\$4 million. Forestry employees make up one-third of the 2,270 staff members.

Forests are used for a wide range of purposes by neighboring communities, and represent a significant part of local livelihoods. There are confusing types of formal tenure in both legislation and in practice. These tenure arrangements are not secure; they are often contradicting and overlapping, and push people into informal use. Survey data indicate that only 44 percent of actual use arrangements are captured in formal agreements.

Though policy stipulates that ordinary people should have a say in the management of forests, the framework allowing this input is poor. As it stands, people participate in forest projects by working in them, but do not have a viable mechanism for contributing to their management. A model of community-based forestry management (CBFM) has been developed with substantial donor support and is set forth in government regulations; however, the governance and *de facto* management arrangements under this approach essentially involve a form of leasing to individual households, with responsibility for planning and oversight of the forest as a whole retained by the same *leskhoz* management that is charged with forest preservation.

Although this arrangement does provide an avenue for greater involvement, it also leads to the fragmentation of forest ecosystems and can damage biodiversity because, as designed, it divides forests into plots of three to five hectares (ha), each managed mostly by an individual household. First, people with 50-year leases often grow crops on their plots—inadvertently spreading crop disease to the forest, depleting the soil, and sometimes even fencing their forest plots to protect them from livestock. Next, the current system favors people—usually comparatively advantaged—who have the manpower and resources to maintain and protect the forest as per CBFM requirements, while poorer and female-headed households are excluded. It also divides the community rather than bringing its members together because it fuels conflict between those who are allotted a forest plot and those who do not receive one. Finally, as it stands now, the system does not provide people with knowledge and/or positive incentives, since they have no say in the planning and management of their resources. In forests with high populations and high-value resources, conflict between current and potential users is growing since all forest plots have already been allocated into use.

The lack of transparency in the forestry sector is a key issue. It lowers accountability, makes community participation difficult to achieve, and opens the system to potential abuse. This abuse can take the form of local elite capture in formal and informal use arrangements as well as in corruption on the part of *leskhoz* management. At the same time, communities and local governments have no mechanisms for holding *leskhoz* accountable.

Recommendations

There are seven key recommendations for possible avenues to alter the current dynamics of forestry management in order to allow forests to be utilized to maximum benefit and sustainably. The current

set of relationships reflects historical antecedents, making change difficult. At present, there are no extraordinary circumstances that would provide a window of opportunity for a drastic shift to overhaul *leskhoz*; indeed, one of the difficulties has been the relatively low priority given to the sector by the national government. Therefore, the approach to reforms must be to build on existing positive elements among current actors and within existing structures by improving the incentive structure to contribute to sustainable forest management.

- 1. Review and ensure the alignment within policy direction, the legislative underpinning of that policy, and the on-the-ground realities of how forests are used now and can reasonably be expected to be used in the future.** Policy should acknowledge *de facto* use of forest resources by nearby communities and provide solid framework for their sustainable and fair management and preservation.
- 2. Address the poor incentive structures within *leskhoz* management by revising their administrative and financing frameworks.** *Leskhoz* can protect forests from unsustainable use by communities and businesses, but for that they need to gain more authority and independence, as well as better funding for staff remuneration as well as for undertaking forest activities, while engaging communities and local governments to increase performance standards through transparency requirements in terms of reporting and information dissemination.
- 3. Integrate management of *leskhoz* lands that are suitable for pasture to the overall pasture management systems.** There is a need to establish unified pasture use arrangements through involvement of pasture management committees in management of pasture lands of the State Forest Fund. This would ensure more holistic pasture management and equal treatment of livestock owners, and utilize the established transparency and governance mechanisms inherent in these committees.
- 4. Increase the involvement of communities through a deliberate, gradual process.** There is a need to establish informal or formal information dissemination arrangements for local population, as well as reporting by *leskhoz* to the communities to further build understanding of how *leskhoz* resources are utilized.
- 5. Consider other implementation modalities for Community Based Forest Management.** Although existing CBFM arrangements contain positive elements of community involvement in the maintenance of respective areas, *de facto* implementation is not community driven and undermines the holistic and sustainable use of forest resources. Current regulations have established one model for CBFM, but provisions should be made to allow for greater flexibility in community involvement, with inclusion of the community playing an equal role to the forestry management aspects of CBFM.
- 6. Consider an enhanced role for local governments in holding *leskhoz* accountable.** Mechanisms for local governments to provide feedback on *leskhoz* performance and needs, and to interface with adjacent *leskhoz*, should be developed. Local governments should be aware and involved in tenure arrangements.
- 7. Secure assistance to continue capacity support at national and local levels.** Support from donors is needed in part to carry out governance and management reforms to realign central agencies to policy and regulation and to assist *leskhoz* in carrying out their primary functions. The experience of the Kyrgyz-Swiss Forestry Project was overall quite positive, and a similar partnership should be considered in the future.

COUNTRY BACKGROUND INFORMATION

The Kyrgyz Republic is a small country located in the heart of Central Asia, landlocked by Kazakhstan and Russia in the north, China in the east and south, Uzbekistan in the west, and Tajikistan in the southwest. The country's inland location and varied terrain (from 142 meters above sea level [a.s.l.] to 7,439 meter a.s.l.) result in a dry continental climate, with temperate zones in the foothills, a subtropical zone in the Fergana Valley, and an almost polar zone in high mountainous areas.

The total land area is about 200,000 square kilometers, but because mountainous terrain accounts for more than 95 percent of the land that sits at or above 1,500 meters above sea level (a.s.l.), 45 percent of Kyrgyz territory is not suitable for human habitation. Population density is relatively low, with 27 people per square kilometer (FAO, 2010). The country's population of 5.6 million people lives mostly on 19 percent of the habitable land area, though some reside on 35 percent of habitable but not ideal land. There are about 25 cities and towns that are home to 35 percent of the total population, with the remaining 65 percent living in approximately 1,800 villages clustered into 472 rural municipalities known as *aiyl aimak* (National Statistics Committee, 2007), spread across lowlands and mountainous valleys along rivers and streams.

The country is rich with natural resources, most of which have not yet been explored, including significant deposits of gold and rare earth metals; locally exploitable coal, oil, and natural gas; and other deposits of nepheline, mercury, bismuth, lead, and zinc. The Kyrgyz Republic also plays an important role in the region as a source of glacier water, which affects regional climate, nourishes agriculture, gives potable water, and produces hydropower. There are about 8,200 glaciers in the country with more than 30,000 rivers flowing from them. Only 13 to 17 percent of surface water is used for the country's own needs.

At the same time, only 6.55 percent of Kyrgyz land is arable or otherwise suitable for farming. However, agriculture remains not only one of the key sources of economic growth—accounting for some 25 percent of country's gross domestic product (GDP)—but also a vital link to food security, providing subsistence to the country's 65 percent rural population. Indeed, nearly half of the total population (48 percent) is engaged in agriculture. Given the lack of other work opportunities in rural areas, the majority of people living there must turn to agriculture, putting additional pressure on limited areas of arable land and increasing crop land at the expense of pastures and forests.

Economic opportunities in mountainous and remote areas are mostly limited to livestock and subsistence farming, meaning that the share of livestock output within the agricultural sector has been increasing, which in turn has boosted demand for grazing land. Traditionally, Kyrgyz people have been engaged in livestock based on transhumant mobility, and with independence from the Soviet Union and the implementation of market-oriented reforms, livestock herding has remained a key occupation and livelihood for the rural population. The number of livestock has been increasing rapidly during the past decade. According to official statistical data, there were about 5 million sheep and goats in the Kyrgyz Republic in 2010, but anecdotal evidence suggests that this number is

significantly underestimated, with the real number of sheep and goats edging closer to 6.5 or even 7 million (see table 1.1).

TABLE 1.1 CHANGES IN LIVESTOCK (IN THOUSANDS)

YEAR/LIVESTOCK	1990	2000	2004	2006	2008	2009	2010
Cattle	1,205	927	1,004	1,074	1,168	1,278	1,298
Sheep and goats	9,972	3,799	3,680	3,876	4,252	4,816	5,038
Horses	313	354	340	345	356	372	378

Source: National Statistics Committee.

Increasing livestock numbers put more pressure on natural ecosystems, leading to the degradation of grassland areas, especially near or close to villages. However, with demand for meat stable in the country, a growing number of farmers specialize in livestock for commercial purposes and prefer to use natural pastures for their significantly sized flocks and herds. These farmers move their animals for grazing, migrating from lowland areas to highland pastures and back during six to seven months of each year. Often, such farmers add community animals to their flocks for a fixed payment per head and the use of the animals' dairy products. There are also hired shepherds who facilitate animal grazing for those who are more economically advantaged, and those who graze community flocks. In short, the competition for good pastures is growing.

Forests cover a small land area but play an important economic, social, and environmental role. Ninety percent of forests in the Kyrgyz Republic can be found at altitudes from 700 to 3,600 meters a.s.l. They contribute to natural disaster prevention, including reducing landslides, mudflows, landslides, and snow avalanches. Forests also regulate water flow in rivers, reducing riverbank erosion and protecting water from evaporation. Forests allow water to infiltrate the soil, retaining moisture in vegetation and affecting precipitation. Upstream and downstream communities depend on forests to ensure the volume and quality of water. The Kyrgyz Republic's forests are also important in terms of biodiversity, serving as a home for many endemic trees and bushes. The country's walnut fruit relict forests are the largest in the world.

Most forests are in state ownership, part of the State Forest Fund (SFF), which is managed by the government. The SFF includes 3,533,100 ha of land (about 17.7 percent of total land area), including 1,116,560 ha covered by both natural and cultivated forest (5.61 percent of total land area and 26.2 percent of SFF area), while 1,130,500 ha or 34 percent is pastureland. The remaining 40 percent includes lands used as hayfields, arable lands, lands under garden and orchards, lands under settlements, and other type of lands.

The SFF consists of forests of state importance, which are managed by state forestry authorities, as well as municipal forests, forests of protected areas, and assigned forests. An additional 277,000 ha of forests are outside of the SFF; they are managed by either local self-governing bodies or rural communities (Government Resolution #407, July 2011) (see table 1.2).

TABLE 1.2 FOREST AREA IN THE COUNTRY IN 2011

FOREST-COVERED AREA	INCLUDING	2000			
		Forest-covered area of the SFF and protected areas		Forest-covered areas outside of the SFF and protected areas	
		Ha	%	Ha	%
1,116,560	5.61	839,560	4.22	277,000	1.39

Source: Kyrgyz Government Resolution #407 on Approval of the Results of Forest Inventory in the Kyrgyz Republic, July 26, 2011.

Poverty in the Kyrgyz Republic is still pervasive, especially in mountainous and remote areas, where half of the population lives below the poverty line. Land reforms carried out from 1991 to 1999 allocated arable land only to people who had worked in state and collective farms that had been involved in agriculture. Other farms, such as livestock and seed breeding farms as well as forestry farms run by *leskhoz*, remained under state ownership. Although people living in the areas of collective and state farms received land shares or property shares in form of machinery, livestock, and other assets, people who lived on forestry farms and were engaged in forestry at large did not receive anything. Moreover, the land they live on within the forestry farms—including their meager household plots—belongs to the SFF, which prevents privatization or legitimate transfer. The State Agency for Environment Protection and Forestry (SAEPF) stated in 2007 that 414,188 households containing 2,075,943 people live on or near SFF lands, with about 200,000 people on the SFF land itself.

All forests in the Kyrgyz Republic are traditionally defined as one of four major types:

1. There are 109,372 households with 546,862 people living near the spruce forests that are mainly located in the western and central parts of the country, as well as in the high areas of the Fergana Valley.
2. There are 255,816 households with 1,279,081 people living within or near walnut-fruit forests in the south, which occupy the lower mountain slopes at an altitude of roughly 1,300 to 1,800 meters a.s.l. These forests comprise both naturally occurring and human-modified (i.e., planted and/or grafted) walnut (*Juglans regia*), apple (*Malus species*), plum (*Prunus species*), and other fruit-bearing tree species.
3. Significant numbers of people live within and near juniper forests in different parts of the country, making about 109,372 households and 546,862 people.
4. More than 30,000 households with about 150,000 people live near riverside forests.

Objectives and Scope

This study was financed by the Program on Forests Facility (PROFOR), which is supported by multiple donors and housed at the World Bank. The goal of the study was to understand if Kyrgyz forests may have the capacity to address the poverty present in communities living near forests, while reviewing “value-added” possibilities through addressing general policy and legal frameworks and bottlenecks in the value chain.

Forestry regulations in the Kyrgyz Republic place strict controls on timber production. Timber production is restricted to *leskhoz* operations and involves only sanitation cuttings. Local communities do use forests for other purposes, including grazing animals; beekeeping; and collecting fruit, berries, nuts, and medicinal herbs and plants. Forests with non-timber forest products (NTFP) cover a small area—less than 100,000 ha (see table 1.3) or one-ninth of all forests—but they play a crucial role in the life and economy of local communities for either subsistence products or sources of income.

Although nut and fruit collection is mainly undertaken in the south of the country, berries and medicinal herbs are collected everywhere.

The study was carried out in three tracks. The first track involved reviewing the formal institutions and the legislation underpinning forest management and the operation of *leskhoz*. The second track focused on *de facto* governance arrangements within forest communities, including the extent of social capital to allow for more collective decision-making that would allow for more retention of value. The third track focused on a separate study of the market chain of the walnut, from forest to

domestic markets and exporters, to identify how value is generated and extracted from products as well as structural or other problems.

TABLE 1.3 AREA OF MAJOR NON-TIMBER FOREST PRODUCTS

NTFP	AREA (HA)
Walnut trees	35,000
Pistachio trees	33,000
Almond trees	1,600
Apple trees	16,700
Apricot trees	1,000
Cherry plum trees	400
Hawthorn bushes	2,500
Sea buckthorn bushes	3,600

Source: SAEPF (2010).

Forest sector governance is defined as the means by which people, stakeholder groups, and institutions (both formal and informal) acquire and exercise authority in the management of forest resources to sustain and improve the quality of life for those whose livelihood depends on the sector. Good forest governance is characterized by factors such as the prevalence of the rule of law, low levels of corruption, robust institutions, high competence of officials and other functionaries who implement rules, willingness to address forest sector issues, sanctity of critical legal elements such as enforcement of property rights and voluntary contracts (World Bank 2008).

Study Methodology

This is a report for a part of the study, focusing on the legal, social, institutional, and governance constraints that prevent rural communities living within and around forests from increasing the benefits they derive from the use of forest resources. It focused on two major research questions:

- What constraints in the political-legal framework at national and local levels impede the access of local communities to forest products?
- What are ways to ensure the sustainable use of forest resources?

The report is based on a review of literature about the forest sector in the Kyrgyz Republic produced during the past decade, as well as an assessment of legislation and policy documents related to the forestry sector, including national policies, national plans, and official reports produced by state forestry bodies. In addition, the Rural Development Fund (RDF), a Kyrgyz nongovernmental organization (NGO), implemented a survey¹ from October to December 2010 and finished processing the statistical data in March 2011. All semistructured interviews and focus group discussions with experts and stakeholders were conducted by RDF experts and by the consultant from March through May 2011.

The field interviews and survey focused on five *leskhoz* areas (see table 1.4), which the SAEPF proposed for the study because they were representative in their use of NTFPs.

The aim of the survey was to understand the core issues of access to forest resources, resource use, and recommendations for improving resource governance. Three hundred people were interviewed

¹ Rural Development Fund. 2011. *Forest and Rural Livelihoods in The Kyrgyz Republic – Development Potentials*. Washington, DC: World Bank and Rural Development Fund.

TABLE 1.4 INFORMATION ON STUDIED LESKHOZ AREAS

N	NAME OF STUDY LESKHOZ, LOCATION	LESKHOZ AREA (HA)								MAJOR FOREST RESOURCES USED BY POPULATION	NEAR FOREST AIYL AIMAK	
		Total area	Total forest land (ha) % of total area	Including forest cover land (ha)	Including other forest lands (ha)	Total non forest land (ha) % of total	Including agricultural land (ha) % of total	Arable land (ha)	Pastures (ha)		<i>Aiyl aimak</i> and number of villages	Population
1	Jaiyski, Chui Oblast	16,481	6,056 (37%)	5,648	408	10,425 (63%)	5,137 (31%)	40	5,070	<ul style="list-style-type: none"> • Areas for grazing • Medicinal herbs • Berries 	12 AA, 45 villages	57,698
2	Toskool-Ata, Jalal-Abad Oblast	71,723.3	33,673.7 (47%)	29,214.2	4,459.7	38,049.4 (53%)	30,585.9 (43)	296.2	29,982.7	<ul style="list-style-type: none"> • Areas for grazing • Walnut • Almond nuts • Pistachios 	7AA, 48 villages	68,910
3	Toktogulski Jalal-Abad Oblast	104,860	30,612.8 (29%)	21,283	9,329.8	64,917.4 (62%)	39,409.4 (38%)	23	39,365.3	<ul style="list-style-type: none"> • Areas for grazing • Berries • Beekeeping 	4 AA, 19 villages	27,351
4	Batkenski, Batken Oblast	162,410	59,416 (37%)	45,147	14,268	102,993 (63%)	21,185 (13%)	55.9	21,123	<ul style="list-style-type: none"> • Areas for grazing • Berries • Almond nuts • Cumin • Wild fruits 	9 AA, 43 villages	60,521
5	Chon-Kemin National Park, Chui Oblast	123,654	14,660 (12%)	12,775	1,743	108,889 (89%)	43,198 (35%)	69	42,731	<ul style="list-style-type: none"> • Areas for grazing • Mushrooms • Berries • Hunting • Medicinal herbs 	4 AA, 11 villages	22,091

Note: AA = *aiyl aimak*.

in the villages around five *leskhoz*, with a random sampling of areas based on *aiyl aimak*. RDF used a combination of two methods for sampling respondents: a snowball method for identifying users and non-users of forest resources recommended by each other, as well as random sampling based on annual *leskhoz* logs of lease agreements, forest tickets, and felling permits given to users. Using logs from the past three years, RDF performed a sampling based on the received data. The combination of the two methods produced a selection of users who have official permits for the use of forest resources and users who do not have official permits but nonetheless continue to use and consume these resources.

Consultant Willie Bourne developed a separate report within this study on the value chain of the walnut (the executive summary of that study is included in appendix 3) Several RDF reports with details on the study methodology, tools for structured and semistructured interviews, and a review of legal framework and preliminary processing of survey data were also used to develop this report.

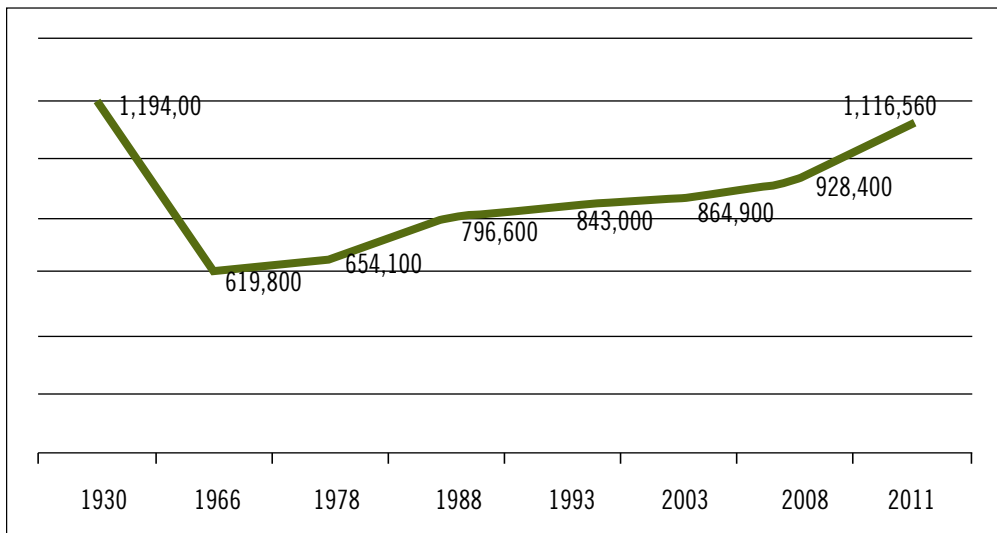
POLICY FRAMEWORK FOR FOREST MANAGEMENT

Pre-Independence Forest Sector Policy

For the past 50 years, the policy framework for forest management in the Kyrgyz Republic has been characterized by Soviet-style centralized decision-making, focusing on preservation through regulation. In fact, the management of forests (including land and other resources co-located with forests as well as land planned for afforestation) has been part of state policy since the Kyrgyz Republic joined Russia in the 19th century and then became part of the Soviet Union in the 1920s. Forests were exclusively state-owned until this past decade, when state control was relinquished over modest amounts of land. Forest policy has been predicated on this model of ownership, with the benefits of the forest being assessed in terms of the state's development priorities.

In the first decades of the Soviet period, forest policy focused on the use of forests as a productive asset. There were massive timber harvests, and a huge volume of that timber was used for construction. Through this unsustainable practice, the Kyrgyz Republic lost about half of its forest cover by 1966 (see figure 2.1). The annual timber harvest from 1925 to 1950 was 3.7 times higher than annual forest growth (Chebotarev 1960). In this short time period, the area of spruce forests alone decreased by 26 percent.

FIGURE 2.1 DYNAMICS IN FOREST COVER AREAS IN THE KYRGYZ REPUBLIC, 1930–2011 (1000 HA)



Source: Kyrgyz Republic Institute of Forestry.

The establishment of a Republic-level Ministry of Forestry to oversee forestry enterprises (*leskhoz*) in 1947 only augmented centralized policy-making. These entities were established with a broad mandate to undertake the economic usage of the forests over the long term, which in turn spurred

greater consideration for preservation and sustainable usage throughout the Soviet Union in general and in the Kyrgyz Republic in particular. In addition, the significant decrease of forest cover areas after the period of intensive logging led to soil erosion and landslides. The policy toward forests was changed, and the major role that forestlands played within soil protection was recognized (1960, Government Resolution #315).

TABLE 2.1 FOREST AREA IN COUNTRY, 1993–2008

CATEGORY	FOREST AREA (1000 HA)			
	1993	1998	2003	2008
Forest	843.0	849.5	864.9	928.4
Naturally regenerated	793.4	794.1	801.5	869.8
Non exploitable forest zone	238.0	238.2	240.5	260.9
Forest exploitation zone	555.4	555.9	561.0	608.9
Planted forest areas	49.6	55.4	63.4	58.6

Source: Global Forest Resources Assessment (2010); Country Report, Kyrgyzstan, FAO (2010).

State policy and underpinning legislation shifted from intensive harvesting toward forest protection, which was to be enforced by *leskhoz* on the local level. Due to this policy change, the rapid decrease of forests in the country ceased by the 1960s, and a gradual increase has since occurred after the devastating earlier losses. State policy in the Kyrgyz Republic for the past 50 years has largely focused on the state protecting and augmenting forests, with a de-emphasis on use of forests for economic benefits. In that time, the Kyrgyz Republic's timber needs have been met by imports from other parts of the former Soviet Union, primarily Russia, a reflection of increased concern about the still low levels of forestation in the country.

The *leskhoz* were established within the context of Soviet economic planning. *Leskhoz* were basic economic units charged with organizing rural livelihoods, including providing many basic social services (much the same as occurred in state collective and Soviet farms for crop-growing and herding). Indeed, some of these latter activities occurred within the *leskhoz* as well, insofar as was practical on the territory assigned. Thus, while clearly the effective policy shifted toward forest conservation and this imperative remains strong at present, there has been a constant policy ambiguity in forestry management because of the mix between economic and environmental protection goals inherent in the institution. Having a grasp on the antecedents to the *leskhoz*, which stem from Soviet rural policy, is crucial to understanding the present challenges facing the sector.

Post-Independence Forest Sector Policy (1991 to Present)

The Soviet Union's collapse in 1991 caused substantial dislocation throughout the economy and society, including the forest sector. There was suddenly no centralized management structure directed from Moscow. Massive subsidies from the center that had underwritten the operation of the *leskhoz* abruptly stopped. *Leskhoz* did not receive any money, and there were only meager salaries for personnel. All protection and afforestation activities were done by employees of the *leskhoz* using available seeds and seedlings. Machinery and infrastructure were quickly deteriorating without regular maintenance.

At the same time, the country stopped receiving timber from the other (now former) Soviet republics. Facing a lack of wood for fuel and increases in the price of electricity and gas, people resorted to illegal felling. The increasing overall poverty level led to a significant increase in the human pressure on forests, both to collect forest products and to graze livestock. The absence of financial and human resources in the forestry institutions in the country, combined with the increased human pressure on forests, made reforms in the forest sector an urgent priority.

Forest sector policy has been to a significant degree developed and implemented with the close involvement of the Kyrgyz-Swiss Forestry Program (KIRFOR), which launched its activities in the country in 1995. This project provided continuous technical assistance to the sector in developing policy and legislation until its completion in 2009. The project was instrumental, especially during its first 10 years, in improving the framework for the forestry sector and in building the capacity of its actors. It is evident that the latest forest sector analyses, policies, concepts, and legal documents have been developed only through the heavy involvement of the project's international and local consultants.

The evolving policy toward forests can be tracked through five major policy documents:

1. The Presidential Decree on New National Forest Policy (#300, October 6, 1998)
2. The Concept of the Development of the Forest Sector through 2025
3. The National Forest Program to Support the Implementation of the Concept of the Development of the Forest Sector
4. The National Action Plan for the Development of the Forest Sector 2006–2010 (NAP), with activities specified to implement a National Program (with a subsequent Action Plan for 2011–15, drafted and under discussion)
5. The Action Plan on Strengthening Law Enforcement and Management of the Forestry Sector (FLEG), adopted in August 2009

These documents were prepared in large part through the support of the forestry program. The program sought to prepare these documents by involving various stakeholders in the forest sector through numerous consultations. At the same time, the execution of this policy at the field level has been problematic, as described in the next chapter, suggesting that an even greater engagement with local stakeholders might have been needed.

The policy is characterized as having the three pillars of “State, Man, and Forest” working together to manage forests in a sustainable manner. At the same time, the emphasis on preservation has continued strongly in policy and law throughout the past 20 years. Forests are considered especially valuable and have for the most part only environmental functions, including ecology, sanitation and hygiene, recreation, and water protection. Policy does not allow for commercial activities involving timber harvesting. NTFPs are somewhat less regulated, but gathering these products is not supposed to contradict the basic principle of protecting trees. The felling of timber has been formally allowed solely for sanitation purposes, such as for maintenance, as per the Forest Code and other legislation. In some forests, such as walnut forests, no felling is allowed whatsoever, even when it might be called for (see companion report on walnut forests).

The policy focus on preservation likely reflects the difficulty of carrying out a more proactive policy that would seek to maximize benefits from forests while sustaining (or even increasing) the amount of forest cover. A more proactive policy would require substantial manpower, capacity, and expenditures in order to be carried out properly without undercutting the stability of forests. It is far more straightforward and simpler to prohibit such activity. However, the problem with a strict preservation focus can be particularly illustrated in the shortsighted ban on felling walnut trees; the trees are a particularly valuable forest product where private demand would be strong. The capacity of current state regulation to channel this demand constructively is inadequate, at least in the eyes of policymakers.

Although this imperative has remained strongest, two other key policy elements have gained increasing importance. First, several steps have been taken at the policy level to decentralize decision-making with regard to the management of forest resources. One aspect of this is to decentralize the public structures

responsible for forest management by empowering local *leskhoz*. Individual *leskhoz* management has been given much wider rein to lease out territory or engage with communities on the management of forestry resources. The other aspect has been to seek the involvement of local communities in decision-making, focused particularly on the development of models for community-based forest management (CBFM) and joint forest management (JFM) arrangements. The purpose of this policy is to shift from prohibitions on the use of forest resources to greater incentives and awareness among the population to utilize forest resources in a more sustainable manner. As discussed in the next chapter, however, these policy objectives have been difficult to translate into practice.

The final key policy element is to seek to address some of the long-standing internal contradictions within the operation of *leskhoz*. At present, management is supposed to focus on primarily protective functions, retaining some economic functions insofar as it is involved with “sanitation” cutting. The policy calls for these economic functions to be separated from the regulatory/protective function. Under a recent policy initiative, the private sector should carry out the harvest of timber that is to be consumed by others under partnership arrangements.

Implementation of Policy

The implementation of this policy has been weak. An interim review of the implementation of the 2006–2009 NAP and the preparation of the follow up 2011–2015 NAP have already been prepared by the SAEPF and Association of Forest and Land Users, and the expert review of the implementation of the NAP for 2006 to 2009 confirmed its finding that it was not implemented as expected (see appendix 2).

The main issue has been a weak overall commitment from the Kyrgyz government, which has manifested itself in several ways:

- **Inadequate funding to support the implementation of the NAP.** Funding, in fact, is not sufficient to provide even basic protection and maintenance work in the forests.
- **The frequent reorganization of forestry management entities** changing its overall status from a ministry to an agency, moving it from the president’s administration to the prime minister’s office, merging with other ministries, and subdividing them also reflects the low priority given to the sector. Every time the government announces downsizing within state administration, this agency is one of the first to be targeted.
- **Frequent changes in leadership of the agency.** This high turnover impedes the incentives of management to initiate and advance reforms in the sector. Since April 2010 alone, the SAEPF has seen three directors. Recent presidential elections in October 2011 would likely bring more changes to the government structure and the SAEPF in particular.
- **A lack of monitoring of the implementation of the declared policies and action plans by the SAEPF has further decreased institutional incentives to undertake reforms.**

The assessment also noted limited technical capacity to implement the action plans, especially at the regional and local levels. Many activities require special technical knowledge that is lacking at all levels. Some internal resistance to the implementation of the policy stipulated in the concepts, programs, and plans was also found. Some forestry sector officials still do not comprehend the need for change and would prefer to keep the status quo: a highly centralized, restrictive system where all decisions are made by forest professionals only, without participation from populations and local governments.

Many concept, program, and plan directions were never really carried out, such as decentralizing power to the level of *leskhoz* and separating productive functions from regulatory and control functions.

Public participation in forest management has also been limited to information dissemination in some *leskhoz* on the rules and regulations of the CBFM, though this is more the continuation of the routine that KIRFOR established than the development of institutional forest sector policy. The implementation of the FLEG Action Plan has not yet started owing to the political turmoil in the country and in the agency.

Forestry enterprises have managed to implement some technical afforestation activities, such as meeting NAP targets on planting trees, reforestation, and preparing seedlings and seeds. Considering that there was almost no funding provided to undertake these tasks, the results can be considered impressive. Forestry enterprises in the Kyrgyz Republic spent only US\$10 for a hectare of reported afforestation works, while such work would normally require at least US\$600 per hectare (World Bank, 2008). The targets for planting trees on the land of the SFF were almost fully met. However, an interim review of the NAP implementation by the SAEPF and Association of Forest and Land Users observed that the quality of planted seedlings and the quality of the planting itself were low, meaning that the plants' long-term survival is in jeopardy. In addition, most of the trees planted were not valuable timber or endangered varieties (such as *Semenov Spruce* or juniper).

- The targets for planting trees on municipal lands outside the SFF were only half met, mostly because many *aiyl okmotu* (local self-governing bodies) did not have free, appropriate land available for forestation. In addition, a moratorium on the transfer of land between categories has been a big issue because it prohibits *aiyl okmotu* from allocating agricultural land for forestry purposes. Where planting has been done, the survival rate might be even lower than on the lands of the SFF because local self-governing bodies have no incentive to take care of them. This activity has been done primarily on paper to meet set targets.
- The targets for natural forest regeneration also have not been achieved in full because forestry enterprises have no personnel or financial resources to protect the forests from livestock grazing. Forests currently consist mostly of old trees, with young trees making up less than 10 percent of the mix.

An NAP for the Development of the Forest Sector for the next five years (2011–2015) has been developed recently and submitted to the government for approval. It is evident that this new set of targets must be more realistic, considering the lack of funding for NAP implementation. The area for planting forests on SFF lands in this plan is half the size of the previous plan (5,000 ha); on lands outside the SFF, the target is one-fifth the size (1,150 ha).

Legislative Framework

There are general land-related laws (e.g., Land Code), environmental laws, and regulations that set out management and access to forest resources. There is also a set of forest-sector-specific legislation aimed at regulating all aspects of forest management and use.

The key legal document for the forest sector is the Forest Code (FC), which became effective in July 1999 and underwent several relatively minor changes through July 2007. According to the FC, all forests, irrespective of their ownership status, comprise the Unified Forest Fund of the Kyrgyz Republic. The Unified Forest Fund includes forests and their appurtenant land as well as lands that are not covered by forest but can be used for afforestation. The SFF is made of state-owned forests, which are now distinguished from municipal (local government owned) and privately owned land.

All SFF lands are divided into forest land units. According to the FC, forest land units are given for perpetual use (without time limits) to the territorial state forest management bodies (FC Art. 13). Forest land units can also be leased out for perpetual use to state and municipal organizations

according to the Land Code (LC Art. 34). All other organizations, companies, and individuals can obtain forest units for term-based use.

All forests of the SFF have strictly protective functions within four major categories:

1. *Water-protective forest along the banks of rivers, lakes, and water reservoirs.*
2. *Forests that protect from erosion, windbreaks, forests along roads, and forests in mountainous and dry areas.*
3. *Sanitation and recreation forests, which include forests in and around cities, first and second "belts" around water supply sources, and in recreation areas and resorts.*
4. *Forests of specially protected areas, including forests in national parks, all protected areas, and forests that have scientific value, including genetic reserves, nature monuments, walnut-fruit and pistachio forests, and juniper forests.*

The laws are complemented by a large number of administrative orders, as well as by implementation rules and regulations specific to the forestry sector (for a detailed listing of key implementing regulations, see appendix 1). The volume of orders, rules, and regulations reflects the changing policy directions that have emerged as reforms have been conducted for the past 15 years, including the introduction of collaborative forestry management. They set forth the roles, rights, and duties of major institutions involved with forestry management, namely the SAEPF and the *leskhoz*. The orders, rules, and regulations also reflect the changing administrative and other requirements that have been placed on how *leskhoz* manage the resources under their purview and then report back to the SAEPF. Finally the laws regularly update specific fees and penalties for various types of use of resources in lands under the SFF, including timber and NTFPs. The major implementing regulations are as follows:

- The Government Resolution on the Approval of Regulation on Community Based Forest Management #482, 2007, which stipulates major principles for tenure arrangements under the CBFM
- The Law on Base Rates for the Use of Resources of Fauna and Flora, 2008 and the Government Resolution on Procedures for Payment for Special Use of Fauna and Flora Resources Based on Special Permits, 2011, which establishes base payment rates, procedures for collection, and the distribution of these payments for the use of NTFP resources
- Regulations on the management of revenue coming from environmental payments and fees (Presidential Decree on Regulations on the Establishment and Use of Funds of the National and Local Funds of Environmental Protection and Forestry, 2006)

One effect of this proliferation of subordinate acts is that under conditions in which communications are not strong and there is frequent turnover, the field and even the center may be confused about the applicability of these specific rules and regulations.

In some respects, the policy directions that are being carried out by the rules and regulations are not reflected in the existing FC. For instance, even though national policy puts forestry enterprises and forest rangers at the heart of management, including in the planning process, the FC still stipulates that the planning of all forest development activities is to be done on the national and regional levels (FC Art 22). There are many other discrepancies, including areas such as issuing permits and collecting payments for special use.

Although changes are often carried out on a "pilot" basis or through specific Government resolutions that are transferred into law, the differences in forestry sector regulation reflect the lack of a shared vision on specific issues of how forests should be regulated. The SAEPF has attempted several times

to pass a new FC that would more fully incorporate the policy vision of recent years, but their inability to pass such an update reflects the ongoing tension between some of the declared policy aims and the on-the-ground realities of how forests are managed, particularly regarding collaborative forest management and a changed, purely regulatory role for *leskhoz*.

The new draft FC also does not address clearly enough some of the regulatory and operational challenges that the forestry sector faces. Particular issues include the following:

- Attempts to transfer economic functions to outside enterprises are still vague.
- The new provisions envisaged around JFM are general and do not provide the necessary foundation to allow such forest management and use.
- The rights of forest users are still limited and insecure.
- An attempt to include a provision on the competitive allocation of forest use rights is not well designed and, more importantly, is not mandatory for allocating leases and use rights.
- Except for the ecological conditions of the forests, information on forest resources is still not available to the public.

Institutional Framework

The management of forestry resources prior to independence was an integral part of the Russian Imperial and Soviet systems. Following independence, there has been substantial flux in both the institutional home for forest management as well as the staff involved with forestry management. Moreover, the past 20 years have seen a reduction in capacity and resources at the field level, combined with an increased need and pressure for local *leskhoz* to interact with local rural governments (*aiyl okmotu*) as well as nearby communities. The operating rules, budget environments, and legacy of the Soviet times in these institutions partially explains the current constraints to organizing sustainable forest management in the country. Policy and laws are only as good as the institutions that implement them, and forestry institutions face clear challenges.

There are presently three tiers of forestry management: national, territorial (comprising one or more provinces or *oblasts*), and *leskhoz* (overseeing designated forests). *Leskhoz* have further subdivisions, but these are not separate entities. Each of these tiers is vertically accountable, and staffing and funding decisions are centrally controlled. At the same time, operational decision-making is being pushed down to territorial units, giving *leskhoz* substantial de facto discretion. Resources to exert the kind of strong, centralized control that the legislation sets forth are simply too limited.

National-Level Management

The Ministry of Forestry was first established in the Kyrgyz Republic in 1947 and has undergone numerous transformations, including a merger with other ministries such as the Ministry of Agriculture and then the Ministry of the Environment, separation from them, and then another merger (see table 2.2). Its status has frequently differed over time, ranging from an independent ministry to a department within another agency. Currently, forestry management is the purview of the Department of Forest Ecosystems, which is a part of the SAEPF.

The institutional placement of forest issues at large can be linked to the role it has been given at different times and to the leadership of the agency. In the first few decades of Soviet power, when forests were seen as a source of valuable construction timber, forestry management was given over to variously named ministries of forest industries. However, the particularly valuable fruit- and nut-producing forests were subject to the Ministry of Food Industry, a differentiation that became

important as greater resources were invested in roads and other infrastructure to connect these forests to major centers.

TABLE 2.2 CHRONOLOGY OF INSTITUTIONAL REORGANIZATION

Ministry of Forest Economy	1947–1952
Ministry of Agriculture and Procurement	1952–1960
Principal Department of Forestry and Environmental Protection under the Council of Ministers	1960–1966
State Forestry Committee under the Cabinet of Ministers (the organization’s name was changed seven times within this period)	1966–1994
Department of Forestry within the State Committee for Environmental Protection	1994–1995
State Forestry Agency within the Government	1996–2001
Department of Forestry Development within the Ministry of Environmental Protection and Emergency	2001–2002
State Forest Service under the President’s Administration	2002–2005
State Agency for Environmental Protection and Forestry within the Government	2005–present

It was expected that the merger of forest sector management with the environmental protection ministry would facilitate a holistic approach to ecosystems, with one overarching objective of protecting the environment while ensuring a sustainable use of resources. However, the merger has been little more than smoke and mirrors, as coordination between the two major directives of the SAEPF has not been improved and the forest subsector continues to operate without any connection to environmental services. Moreover, the Division of Forestry Sector Development was downgraded to the Department of Forest Ecosystems. Lowering that status has thus decreased the prominence of forestry issues and undermined the capacity and resources available for national-level planning and policy-making. The difficulties around adopting a new FC in part reflect this state of affairs.

The most recent SAEPF resolution was adopted in April 2008. According to its provisions, the SAEPF is responsible for formulation and implementation of environmental protection policy, preserving biodiversity, enabling sustainable use of natural resources, developing forestry and hunting enterprises, and ensuring the ecological security of the state. Box 2.1 presents the current SAEPF structure.

The major tasks of the SAEPF are as follows:

1. Developing and implementing policy
2. Overseeing state control of the implementation of legislation, protection, and use of natural resources
3. Undertaking inventory and assessment of natural resources
4. Disseminating information about the environment

Currently, the Department of Forest Ecosystem Development within the SAEPF has only 11 people, including the director, deputy director, principal specialist, a unit for Forest Protection with three people, and a Forest Management and Regeneration unit with four people. This small department is charged with developing and implementing policy, drafting legislation and monitoring its enforcement, reviewing and approving annual plans and budgets as well as reports, appointing the management of forestry enterprises, and providing overall supervision for forestry activities around the country.

BOX 2.1 SAEPF STRUCTURE AS OF JULY 2011

Department of Ecological Strategy, Policy, and Mass Media:

1. Department of Development of Forest Ecosystems
2. Department of State Control of Environmental Protection
3. Department of State Ecological Expertise, Biodiversity Preservation, Specially Protected Areas, and Environmental Education
4. Department of Financial and Economic Management
5. Department of Ecological Monitoring and Forest and Hunting Management
6. Division of Hunting Supervision and Hunting Resource Regulation
7. Unit of Legislation, Human resources, and Document Processing
8. Unit of International Cooperation

The SAEPF also has seven Territorial Divisions for Environmental Protection and the Development of Forestry Ecosystems in Chui-Bishkek, Osh, Issyk-Kul, Talas, Jalal-Abad, Naryn, and Batken. It includes Republican and Local Funds for Environmental Protection and Forestry Sector Development, the Center for Ecological Security, the Issyk-Kul Biosphere Territory, 42 forest enterprises (*leskhoz*), nine forest ranges, the state nursery, nine national parks, and 10 nature reserves.

There are more than 2,270 people working in all SAEPF structures at the national, regional, and local levels. The number of forestry personnel, including rangers, accounts for less than one-third of that (790 people).

The SAEPF has two sources of funding: annual funding from the national budget and “Special Means” (*spets sredstva*) from the National Fund for Environmental Protection and Development of the Forestry Sector (NFEPDFS). Special Means originate with public sector entities’ direct collection of funds from the provision of services, such as user or permit fees. The national budget covers only the salaries and mandatory social benefit payments to the national Social Fund for staff. All incremental expenses, as well as all activities and projects, must be covered by the NFEPDES.

The NFEPDES itself is funded by Local Funds for Environmental Protection and Development of the Forestry Sector (LFEPDFS), which derives its revenues from environmental payments for permitted emissions and the discharge of pollutants as well as from grants, investments, and a portion of the revenue of the Issyk Kul biosphere reserve (not less than 10 percent of income from Issyk Kul goes to the NFEPDES).

By law, the SAEPF should transfer 20 percent of its revenue to the national budget; in fact, it transfers somewhat less than that. Annual revenue for the NFEPDES stands at approximately US\$1.4 million after all transfers (see table 2.3), while the total budget for the entire agency is roughly US\$4 million. Salaries alone command almost half the budget, which is the only source of funding for all forest-related activities in the country.

TABLE 2.3 SAEPF BUDGET BREAKDOWN IN 2009 AND 2010

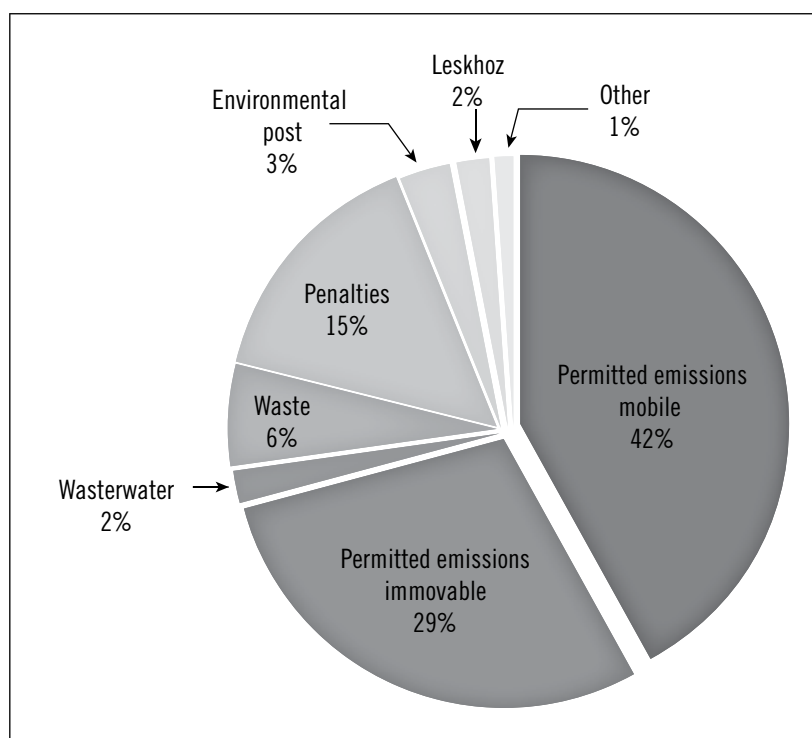
REVENUE	2009 IN SOMS	2010 IN SOMS
From the national budget	109,150,400	110,626,800
From Special Means	85,948,000	75,967,200
Transfer to the national budget (20%)	(6,752,000)	(10,221,900)
Other transfers from Special Means	(5,282,600)	(2,505,700)
Net revenue from Special Means after all transfers	72,692,500	63,195,100
Total net budget	181,842,900	173,821,900
Value/weight	High	High
Price Volatility	Very high	Low/Medium
End Users	Undiscriminating	Discriminating
Renewable	No	No

Source: SAEPF.

Note: US\$1 = 45 Kyrgyz soms.

Special Means revenue amounts vary in each *oblast*, with the highest coming from the Chui-Bishkek Territorial Division of Environmental Protection and the Development of Forest Ecosystems and the lowest in Batken and Naryn *oblasts*. Payments for various permitted emissions make up more than 70 percent of the revenue, while revenue coming from *leskhoz* comprises only about 2 percent (see figure 2.2).

FIGURE 2.2 SHARE OF DIFFERENT SOURCES OF REVENUE IN THE NFPDES IN 2010



Source: SAEPF.

In terms of activities financed by the SAEPF using Special Means, in 2009 only about 17 percent went to cover forest-related activities, including limited afforestation and nursery establishment activities,

as well as to cover emergency needs, such as buying fire extinguishers and ammunition for rangers (see table 2.4).

TABLE 2.4 ACTIVITIES FINANCED WITH “SPECIAL MEANS” IN 2009

Protection and rational use of water resources	9,806,400
Production and consumer waste management	6,410,800
Forestry sector development, afforestation, and landscape improvements	17,303,400
Flora and fauna protection	0
Air protection	5,593,100
Conservation of biodiversity and mainstreaming of protected areas	21,252,400
Monitoring of environmental condition and capacity-building within local environmental protection bodies	4,013,500
Information on environmental awareness, rational use of natural resources, ecological education, harmonization of legislation	2,359,300
Capacity-building for ecological expertise	2,399,600
Research	0
International cooperation, membership fees	152,200

The inadequate staffing and financial resources of the Forestry Department mean not only that it cannot play a policymaking role but also that it is unable to support or carry out the meaningful monitoring and performance evaluation of lower-level subordinate offices, even though its institutional mandate calls for substantial involvement and direction in the entire forestry management system. This institutional disconnect between mandate and resources stems in large part from continuing emphasis on retaining Soviet-era structures and management styles and to copying the retained systems still in use in Russia. This system is a poor match for the Kyrgyz Republic’s resource base and is not the most efficient way for the country to tackle its particular forestry management challenges.

Territorial (Intermediate) Management

There are seven Territorial Divisions of Environmental Protection and the Development of Forestry Ecosystems (TDEPDFE or “Territorial Divisions”): Chui-Bishkek, Osh, Issyk-Kul, Talas, Jalal-Abad, Naryn, Batken. They were established in 2009 through the merger of regional or interregional environmental and hunting divisions with regional forestry departments. They have their own regulations approved by the SAEPF, but are not independent bodies because they are funded at the national level and serve as structural divisions of the SAEPF at the regional level.

The role of Territorial Divisions in the management of forest resources is limited. They have no power to appoint or dismiss *leskhoz* management, since the director and chief forester are appointed and dismissed by the central office at the SAEPF. These divisions also have no power to approve work plans and budgets, serving rather as clearinghouses for forestry enterprises by compiling and submitting information to the national level.

Territorial Division funding depends on revenue that LFEPDES collects for the use of natural resources and from emissions, penalties for illegal or unsustainable use of natural resources, fees collected by environmental posts, and part of the income of *leskhoz* (*leskhoz* transfer 5 percent of their permitted income). However, Territorial Divisions cannot use these funds freely. In accordance with the 2006 Regulation on the Establishment and Use of Funds of the National and Local Funds for Environmental Protection and Development of the Forestry Sector, an estimated budget for each LFEPDFS must be submitted each year to the SAEPF and then to the Ministry of Finance for approval. These funds can be used for the following major activities:

- Constructing different environmental facilities
- Undertaking research and the preparation of reports
- Developing and implementing various programs and projects in the area of environment and forestry
- Undertaking environmental maintenance and improvements
- Conducting environmental awareness activities
- Supporting the development of forestry enterprises and units
- Fire protection projects
- Staff training

Territorial Division budgets are part of the larger SAEPF budget and are composed of funding from state budgets for salaries and allotments for social benefit payments.

Leskhoz (Forestry Enterprises)

Leskhoz are the local-level forest management entities at the core of forest management in the Kyrgyz Republic. *Leskhoz* are composed of forestry units (*lesnichestvo*), the number of which depends on the size of the area, and which are further divided into ranger districts (*obkhod*) with average size of 3,200 ha. There are a total of 819 ranger districts in 157 forestry units of 42 forestry enterprises. These enterprises manage about 82 percent of the total SFF land, with the rest of the forests on SFF land being within national parks, specially protected areas, and nurseries.

Leskhoz territory includes forested land and open land for planned afforestation in varying proportions. Land without forest cover is often used as pasture, and in a few cases it may be suitable for cultivation. Although in Soviet times *leskhoz* provided a range of social services such as operating schools for *leskhoz* residents, they no longer provide these services, forcing villagers to go farther afield to schools and other facilities maintained by local governments. *Leskhoz* have the following legal functions and rights:

- Developing and submitting proposals on the planning of forest activities to the central forestry body
- Implementing forest use and other productive activities
- Constructing roads, storage, fire stations, housing, and other facilities
- Allocating on-the-ground forest units within the SFF for use
- Issuing felling and forest permits
- Entering into lease agreements
- Establishing state enterprises in livestock, beekeeping, timber processing, and the processing of wild fruits, berries, and medicinal plants
- Operating ecotourism, hunting, and fishing enterprises
- Allocating and using mineral resources as well as other natural resources located in their areas

Leskhoz forest activities are outlined in five-year NAPs and annual work plans. Annual planning is based on the findings and recommendations of the forest inventory, which is conducted every 10 years by a special department within the SAEPF. The forest inventory allows each *leskhoz* to generate three documents:

1. A background document with a description of the relevant forestry boundaries and any developments in the area since the last inventory.

2. Quarterly records with a complete inventory of all resources, including their area, maturity, soil conditions, unit descriptions, and productivity. These records also contain recommendations on the management of the forestry area, such as suggestions on the forestation of various tree varieties, felling, fire prevention activities, allowable grazing, and other use of resources.
3. Findings of its review of quarterly areas with maps and schematics of the area, including all units and ranges. The SAEPF uses this major management tool to assess the results of forest management. It is reportedly the case that the areas of forestation reported by the *leskhoz* are often smaller than those reported by the inventory commission. If the discrepancy is significant, the SAEPF will reprimand the officials in the *leskhoz* in question.

Planning is based on the target of reaching the forest-cover levels of 1930 and on the results of the evaluation of forest conditions and dynamics due to forest use in the 10 years preceding the last forest inventory. Currently, the NAP aims at afforestation on 3,000 ha annually. The SAEPF defines the figures for afforestation for each *leskhoz* based on inventory documents to arrive at the 3,000 ha figure.

Each *leskhoz* prepares its own detailed annual plan based on the previous year's work plan, its own fall inventory, and a spring technical review of conducted projects. They have no flexibility in adjusting these workplans because they are approved and thus fixed within the NAP for five years. Therefore, although *leskhoz* develop their own detailed annual work plans, they still are limited by the top-down targets for afforestation and by the financial resources that are available. There are no requirements to share any of the planning information, either while drafting it or when finalized, with local communities. There are no mechanisms for soliciting public participation in planning or monitoring usage, outside of some theoretical rights under the CBFM model. *Leskhoz*, in essence, operate in a silo separate from nearby communities and their local governments for formal work planning, budget, and reporting on activities, including land leases and permit provision. There are no accountability or feedback mechanisms regarding *leskhoz* performance or community priorities.

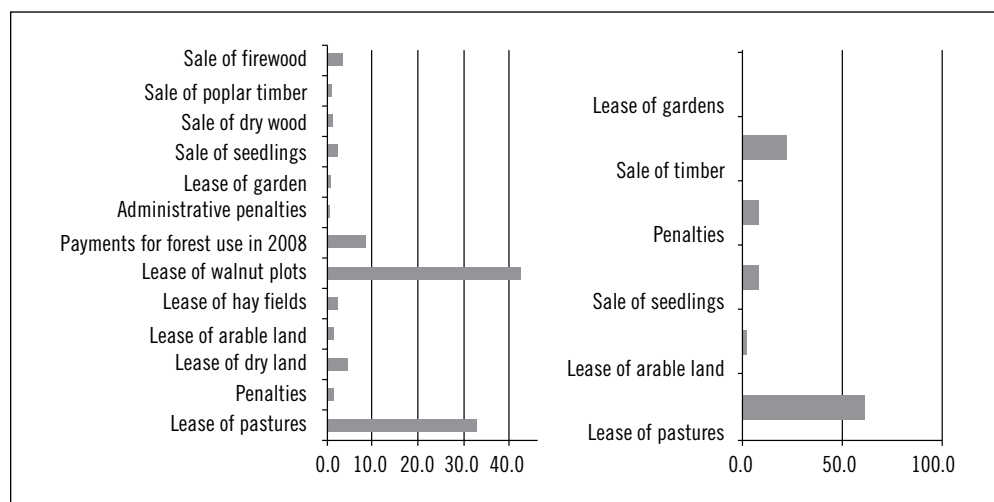
Leskhoz receive state funding only for the salaries of their staff and the mandatory social benefits payment that are transferred to the Social Fund. The salary of *leskhoz* staff is extremely low, averaging around 1,500 soms a month (US\$30). By comparison, the minimum salary of a junior state employee in the generally low-paying social sector is 2,500 soms a month. All other costs related to forest management are to be funded from the revenue of each *leskhoz* and from Territorial Division grants.

Legally, the revenues that *leskhoz* can raise are limited. By law, forests in the Kyrgyz Republic cannot be used for productive purposes (i.e., commercial purposes), meaning that any timber gathered must be solely for sanitation culling—and sometimes even that is prohibited. The major sources of revenue for *leskhoz* are the sale of timber from sanitation felling, the lease of land for pastures, any payments they receive from the use of other forest products, and the sale of seedlings. Until recently, *leskhoz* also collected fees for the secondary use of forest resources, but this was changed with the introduction of the Law on Base Rates for the Use of Fauna and Flora in 2008. At present, permits and payments for the commercial harvesting of resources that are to be used within the country are obtained at *leskhoz*, but any resources that are to be exported outside of the country require that permits and fees be governed either by the TDEPDFE or by the SAEPF.

Thus, in practice, the major sources of revenue remaining to the *leskhoz* are the lease of forest land and the permits issued to use forest resources. In forests with nuts, especially walnuts, leases of walnut forest plots rank as the primary source of revenue (see figure 2.3). In some areas, the largest source of revenue is the lease of SFF pasture land for grazing (e.g., 85 percent of revenue in Batken comes from pasture leases), while in others it comes from seasonal NTFP leases. Overall, the lease of pasture

land—the unforested set aside for afforestation and located under *leskhoz* management—stands as the most significant source of revenue on the ground, according to interviewees in the SAEPF.

FIGURE 2.3 SHARE OF SOURCES OF REVENUE IN TOSKOL *LESKHOZ*, JALAL-ABAD OBLAST (2010) AND OF BATKEN *LESKHOZ*, BATKEN OBLAST (2009)



Source: Annual reports of Toskol *leskhoz* and Batken *leskhoz* for 2010.

Forest regulations in the Kyrgyz Republic are strict in terms of timber production. Until recently, the only entity allowed to fell timber was the *leskhoz* itself, and only in the context of sanitation cuttings where special moratoriums had not been established (e.g., for walnut forests). Only lately have there been regulations developed to establish arrangements for the transfer of forest felling functions, again solely for sanitation purposes to the private sector. However, these arrangements have been little utilized since forest cutting is still limited to protective functions and the practices that need to be established for such arrangements are lacking. Several interviewees noted that *leskhoz* management were reluctant to introduce this arrangement because they may lose a significant portion of their formal and informal revenue.

TABLE 2.5 TRANSFERS OF FUNDS TO AND FROM *LESKHOZ* IN 2009 AND 2010

REGIONAL FUNDS OF ENVIRONMENTAL PROTECTION AND DEVELOPMENT OF FORESTRY SECTOR	TRANSFER FROM <i>LESKHOZ</i> OF 5% OF THEIR REVENUE, IN SOMS		FUNDING PROVIDED TO <i>LESKHOZ</i> TO UNDERTAKE FOREST ACTIVITIES, IN SOMS	
	2009	2010	2009	2010
Chui-Bishkek	133,400	61,900	1,005,900	4,585,500
Talas	136,200	45,400	6,920	134,200
Issyk Kul	25,000	30,000	Data n/a	119,000
Naryn	116,000	73,700	910,000	89,700
Osh	371,300	433,700	5,500	655,400
Batken	216,100	194,600	4,900	210,000
Jalal-Abad	598,900	855,300	21,186	1,275,200
National			3,504,300	10,82300
TOTAL	1,596,900	1,692,600	9,270,800	18,963,100

Source: SAEPF.

Funding on the national and regional level is allocated for forest inventories, afforestation outside of the SFF, forest protection projects, fire prevention activities, and the development of nurseries.

Decisions on the provision of grant funding are made nontransparently, without special selection and evaluation procedures established based on *ad hoc* applications from *leskhoz*. At the same time, *leskhoz* employees bear full responsibility for forest improvements and use, especially in the case of halting illegal felling and collecting resources, and *leskhoz* employees are fined when violations are discovered. For example, in Toskol Ata in 2010, 12 rangers were fined 15,000 soms (about US\$350) for 22 cut trees. The same year, approximately 11 violations of forest use were revealed, and two cases were submitted to the General Prosecutor's Office. These penalties are large relative to salaries but are small compared with the value of timber. One cut tree would fetch more than the amount of the fine, making it a poor deterrent for underpaid *leskhoz* employees who may be tempted to allow or even personally participate in illicit timber harvesting.

Another issue has been the high turnover of forestry sector management at all levels—a serious problem for ensuring institutional memory, creating a stable professional environment, and motivating personnel. *Leskhoz* and Territorial Division management rightly feel vulnerable to unilateral, high-level decisions. For example, one recent SAEPF management practice is to require newly appointed *leskhoz* directors to provide a signed letter of resignation—date unfilled—at the time of appointment. That way, whenever management decides to get rid of the director, a resignation letter has already been completed. Directors are indeed often quickly replaced. In one *leskhoz*, a director was in his position for a few months, replaced, and then returned to the position, all within seven months. *Leskhoz* management is therefore highly dependent, seeking to ensure that SAEPF management will be satisfied with them at all times since the directors know that they can be removed at will.

In addition, perhaps as a reflection of the limited high-level attention paid to the forestry management system, appointments are often politicized, despite the need for specialized knowledge and skills. *Leskhoz* directors are supposed to be approved formally by *oblast* administration, so it often happens that the position is given not to a forestry professional but to a political nominee. There have been cases when *leskhoz* employees went on strike to prevent such nominees from entering the management buildings. In 2010, forestry workers protested for two weeks on the central square of capital city Bishkek after a prominent leader in recent political uprisings who had no background in environment or forestry was appointed SAEPF director.

Incentives for managing forests well are lacking for *leskhoz* management and employees. Salaries are far too low to motivate staff to carry out the protective functions that *leskhoz* are supposed to provide, meaning that workers must seek additional benefits or income. At the same time, the *leskhoz* legitimately need funds to carry out any kind of projects needed to maintain the forest, so they too look for opportunities with potential income attached. In some *leskhoz*, employees are quietly granted use of pasture or other land to sow crops for supplemental income. In the Toskol *leskhoz*, for example, employees can use one ha of a hay field, 0.5 ha of dry arable land, and 5 cubic meters of firewood for free. Toskol is far from the only place where such things occur. Similar arrangements were being made in all the other *leskhoz* in this study. In addition, *leskhoz* employees are also eligible for easier access to forest resources.

As underpaid protectors of a valuable resource, *leskhoz* employees are constantly tempted to supplement their paltry income by allowing timber activities. The temptation is only magnified by the short-term nature of directorship appointments, especially since political or even direct profit considerations rather than professional commitment underlie these decisions. The expectation of an imminent departure increases the likelihood that individuals will break the law, since they can expect to be far from the scene and avoid punishment if their illegal activity is ever detected. In any

case, SAEPF and Territorial Division control is spotty at best due to resource constraints, and fines are comparatively inconsequential. There are no accountability mechanisms other than the existing vertical hierarchy.

Leaving aside the issues arising from these poor incentives for *leskhoz* employees, the sources of revenue for carrying out the core mandate of the *leskhoz* is simply inadequate. Virtually no projects that require funding can be completed or even begun because there is no budget for them. *Leskhoz* must rely on local communities and local governments for many key activities, especially in the case of urgent needs such as fire fighting or pest control.

Local government

The *aiyl okmotu* is the rural administrative entity charged with the day-to-day performance of government functions at the lowest level territorial unit, the *aiyl aimak* (rural municipality). An *aiyl aimak* can vary substantially in size, from one to 20 settlements with populations of a few hundred to as many as 35,000. The head of the *aiyl okmotu* and the *aiyl kenesh* (council) is directly elected. The *kenesh's* role is generally considered to be quite weak compared to the head of the *aiyl okmotu*.

Aiyl okmotu have responsibility for some of their own functions relating to basic municipal services and regulatory authority, but for the most part they carry out functions that the state delegates to them. They have three major functions in relation to forests: interfacing between pastures under their management and those of adjacent *leskhoz*; managing "municipal" forests; and acting, more generally, as the elected government of the communities adjacent to *leskhoz* and as service providers to the *leskhoz* residents.

Aiyl okmotu are responsible for the Land Redistribution Fund land (arable land that remains in state ownership and is managed by the *aiyl okmotu*) and pasture land. The new Pasture Law adopted in 2009 transferred management of all pastures to the local government and pasture users' associations. Prior to this law, Government Resolution #360 (2002) defined the principles and conditions of pasture management and use on all lands, whether SFF or State Land Fund (SLF) land. However, since the adoption of the Pasture Law concerns only the pastures of the SLF, Government Resolution #360 is still enforced for pastures of the SFF. This dual legal status for one ecosystem of pasture land creates confusion among forest and pasture management officials as well as for users. It also leads to unsustainable use of the resources.

The major differences in the principles of pasture management and use under the two different legal frameworks are as follows:

1. SLF pasture lands are used based on five-year community pasture management plans and annual use plans developed by the *jaiyt* committee, an executive body of the pasture users associations, and approved by the *aiyl kenesh*. SFF pasture land is managed based on a five-year Forestry NAP and the annual work plan of the *leskhoz*, subject to the approval of the SAEPF.
2. SLF pasture lands cannot be leased but must rather be used on a usage-rights basis that is granted annually. Consideration is given to avoiding the fragmentation of the ecosystem and ensuring the seasonal movements of herders for sustainable use of natural resources. SFF pastures, meanwhile, are managed by *leskhoz* on a lease basis of plots for up to 49 years.
3. Payment for SLF pasture use is established by *jaiyt* committee and approved by Pasture Users' Unions, while for SFF it is established by *leskhoz*. Often there is a big difference in the rates, which leads to confusion among farmers.
4. Payment for pasture use on SLF land is based on the number of livestock grazed. Payment for pasture use on SFF land is based on the amount of area leased. An important element of pasture land reform has been the recognition that leases often favor better off community members and

restrict access to scarce resources for vulnerable and poor, do not match *de facto* arrangements for group herding when payment is made on per head basis, and fragment the land used for pasturage.

5. Revenue from pasture use on SLF land goes to the pasture users' association to allow for pasture improvements and to support of the pasture committee. A share of revenue goes to local budgets as well. Revenue from the lease of SFF pasture land stays with the *leskhoz* and is used for various forest activities at the discretion of the *leskhoz* without involvement of the community.
6. SLF pastures cannot be used by foreign users (an especially important provision in the country's border areas) without an interstate agreement ratified by Parliament, while foreigners can use SFF lands through contractual agreements with the *leskhoz*. To reach SFF higher land pastures, farmers from neighboring countries often have to go through SLF pastures where they are not allowed to graze. This arrangement creates confusion and conflicts on the ground.

There have been attempts to harmonize the principles and arrangements for the use of pastures on both type of lands—including unifying the method and rate of payments for pasture use—but they have been mostly informal. Such arrangements on the local level between the management of *leskhoz* and pasture committees are generally confined to defining the borders of their respective lands, establishing conflict committees, and making sure that herders pay for grazing on their lands. With the increased number of livestock around the country and the growing pressure on municipal pastures, however, many *aiyl okmotu* want to claim back pasture lands they transferred to the SFF following a presidential decree issued in 1999.

The 1999 FC introduced the category of municipal forests that are supposed to be managed by the respective local governments. *Leskhoz* are supposed to plant plantations on the municipal lands, but *aiyl okmotu* are required by law to maintain these forests and manage their use. The most recent NAP has a target of afforestation for 5,000 ha of SLF lands within five years. To date, this target has not been achieved; only about 3,000 ha have been afforested, mostly because of a lack of free arable land within municipal areas. In addition, the reported survival rate of these plantations is about 60 percent, with some experts indicating that the figure might be even less than that. Problems related to the management and use of municipal forests include the following:

- Reliable inventory data on municipal forests is lacking.
- An adequate legal framework and arrangements for the management of municipal forests does not exist.
- Plantations on municipal lands are undertaken by the *leskhoz* based on the NAP without consideration to the availability of suitable municipal lands.
- Local governments lack expertise, knowledge, and experience in forest-related activities. When *leskhoz* plant forests on municipal lands, the forests often do not survive because they are not cared for properly.
- For afforestation of municipal land, *aiyl okmotu* have to change the designated land use category. There are legal hurdles associated with the transfer of arable land into forest land that can be accomplished only by a prime ministerial decision, and a moratorium on all land category transfer has been in place for several years.
- *Aiyl okmotu* lack incentives to use land for forests because they lose land tax revenue.
- There is no coordination between local governments and forestry bodies on activities related to municipal forests.

Leskhoz generally have close relationships with *aiyl okmotu*, mostly because in the case of emergencies such as forest fires or the spread of pests, the *leskhoz* rely on support from the population—support

that is usually mobilized by local governments. There are other examples of informal cooperation, such as the allocation of forest land by *leskhoz* to *aiyl okmotu* for the expansion of pasture area in exchange for land allocated by *aiyl okmotu* for *leskhoz* from the Land Redistribution Fund to establish plant nurseries or joint projects on the rehabilitation of social infrastructure in villages with the help of forestry enterprises, which provide timber (from sanitation cuttings).

The majority of those interviewed in this survey indicated that they believe that *aiyl okmotu* should be involved in some elements of management in the *leskhoz*. In their opinion, the involvement of *aiyl okmotu* in forest management would facilitate the preservation of forest resources and, more important, ensure the equitable allocation of forest resources (especially pastures), thereby protecting the interests of local residents.

THE ROLE OF FOREST RESOURCES FOR LOCAL COMMUNITIES

Although forests cover a small area of the territory of the Kyrgyz Republic, they play an important role in the livelihoods of communities living near them. The territories in the *leskhoz* include land that is used for other agricultural purposes (e.g., pastures), and the forests themselves play an important role locally in providing limited—and perhaps not so limited, given the weakness of the protection regime—amounts of timber as well as NTFPs. The *leskhoz* land and the forests upon them must therefore be considered in the context not only of national objectives to preserve forests, but also of their *de facto* role in the communities around them. Even in the context of preservation, the source of pressure on forests is mostly from local communities, so an understanding of community interests and usage patterns is critical to having a full picture of forest management issues in the country. Patterns of forest usage by nearby communities also affects downstream communities, which do not have direct access to forest resources but depend on them for grazing livestock, obtaining fuel wood and timber, and accessing irrigation and drinking water.

People who live around the country's forests usually do not have many economic opportunities. Their villages are often high in the mountains, far from *rayon* centers and towns, with poor infrastructure and limited jobs. Furthermore, many settlements were a part of the forestry state farms during the Soviet period. As it was explained earlier, unlike the collective and state farms, the *leskhoz* were never restructured in the course of land privatization and farm restructuring, meaning that many people living on *leskhoz* territory have probably not received any land or property shares as the residents of other state and collective farms did.

BOX 3.1 THE VALUE OF FORESTS FOR THE DOWNSTREAM COMMUNITY

People in upstream villages have no arable land. We in downstream areas grow cotton and wheat, and they collect what they can from forests. We only go to the forest to buy fuel wood and hay. However, those who have relatives in upstream villages can gain through them access to walnuts and pistachios and graze their livestock there in summer.

But there is a growing problem with water here. Now we understand that forests are not only walnuts and grazing land. When more houses are built and more land is cultivated up there, we get less and less water to irrigate our fields and to drink. Also the water often comes with a lot of trash in it, like pistachio shells. It is clearer to us that we depend on the forest as well, and more so every year.

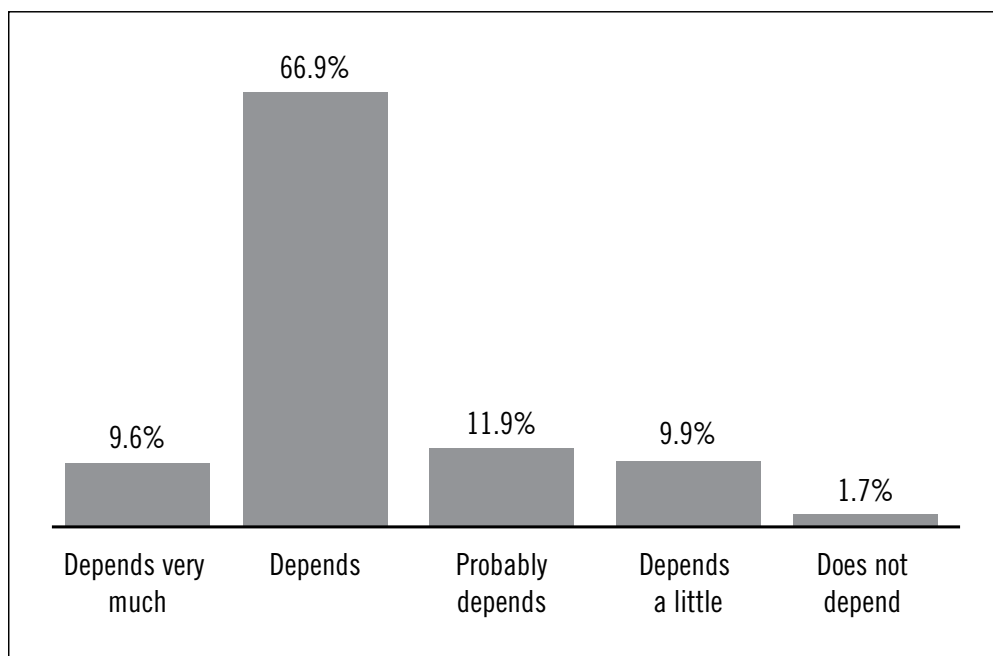
Source: Villager from Toskol village, Jalal-Abad *Oblast*

More than half of the people interviewed in the survey have only a small kitchen plot for subsistence, and even those who have agricultural land plots have small plots of less than 3 ha. Every household has at least one head of livestock. The three major sources of annual income for those interviewed were:

1. livestock and forest products (37 percent)
2. agriculture (20 percent)
3. government-paid salaries and pensions (15 percent)

About 80 percent of those interviewed in communities that neighbor forests depend on forest resources for their livelihoods. (See figure 3.1.)

FIGURE 3.1 HOW MUCH DOES YOUR LIVELIHOOD DEPEND ON FOREST RESOURCES? (N=300)



Source: RDF survey data.

Forests also play important social, cultural, and recreational roles for local communities (see figure 3.2). Even people in villages remote from forests understand their importance as a source of clean water, wood for fuel, and recreation.

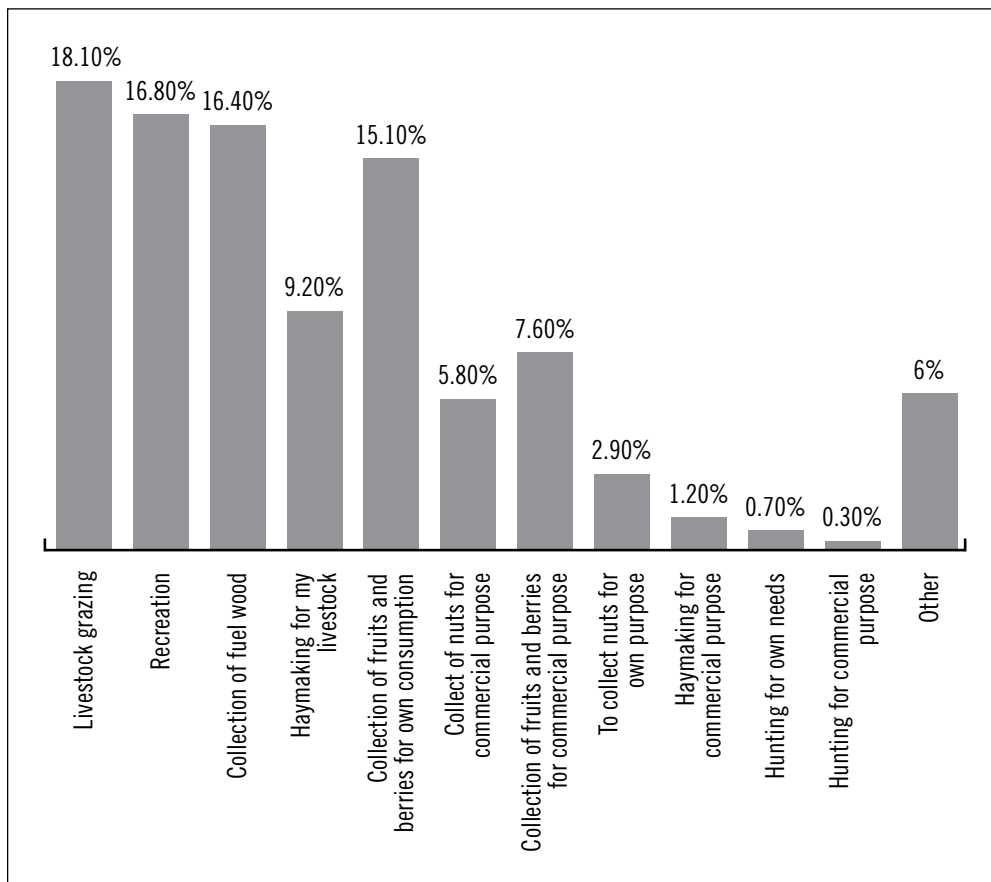
About 31 percent of the population in the Kyrgyz Republic lived in absolute poverty in 2008 (World Bank, 2011). Moreover, the rural population includes three-quarters of the country's poor, living mainly in remote and mountainous areas where there are limited economic opportunities, infrastructure is poor, and access to markets and social and financial services is either limited or nonexistent. The incidence of poverty is highest in mountainous areas: only 13 percent of the Kyrgyz Republic's population lives in mountainous areas, but more than half of those who do are poor (World Bank 2011).

The level of income among those who live in communities that neighbor forests and were interviewed in the survey is low, with more than 75 percent earning less than 10,000 soms, or about US\$200 a month, per household of five to six people. Nearly nine of ten households (89 percent) earn less than 200,000 soms per year. (See table 3.1.)

The Kyrgyz Republic's National Statistics Committee in 2009 set 19,417.19 soms of annual income per person as the poverty line and 11,838.91 soms as extreme poverty. If a five-person household is

the average in the study area, some 40 percent of survey respondents live in extreme poverty, with about 25 percent below poverty line.

FIGURE 3.2 WHAT DOES THE FOREST MEAN FOR YOU? (N= 300)



Source: RDF survey data. Other values of forest here includes collection of mushroom, medicinal plants, etc.

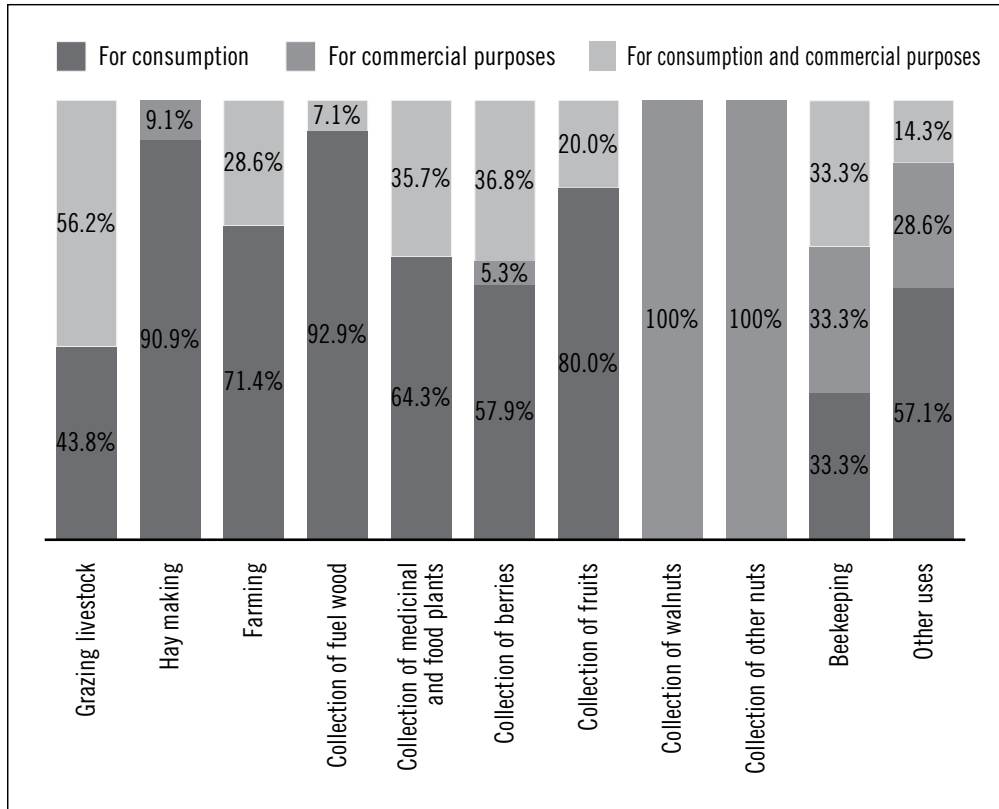
TABLE 3.1 ANNUAL HOUSEHOLD INCOME FROM ALL SOURCES, IN SOMS (N=264)

ANNUAL INCOME	N	%
Up to 10,000	3	1.1
Up to 50,000	104	39.4
Up to 100,000	67	25.4
Up to 200,000	63	23.9
Up to 250,000	20	7.6
Up to 500,000	7	2.7
Total	264	100.0

Source: RDF survey data, 2011.

At the same time, it is evident from survey data and from interviews that actual revenue from forest resources is important mostly for households with medium incomes. Poor households or households headed by women use forests primarily for subsistence purposes (see figure 3.3).

FIGURE 3.3 PURPOSE OF USE OF FOREST RESOURCES BY WOMEN-LED HOUSEHOLDS (N=37)



Tenure Arrangements for Use of Forests

Tenure regimes revolve primarily around use arrangements with *leskhoz*. Several types of formal and informal arrangements allow access to forests and use of their various resources.

There are many different definitions of tenure used globally. For the purposes of this study, tenure is defined as:

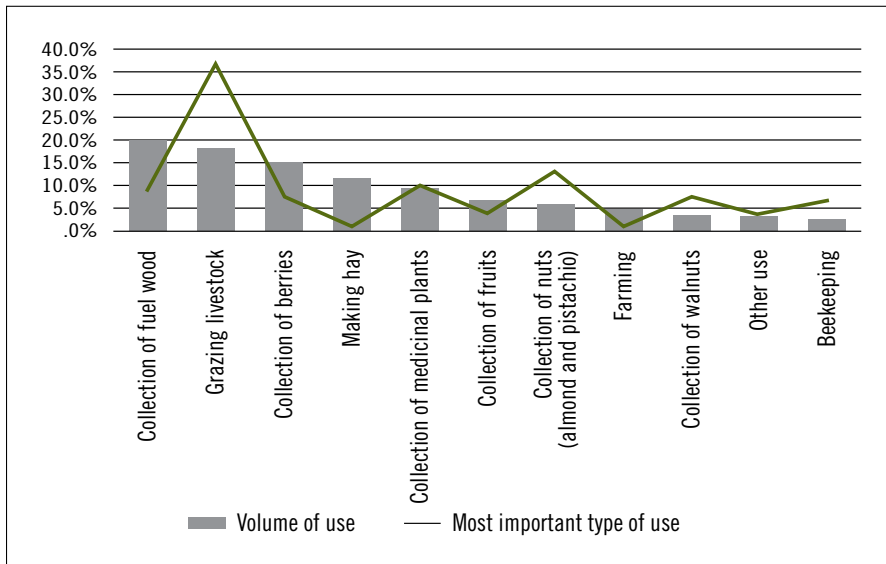
...the relationship, whether defined legally or customarily, among people with respect to land, fisheries, forests, and other natural resources. The rules of tenure define how access is granted to use and control these resources, as well as associated responsibilities and restraints. They determine who can use which resources, for how long, and under what conditions. (FAO 2011)

FC Article 48 identifies the following types of forest uses:

- Tilling, hay making, grazing, beekeeping, collecting food and medicinal plants
- Harvesting secondary forest resources (bark, stubs, etc.)
- Scientific, recreational, and hunting purposes, and tourism
- Timber

Local communities use forests for many purposes other than timber, including for grazing animals; beekeeping; and collecting fruits, nuts, berries, mushrooms, food, and medicinal herbs and plants (see figures 3.4 and 3.5). Non-timber products play a crucial role in the life and economy of local communities, either for subsistence or as source of major or supplemental income. In fact, using forest land as pasture for grazing livestock is seen as the most significant use for communities.

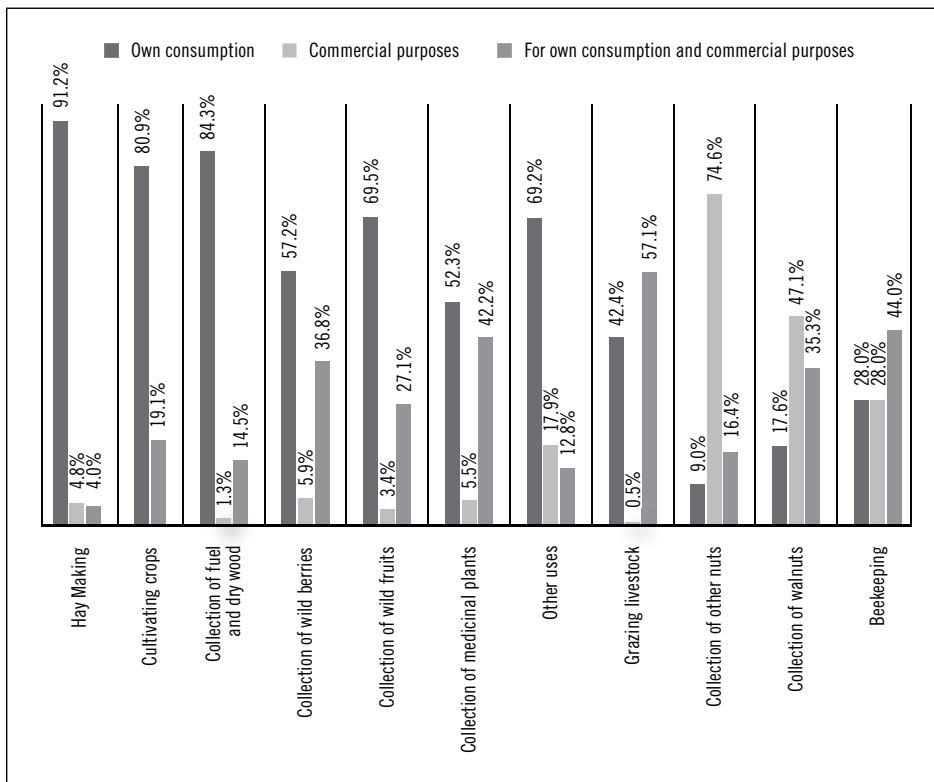
FIGURE 3.4 ACTUAL LESKHOZ FOREST RESOURCES USE AND THEIR SIGNIFICANCE FOR COMMUNITIES (N=846)



Source: RDF survey data.

Note: Other uses include collection of mushrooms, food plants, hunting, and felling for construction purposes.

FIGURE 3.5 USE OF FOREST RESOURCES BY PURPOSES (N=1097)



Source: RDF survey data.

Note: Other uses include collection of mushrooms, food plants, hunting, and for felling for construction purposes.

In the fruit and nut forests in the southern part of the country, collecting nuts for commercial purposes plays a major role for local communities.

Use of the forests and their resources can be accomplished through the use of SFF land for production purposes and through the harvesting of forest resources. Two formal arrangements govern the use of forest resources according to the FC: leases and special permits (FC Art. 53). In addition, CBFM was introduced in 2001 and, after a pilot phase, has been applied to *leskhoz* around the country.

Using land for production purposes is formalized through a lease agreement. People use forest land to grow cereals, vegetables, and fruits, to graze livestock, and to make hay. Lease agreements can be for one use or for multiple uses within the allocated area (FC Art. 43). A lease agreement must include the following information:

- Borders of the forest plot leased
- Types and volume of use allowed
- Duration of the lease agreement
- Payment amount and terms
- Responsibilities of lessee for forest projects and protection

Leases can be seasonal or long term with a limit of up to 49 years. Subleasing forest land is prohibited.

People in general are aware of the arrangements available to access forest resources, although more than two-thirds of those surveyed did not know about the legal framework for forest use.

Usage rights/permits and leases can be canceled for the following reasons (FC Art 16):

- Voluntary waiver by a user of his/her use right
- End of the term of usage right/lease
- Closure of the legal entity that held the usage right/lease
- Withdrawal of land for state or public interests
- Violation of the established rules and procedures of forest use
- Use of methods that negatively affect forests
- Failure to conform with the duties specified in permit documents
- Changing the status of a forest unit to protected

However, in one village, a respondent complained that the *leskhoz* unilaterally cancelled part of his pistachio land rent and then subdivided and gave it to four other people. In general, interviewees noted that *leskhoz* management has significant latitude to change and/or cancel leases.

1. **Seasonal leases.** This is a lease arrangement for less than a year. People prefer a seasonal lease arrangement to access the forest to collect fruits and nuts because it is easier to have a sense of the possible harvest. Seasonal leases are considered to be less desirable for land on which to gather hay and cultivate crops. Leases are granted based on a villager's application to the *leskhoz*. At the end of the year, the lessee informally tells the *leskhoz* if he/she plans to apply for the same lease next year.

The security of seasonal lease arrangements has been strong, even though they tend to be based on informal agreements, because *leskhoz* managers often seek to maintain stable relationships with local communities to avoid tension.

The case of Toskol Ata *leskhoz* is illustrative. It borders five *aiyl aimak*, comprising 31 villages and one small city with more than 70,000 people. Of these people, 4,000 live directly on the territory of the *leskhoz*. In that *leskhoz*, no one interviewed had ever heard of a case in which a lessee was not granted a seasonal lease for a plot used in previous years. All of the walnut-bearing forest plots have been informally allocated among community members, and no new applicants can receive plots since none are available. The *leskhoz* has only 1,348 ha of walnut forest plots, a figure that is obviously insufficient to meet the demand. There are currently 340 contracts for these plots with less than 4 ha per use contract.

BOX 3.2 SEASONAL LEASE USER

"I have a wife and four children. We don't have jobs. We own one cow and one bull. Every summer my relative from the village below brings his cow for grazing. We make butter and yogurt to sell at the market. I use the forest a lot. Every September I rent 0.01 ha of forest, always the same plot. I pay about 2,000 soms for 50 kilos of walnuts and give the *leskhoz* 10 kilos of seeds. Last year I sold 250 kilos of walnuts at the market. I also participate in planting trees every year; the *leskhoz* tells me where to plant and gives me seedlings.

I am not afraid that the *leskhoz* might not give me the same plot next year; it has never happened here. It is well known that this plot was used by my father and now by me and later will be used by my children.

There are rumors that next year we will switch from seasonal rent to Regulation #482. I don't like that, because then I would have to pay for rent every year regardless of whether there is good yield of walnuts or not to protect the forest year round. I like the CBFM we have now more."

Source: Villager of Massy village, Jalal-Abad Oblast. Regulation #482 is a Regulation on CBFM

An actual lease agreement in Toskol Ata showed the following responsibilities for one lessee:

- The lessee cannot sublease his plot
- The lessee must collect walnuts before September 15th [this lease was signed on September 12th]
- The lessee must collect 3 kilos of pest worms
- The lessee has to collect and provide to the *leskhoz* 10 kilos of dry, high-quality walnuts as seeds
- The lessee has to pay last year's market price (40 soms) for 50 kilos of walnuts as rent [for 9.45 ha of land] to *leskhoz*. An average ratio of sharing harvest is 60 percent of harvest lessee keeps to himself and 40 percent he gives to the *leskhoz* in cash
- The lessee has to pay a Social Fund payment of 150 soms

Users prefer seasonal licenses because when the yields of nuts and fruits are low, they do not have to take the lease or pay for its use. Users also know that because they pay for the seasonal leases in cash, they do not have to participate in the costs of forest maintenance and improvements. Users do see a drawback with seasonal leases in the price established by the *leskhoz* for walnuts as an equivalent for lease fee payment. They feel that the fees are too high. In 2009, for instance, the lease fee payment was established based on a price for walnuts of 40 soms per kilogram. However, that was the price for the highest quality of walnuts; sellers got less than that on the market because the quality of the majority of walnuts collected was lower. Users also reported that this lease arrangement seemed to be becoming less secure. Although there is an informal agreement that nobody claims the forest plot of another community member, with growing pressure on forest and a growing population, current users are starting to feel insecure.

Several *leskhoz* directors expressed their dislike of this type of lease because it does not secure their revenue when nuts and fruits have a low yield, and it puts heavier load on foresters in terms of projects. In many places, *leskhoz* management has informally decided not to give seasonal leases anymore, switching to long-term leases or to CBFM.

2. **Long-term leases.** Long-term leases are made for longer than one year. They are usually for five to ten years but can go up to 49 years. This type of lease is popular for the use of pastures and arable land. It is provided by a *leskhoz* decision and based on application. The lessee takes specific land for use as pasture or for cultivation, concludes a long-term lease agreement, but pays a fee every year as established either by Regulation #360 by purchasing a forest ticket issued by the *leskhoz* (which should be not lower than annual rate of land tax approved by the Parliament). This type of lease is usually formalized with a contract and often is even registered with the state registry. Since payment for leases is based on area and is still relatively low, people seek to retain their leases and often sublease surplus or unused area to others.

BOX 3.3 LONG-TERM LEASE USER

"I have rented 50 ha of pasture on *leskhoz* land for 10 years. I even have a certificate registered with the State Registration Agency. I graze my own and villagers' livestock there for six months of the year. In addition to that, I have about half a hectare of pistachio trees growing on this pasture land, and I collect apples, pears, medicinal plants, and mushrooms. I pay only for the use of pasture, though."

Source: Villager of Masy village, Jalal-Abad Oblast

3. **Collaborative forest management (CFM) or community-based forest management (CBFM).** CBFM was formally introduced in 2001 with the support of the KIRFOR. It was introduced as one of the tools of JFM, which aimed to establish partnerships between local governments, forestry management, and the population for sustainable forest management. It was designed to empower a group of households or (ideally) a whole community to manage large patches of forest land to better preserve the forests while improving their livelihoods.

The KIRFOR started piloting this type of forest use in walnut and other fruit-bearing-tree forests in the southern part of the country because these forests are extremely important for biodiversity preservation. They are under heavy pressure from local communities, and it was hoped that the benefits of CBFM to the local population would be significant and immediate. However, this model has started to spread on its own in other areas as well, when people have entered into CBFM to lease areas near roads to organize trading markets or cafes in places where tourists frequent. There are fewer cases of CBFM arrangements when households lease land for planting trees.

The major principles of CBFM are as follows (Regulation on Community Based Forest Management, Government Resolution #482, October 2007):

- Forest land and resources allocated should not be degraded and decreased
- Leased areas and resources should be fully protected
- All community members have an equal right to participate in forest management and use
- All decisions concerning these leases should be transparent and include all stakeholders in the process

- There are three commissions that manage lease arrangements
- *Leskhoz* shall provide lessees with instructions on how to maintain the forest
- Each spring, *leskhoz* shall check on the seedling and planting projects of lessees and each fall on their maintenance of the forest and seedling growth
- Income derived from the use of forest resources should be linked to expenses made to maintain and improve forest area
- The plot given to a household for CBFM cannot be bigger than 5 ha in walnuts and fruit forests, 20 ha in mixed forests, and 2 ha in riverbank forests
- The first agreement under CBFM is for five years and then can be extended for up to 50 years
- Lessees for CBFM have to be from local communities and agree to fully protect their forest plots and to undertake forest projects, which in turn means that lessees must have an adequate labor force and knowledge of forest-related activities. The *leskhoz* provides lessees with instructions on forest tending, planting, seeding, and other forestry work.

A review committee consisting of the chairman (a chief forester) and the members (a forestry and forest crops engineer, a forester of the forest being inspected, a second forester, and a CBFM lessee) checks the performance of the lessee in spring and fall as described above.

When a leased CBFM forest plot has a variety of resources that might be beneficial for a lessee and the lessee intends to use them, then those resources are supposed to be taken into account when assessing the expected benefits of the site. For example, a CBFM forest plot with walnut trees may contain part of a hayfield that the lessee will also use. In this case, the benefit accrued from the hayfield should also be added to the amount of the expected benefit.

BOX 3.4 CASE OF A CBFM USER

Saijamal is a CBFM lessee in a Toskol-Ata *leskhoz*. She lives in the village of Kara-Bulak, which is located within the territory of the *leskhoz*. Since 2005, she has been leasing 3 ha of forest land covered mainly with walnut, plum, apple, and hawthorn trees. For Saijamal, collecting and selling walnuts is a significant source of income; some 35 to 40 percent of the family's annual income, in fact. Every year, she harvests approximately 350 to 400 kilograms of walnuts and sells them at a price ranging from 40 to 80 soms per kilogram depending on the demand and the quality of nuts.

In return, according to her contract with the *leskhoz*, she grows apple seedlings on 0.05 ha of her household plot. Within five years, she has to grow 30,000 apple trees. She is responsible for protecting the forest site from unauthorized timber harvesting. Under the contract, in addition to the forestry projects, she also provides the *leskhoz* with 10 kilograms of seed nuts and apple seeds each year. This year, her initial five-year lease expires, and Saijamal intends to prolong the lease for 50 years.

For Saijamal, the non-timber forest resources not only provide a source of income but also serve the needs of her family. Last year, she paid 450 soms to the *leskhoz* and got a permit to collect three cubic meters of firewood to use for cooking and heating. Without official permission, she also collects medicinal plants in small quantities for her own consumption.

It was expected that a group of households would enter into CBFM arrangements, but in reality, contracts are usually with just one family. There are no guidelines for group use of resources, and with

little capacity in *leskhoz* the groups do not last long and break into household units. In some cases, the head of the household enters into the agreement, but then his sons and their families participate in completing forest projects and collecting nuts.

BOX 3.5 GROUP CASE IN CBFM

Three households in our village entered into a CBFM agreement to lease a walnut forest plot. One family had 10 people, and two others had four to five people each. The forest projects were divided into three equal parts, but when collection started, the first family collected many more walnuts than the others did. After the first year, this group split into three separate CBFM agreements.

Source: Toskol Ata *leskhoz* employee

Data show that CBFM has not been widely disseminated in the country, even in areas where the benefits derived from forest resources are considerable and local dependency is significant. Indeed, the trend is counterintuitive in that CBFM has been decreasing in terms of area and number of contracts during the past three years (see table 3.2).

TABLE 3.2 NUMBER OF CBFM CONTRACTS AND SIZES OF AREAS UNDER CBFM ARRANGEMENTS

REGIONS	2008		2009		2010	
	Number of contracts	CBFM area (ha)	Number of contracts	CBFM area (ha)	Number of contracts	CBFM area (ha)
Issyk Kul	9	138.4	9	138.4	9	138.4
Naryn	88	3,714.20	89	3,752.20	66	2,837.80
Chui	69	572.32	74	580.03	71	515.66
Talas	104	868.75	67	516.35	53	349.7
Batken	44	183.5	44	183.54	25	157.9
Osh	156	1,078.97	109	868.47	115	950.31
Jalal-Abad	865	5,602.46	787	5,086.36	756	4,936.28
TOTAL	1,335	12,158.6	1,179	11,125.35	1,095	9,886.05

Source: Author.

For example, in the Jalal-Abad region where there are nut and fruit forests, 10 percent of all forests were earmarked for CBFM. However, only 6 percent are now under actual CBFM arrangements.

Interviews conducted for the study revealed that local populations do not view CBFM as an attractive option for forest use because of the following factors:

- The land plots allocated for CBFM are usually small in size, up to a maximum of 5 ha.
- The *leskhoz* defines lease payment amounts, which have to be paid in kind. Lease amounts are calculated based on market prices, while the cost of labor is calculated based on official rates, which are outdated and low. This discrepancy makes it unprofitable for users to enter into CBFM arrangements. There has been changes recently made allowing payment in cash, but *leskhoz* still prefer to receive payment in labor.

- A household has to have sufficient labor resources to undertake forest projects and protection. In many cases, one household leases a forest plot and either subleases some of the area to relatives who in turn participate in forest projects or hires seasonal workers to help.

CBFM in practice appears to function as a kind of omnibus leasing arrangement between the *leskhoz* and multiple lessees from nearby villages. There is no organization of the community or even a group of households who become part of a committee or other governance structure in relation to the forest. Community members do not participate in any planning or decision-making regarding the upkeep of the forest area as a whole, as these are the direct and sole responsibility of the *leskhoz*. There is no consolidated accounting overall concerning community usage of the forest or the impacts it has on the community in dimensions such as soil erosion or water quality.

To some extent, this arrangement appears to reflect the specialized skills necessary to properly assess the quality of the forests, which only *leskhoz* professionals have (or, at least, should have). The readiness of the community as a whole to take a larger role in forestry management can be seen as a corollary of this.

Interviewees among both officials and ordinary villagers indicated that forests products were viewed in terms of individual household consumption and not as assets to the community as a whole. The social capital necessary to work together to maintain the assets was generally seen to be lacking. In general, households appear to practice CBFM only when they feel that it is the most secure way to allow for long-term tenure of forest resources.

CBFM as it is currently practiced is also not inclusive. A major condition of the arrangement with each household is that they undertake several projects, including additional planting. *Leskhoz* management often views women-led households as not being capable of handling some of the labor requirements, and therefore these households are not given the opportunity to take care of a portion of the land. The same views are given to poor households that have no resources to undertake extensive forestry works.

4. Special permits. There are two types of permits for the use of forest resources: felling permits and forest permits. These permits are issued for one season only, irrespective of how long the user plans to harvest resources. A forest permit, sometimes called a ticket, grants formal permission for the use of NTFP. The forest ticket also specifies the type and amount of resources that can be extracted and the period during which collection is allowed. When NTFP are collected for commercial purposes, they must be paid for at the rates that have been established by government resolution for regional and national bodies.

5. Informal use. In addition to these formalized arrangements, there are other informal uses of forest resources (see table 3.3). Some use is informal but legal, such as collecting mushrooms, berries, fruits, and medicinal plants for personal consumption. However, almost all of the subjects interviewed admitted to collecting mushrooms for sale, and many collect berries and fruits to sell either raw or processed in jams. In cases in which NTFPs are collected for commercial purposes, permits and fees are supposed to be mandatory, but that rarely happens when collectors are from local communities.

There is a traditional model, called "*mashak*" (products remained after the harvest), that sets out a way of sharing the nut and fruit resources within a community. Under *mashak*, lessees allow others—usually poor people and women who have no other access to forest resources—to go and collect leftover nuts and fruits for free. However, in many cases people will come from other villages to steal the nuts from the leased-out plots even before the lessee can harvest them. To prevent this theft, many people either live in the forest for a month before the harvest to guard the nuts, or they collect the nuts, especially pistachios, before they have fully ripened. Pistachios that have not been allowed to completely ripen command a far lower market price.

TABLE 3.3 TYPES OF INFORMAL USES OF FOREST RESOURCES

TYPE OF USE	OVERLAP OF RIGHTS	PAYMENT	CONFLICTS
Informal grazing of livestock in nearby forests	Yes	No	Strong There are acute conflicts between forest lease-holders and informal grazers. CBFM lessees even have to fence their plots to protect them from livestock.
Collection of mushrooms, medicinal plants, berries, fuel wood	Yes	No	Moderate People collect these resources without any limitations on area or volume. Conflict happens when people collect resources on land leased by another user, mostly with pasture lease-holders, but these cases are rare.
Informal hay making	No	No	None Hay making usually happens on leased land
Collection of leftover nuts (<i>mashak</i>)	Yes People collect leftover nuts with or without agreement from lease-holders	No	Moderate With <i>mashak</i> , there are no conflicts because collection is agreed in advance with the lessee and done after harvest. However, there have been cases in which people collect nuts before the lessee has collected the harvest and then claim it was <i>mashak</i> .
Sublease of land	Yes Lessee subleases land (such as plots of pasture or arable land) or resources, such as trees with nuts and fruits to other users	Yes Payment goes to lessee in cash or in fruits and nuts	No

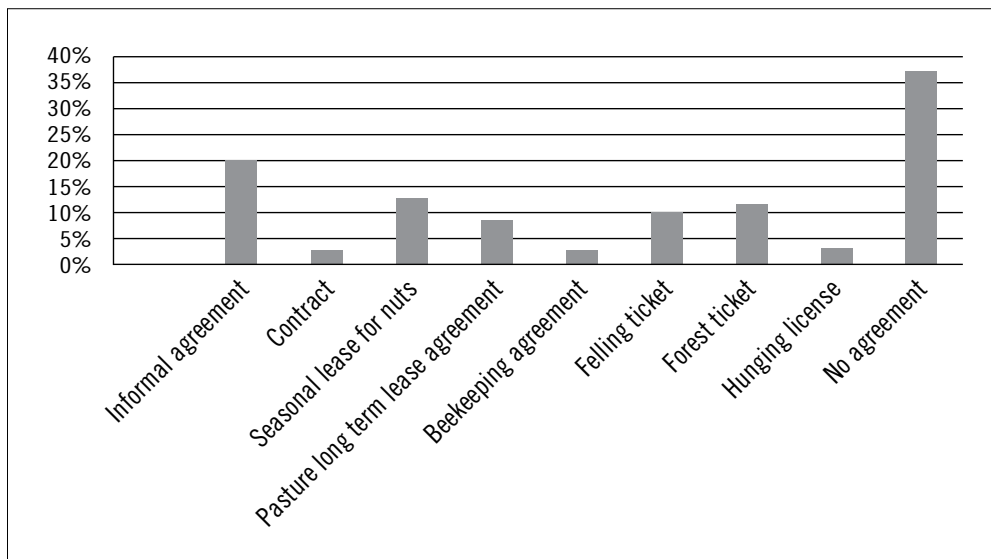
Illegal use of forest is a small-scale, low-intensity affair, but it is widespread. It happens largely due to lack of other options to access resources and secure tenure arrangements, lack of knowledge on how to access resources, or confusing tenure systems. Subleasing forest land and resources, though technically illegal, is widespread everywhere in the country. People sublease pasture plots to other herders and arable land to other farmers if they do not intend to cultivate it. Subleases are especially popular with seasonal leases for nut and fruit harvests. Survey data show that mostly women are engaged in the use of forest land without agreements, primarily to collect medicinal herbs, plants, and berries (see figure 3.6).

It is interesting to see from the survey data that both women and poor households tend to use forests with no agreements, mostly to collect medicinal plants, berries, and fruits, or to do *mashak* for their own consumption (see figure 3.7).

Finally, there is the issue of illegal felling of trees with or without the connivance or participation of *leskhoz* management. It is impossible to assess the extent to which this occurs. Many interviewed community members suspected that felling beyond sanitation cutting was occurring with the direct participation of *leskhoz* management, which was turning a profit on the transactions. This appears to have been the case in at least a few instances, as some *leskhoz* officials have been punished with fines. However, as noted above, there are strong incentives and few hindrances to such abuses, making illegal felling all the more plausible. At the same time, some community members are directly taking firewood from forests. The scale of the problem is difficult to measure, but overall there has been modest growth in forest cover during the past few years, which would seem to indicate that the

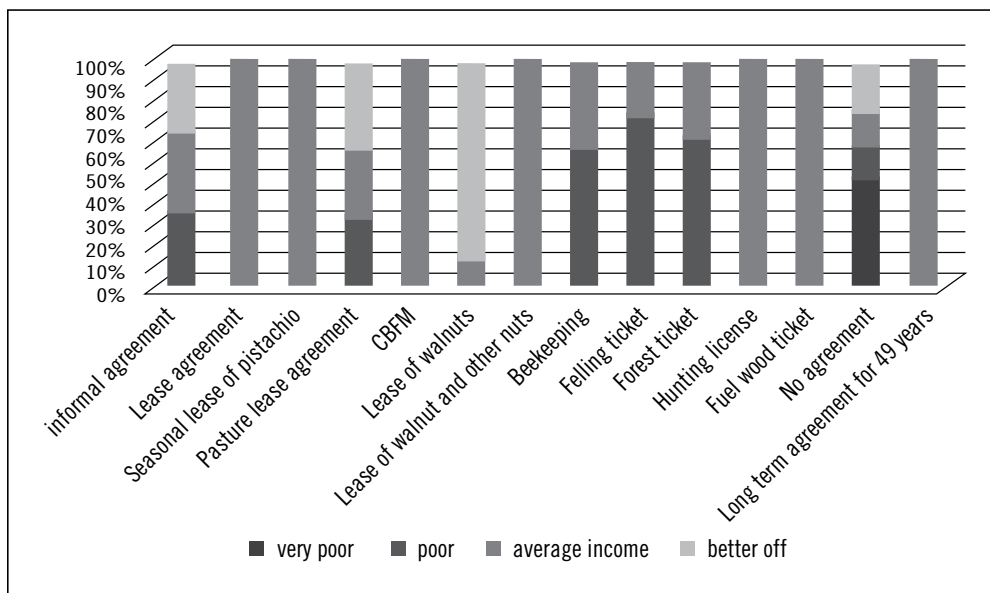
scale of illegal felling is at least not so serious that Kyrgyz forests are in immediate, pressing danger. Table 3.4 provides a summary of the current characteristics of forest tenure.

FIGURE 3.6 TYPE OF WOMEN'S FOREST USE ARRANGEMENTS (N=67)



Source: RDF survey data.

FIGURE 3.7 TYPE OF FOREST USE ARRANGEMENTS BY LEVEL OF INCOME (N=300)



Source: RDF survey data.

Note: Level of income is based on self-assessment in comparison to other households in the village.

Lack of Transparency and Poor Engagement of Users

The previously described interactions between *leskhoz* and communities underline one of forest management's systemic issues: the lack of transparency. There is little publicly available information

regarding the rules according to which forests are supposed to be managed and almost no information on the actual status of forests, tenure arrangements, or improvements that forest management entities have undertaken. The *leskhoz* control all of that information and have no mandate to provide it to citizens.

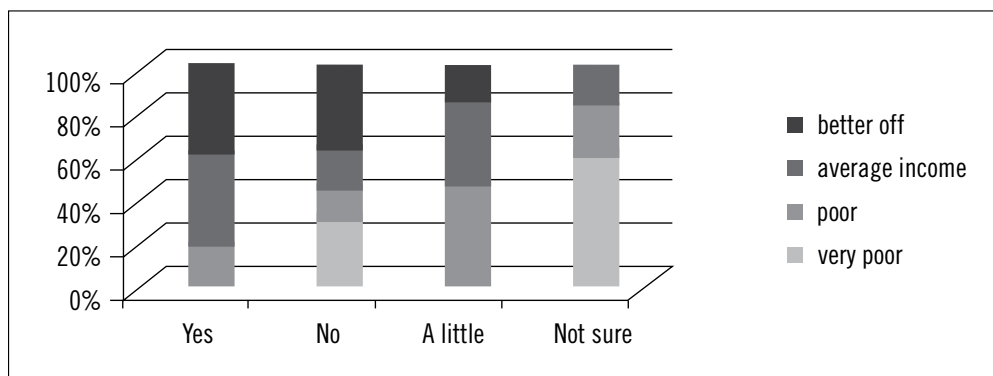
BOX 3.6 AWARENESS OF FOREST MANAGEMENT

I don't know how the *leskhoz* makes decisions. I know that all the good walnut forest plots were divided among the staff of the *leskhoz* and their relatives long ago under another director, and they are using them. The same is true for pastures: only [*leskhoz* staff] and their friends and relatives, and rich people, can get pasture leases. If you go around you will see that only better-off people have good forest plots, while the poor go with *mashak*. I tried to get land, but the *leskhoz* told me that no land is available. In order to have access to our forest now, you need to bribe the foresters either with cash or with sheep.

Source: Villager of Toskol village

Those with lower income levels generally have less information about the rules and regulations of forest management (figure 3.8), and women tend to know less about forest management rules and procedures.

FIGURE 3.8 LEVEL OF AWARENESS OF LEGISLATION ON FOREST MANAGEMENT BY LEVEL OF INCOME (N=300)



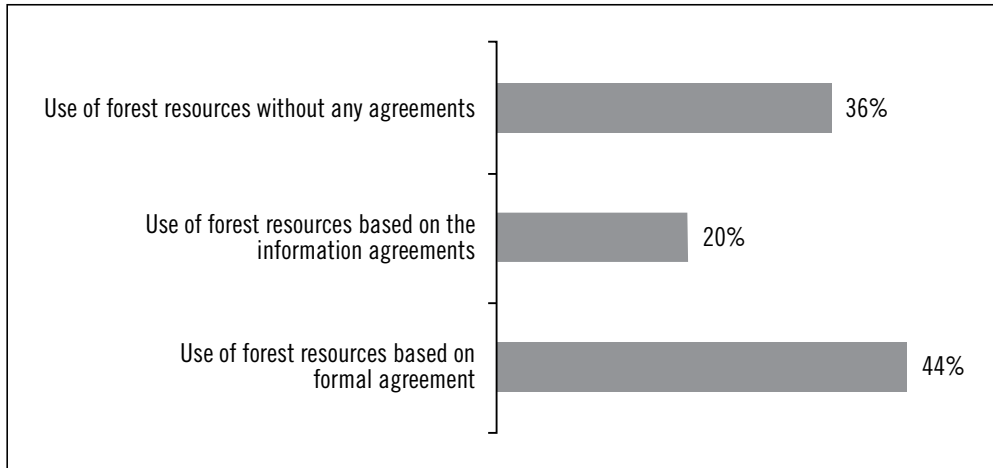
Source: RDF survey data.

Note: Level of income is based on self-assessment in comparison to other households in the village.

At the same time, many in the community—particularly and perhaps unsurprisingly those who are presently benefiting from the system—are content to continue with such arrangements. Rural Kyrgyz society tends to be accepting of informal or verbal agreements, and the use of forest resources is particularly prone to such arrangements (see figure 3.9). Field data show that people do not enter into formal agreements when it is required by law either because they do not want to pay (either in cash or in-kind) for use of the resources, or do not know how to make such agreements.

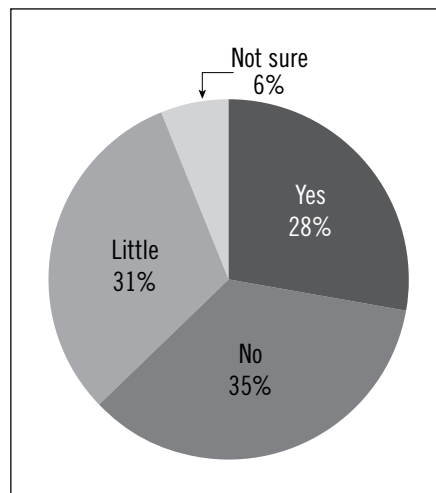
There is, however, interest in at least understanding the law about how forest usage is supposed to be regulated. About two-thirds of all those interviewed said that they do not know anything or know little about the legal rules around the use of forest resources, and the majority of those who know the rules admitted that they do not understand them fully (figure 3.10).

FIGURE 3.9 AGREEMENTS TO USE FOREST RESOURCES (N=300)



Source: RDF survey.

FIGURE 3.10 ARE YOU AWARE OF LEGAL FRAMEWORK FOR FOREST MANAGEMENT AND USE? (N=300)



Source: RDF survey.

Fewer than 20 percent of all respondents felt that they knew how the *leskhoz* manages forest. There is no transparency in the allocation of land and other resources, and people do not know which land is used and which is not or who uses the land and how. Usually, forest users gain knowledge about the system in two ways: at general user meetings (held twice a year to cover lease terms and conditions for the current year) and/or by reading information that has been posted at the *leskhoz*.

For most interviewees, the most useful information to know would involve the fees and terms for forest product use, as well as any updates regarding the rules and procedures for forest management. However, the people interviewed perceived problems with information dissemination around forest rules and procedures, as well as around the decisions that forestry bodies make. They indicated that the major reasons for that lack of information are as follows:

- A lack of skill among foresters for providing information in a timely and effective manner
- A lack of intent to disseminate information (currently supplied only upon request)
- *Leskhoz* that do not cooperate with *aiyl okmotu* in channeling information
- *Leskhoz* that do not want to disclose any information about financial issues

Engagement of communities in forest management is not provided for in the legal and institutional setup of the *leskhoz*. The view of villagers interviewed on this topic is equivocal. On one hand, slightly more than half the respondents expressed interest in participating in decisions concerning forest management and the use of forest resources, particularly in improving forest resources, preventing fire, and allocating use rights. However, a majority noted that there were dangers in allowing the community to have a greater role in management decisions. Several respondents feared that increased popular control over the management of forest resources would lead to their degradation, since the individuals involved would be driven more by an incentive to maximize benefit to their households than to ensure sustainable use of the forest ecosystem. A majority also felt that they should not “interfere” in the activities of *leskhoz* or participate in decision-making on forest management because they lack sufficient expertise and management skills. Most of all, there was skepticism about being able to change current practices within the *leskhoz*, coupled with a limited desire to try to engage to bring about such changes.

To some extent, particularly in connection with the use of lands for pasture, villagers noted that an increased role for the locally elected *aiyl okmotu* head or pasture committee might be more appropriate, in part because these entities would in principle be somewhat empowered, have a better understanding of broader community interests, and stand on more equal footing with *leskhoz* directors.

Conflicts

The absence of transparency and information has led to conflicts of various degrees between and among different users and stakeholders. Only a quarter of survey respondents thought that all users get equal treatment from *leskhoz*. Of those who believe that the treatment is not fair, 37 percent think that prices are different for the same use rights, 31 percent perceive that some receive better land and/or resources for the same price as others, and 23.7 percent think that some receive general preferential treatment. According to those interviewed, the main causes of most conflicts come down to the following:

- Unfair distribution of forest plots for haymaking, collecting firewood, and grazing (i.e., distribution is often on the basis of kinship or friendly relations between the *leskhoz* and certain users).
- The allocation of plots is not carried out through open processes.
- *Leskhoz* staff use forest resources as their own, harvesting them for themselves and/or for sale.
- Although there is a strict prohibition on cutting timber, villagers complain that *leskhoz* staff harvest and sell timber. One respondent claimed that according to his estimates, *leskhoz* cut and sell about 10 cubic meters of timber daily.
- Conflicts between official forest plot users and those who are denied access to the forest.

Conflicts between *leskhoz* and individuals occur quite often. The causes of these conflicts tend to be rooted in the inefficiency, opacity, and lack of accountability of forestry resource management. Users have generally low levels of trust in *leskhoz* staff, and there is a perception that corruption and informal relationships are undermining legal and transparent access for all users.

TABLE 3.4 SUMMARY OF THE MAIN CHARACTERISTICS OF DE FACTO FOREST TENURE

	SEASONAL LEASE	LONG-TERM LEASE	CFM	FOREST TICKET	NTFP PERMIT
Access (<i>de jure</i>)	<ul style="list-style-type: none"> Application to <i>leskhaz</i> Seasonal use Sublease is prohibited 	<ul style="list-style-type: none"> Application to <i>leskhaz</i> Terms range from five to 10 years, or up to 49 years Sublease is prohibited For cultivation, need to use local varieties For grazing, need to submit veterinary certificate on livestock number and health 	<ul style="list-style-type: none"> Application to GBFM Commission Only local communities are eligible Preferences for people with experience in forestry, previous users Applicant should have sufficient human resources, land, and assets First lease is for five years and if all terms met, extension for 50 years Subleasing is allowed Area for GBFM limited in size: not bigger than 5 ha in walnut and fruit forests, 20 ha in mixed forests and 2 ha in riverside forests. Applicant should submit request for specific plot. 	<ul style="list-style-type: none"> Application to <i>leskhaz</i> Seasonal only 	<ul style="list-style-type: none"> Application to Territorial Department of Environment and Forest Ecosystem Development or to SAEPP for harvesting specific resources in specific number and volume Seasonal only
Issues in access (<i>de facto</i>)	<ul style="list-style-type: none"> Where resources are scarce and competition intense, access is limited, especially for new users Preference informally given to previous users Perceived easier access to wealthier people, who bribe <i>leskhaz</i> staff, and/or those who are connected to <i>leskhaz</i> People do not have information on resources/land plot availability for seasonal lease 	<ul style="list-style-type: none"> Where resources are scarce access is limited All good land already allocated No accurate information about available lands for lease Perceived easier access to wealthier people, who bribe <i>leskhaz</i> staff, and/or those who are connected to <i>leskhaz</i> People often sublease land; sublessees pay more No information on existing leases 	<ul style="list-style-type: none"> Community has no say in granting access to forest plots for households Lack of knowledge about available plots No incentives to form a group Inhibits access for women and poor, who lack knowledge, resources, and/or assets Demands a lot of labor to meet terms and conditions 	<ul style="list-style-type: none"> Used mostly for harvesting of fallen trees Access to collection is difficult, e.g., in National Parks a park ranger must take pictures, make a report, and send it to SAEPP for judgment on what trees can be used for, then give forest officials the authority to distribute tickets for use. Process can take up to six months, rendering once-valuable timber source useless. People wait for one to two years to be able to buy timber or get forest tickets No information on availability of timber, fueling conflicts and leading to illegal felling Fuel wood collection happens mostly without acquiring tickets 	<ul style="list-style-type: none"> Wide misunderstanding and confusion on access to these resources even among forestry officials. Some foresters interpret legislation that all permits for NTFP are issued by the <i>leskhaz</i>, except those which are to be exported Local communities do not know where and how to obtain permits, they also do not know when and if a permit is required, so they hunt and harvest medicinal plants and berries in commercial quantities without permits For many villagers, going to the oblast centers for permits is unaffordable

Table 3.4 continued on p.42

Table 3.4 continued from p.41

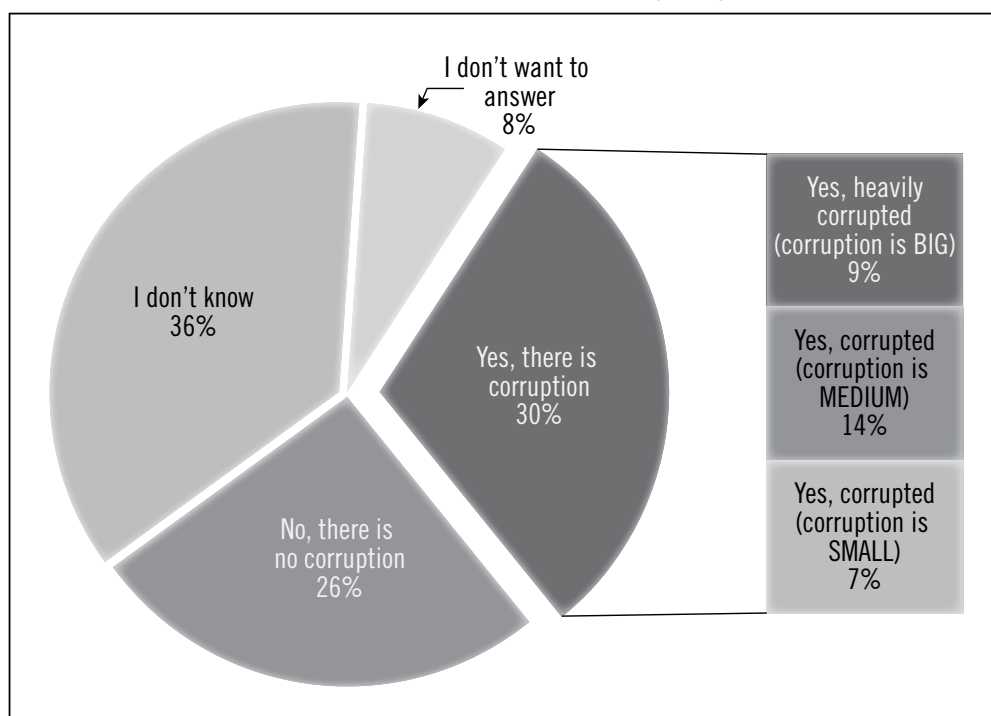
	SEASONAL LEASE	LONG-TERM LEASE	CFM	FOREST TICKET	NTPF PERMIT
Use of resources (<i>de jure</i>)	<ul style="list-style-type: none"> Payment in cash in advance or immediately after harvesting Lease agreement required Payment defined by type and volume of NTFP to be harvested Can be canceled if conditions and requirements of contract are not met 	<ul style="list-style-type: none"> Payment in cash based on annual forest ticket fee Lease agreement registered in the <i>rayon</i> Gosregister Payment defined by various regulations for various types of use Can be cancelled if conditions and requirements of contract are not met 	<ul style="list-style-type: none"> Income derived from use of forest resources linked to expenses made to maintain and improve forest area Lessee responsible for protection of its forest plots from diseases, fire and illegal use. Can be cancelled if conditions and requirements of contract are not met 	<ul style="list-style-type: none"> Payment in cash based on volume and type of use 	<ul style="list-style-type: none"> Payment in cash for specific resources and volume
Use (<i>de facto</i>)	<ul style="list-style-type: none"> Used for harvesting of NTFP, such as pistachio and walnuts, fruits, and hay, less for arable land rent People from remote villages sublease land plots or are used as hired labor Involves additional work in the forest, such as pest collection or supplying <i>leshkhoz</i> with seeds of collected fruits and nuts In some areas, users serve as labor paid by <i>leshkhoz</i> in share of harvest People sublease land plots Fruits and nuts grown on seasonal lease plots are not well protected <i>leshkhoz</i> calculate potential yields from the plot and define payment for lease based on 60% to 40% ratio with 60% staying with lessee. Payment often happens in kind (share of harvest). Because of immediate payment requirements, poor sell products right after harvesting, when price is lower Users do not pay taxes on this income Leasing and payment for lease only for years when NTFP yield is good Easiest way to obtain immediate benefits Security is low and does not provide secure tenure for user beyond season People often have no contracts Can be cancelled if conditions and requirements of the contract are not met or if condition of forest changes (vague definition in the FC) 	<ul style="list-style-type: none"> Used mostly for local grazing and farming, but people from remote communities and shepherds bring livestock from different places Subleasing is widespread Grazing and harvesting of NTFP in the National Park prohibited by the FC (FC Art 55) Users do not pay tax Payment relatively low Users can use other resources on same land plots without additional payment if in small quantities Almost all interviewed have contracts and some users even registered in Gosregister 	<ul style="list-style-type: none"> Used for especially profitable forest resources, such as walnuts and pistachio plots, tourist attractions, trade locations near roads Only members of near-forest communities can access because of difficulty in protecting forests if they live far away Accountability mechanisms do not work; the 3 types of compliance commissions are dysfunctional Cost benefits calculated based on market prices, but cost of labor calculated based on the low official rates. Discrepancy makes CBFM arrangements unprofitable. All interviewed have contracts Right to part of the plot can be transferred to other people Sometimes <i>leshkhoz</i> have made unilateral decisions to subdivide and allocate plots Tenure conditions are strict 	<ul style="list-style-type: none"> No instructions given on felling; people mostly do as they know People often use resources without forest tickets because they lack knowledge of system Confusion between permits for NTFP and forest tickets; people take long-term lease but provide payments based on forest tickets. 	<ul style="list-style-type: none"> Only limited number of permits acquired in practice, mostly when export is intended since customs can request harvesting permits. In practice, people collect resources and supply them to either middlemen or companies, who then acquire permit for export.

Table 3.4 continued on p.43

Table 3.4 continued from p.40

	SEASONAL LEASE	LONG-TERM LEASE	CFM	FOREST TICKET	NTPF PERMIT
Major issues	<ul style="list-style-type: none"> Users uninterested in sustainable harvesting methods and use of resources because of limited time span and insecurity of arrangements <i>Leskhoz</i> not interested because revenue is unsustainable Does not support sustainable forest management 	<ul style="list-style-type: none"> Negatively impacts ecosystems, i.e., cultivation of crops in the forest areas deteriorates soil, leads to loss of biodiversity, and brings diseases to forest ecosystems Fuels conflicts between community members and <i>leskhoz</i> with competition for grazing land leases, leads to illegal use Users have no incentives to preserve forest ecosystem and use its resources sustainably 	<ul style="list-style-type: none"> CBFM as it is practiced leads to fragmentation of forest ecosystem and loss of biodiversity Users not restricted in types of use and often use forest land as arable land leading to loss of biodiversity and depletion of resources Not supportive for women and poor 	<ul style="list-style-type: none"> People cut trees illegally because there are no legal avenues; often cut healthy and valuable tree species People collect NTFP without use of sustainable methods and often deplete resources 	<ul style="list-style-type: none"> Resources harvested illegally without payment. SAEPF loses significant source of revenue No incentives to use sustainable methods of harvesting; no control over user activities. <i>Leskhoz</i> does not receive any revenue from this type of use and thus does not monitor, leading to deterioration and depletion of forest resources

FIGURE 3.11 IS THERE CORRUPTION IN THE MANAGEMENT OF FORESTS? (N=300)



Source: RDF survey.

Leskhoz undertake sanitation felling and sell the resulting timber, even though there are no procedures established for the sale of timber. In practice, people pre-pay for timber, and the *leskhoz* delivers it to them after cutting. Some villagers have to wait two to three years for the timber they have purchased. The lack of procedures and transparency on the sale of timber fuels the feeling among

forest communities that *leskhoz* sell timber not to people who live near the forest but to people outside of forest communities because they are rich or somehow connected to the *leskhoz*. Believing that rangers cut timber and sell it to people outside their communities, villagers often decide to undertake their own illegal logging.

By law, all disputes around forest issues are supposed to be addressed in court. State forest management bodies do not pay a state fee for cases concerning violations of forest legislation. However, this is not an efficient means of conflict resolution. There is little trust among the rural population in the efficacy of the courts in general, particularly in cases against government entities. Many unresolved cases have been stuck in court for years, and it is always the forest management bodies that appeal to the courts to receive overdue payments for the use of forest resources or assess penalties for illegal use.

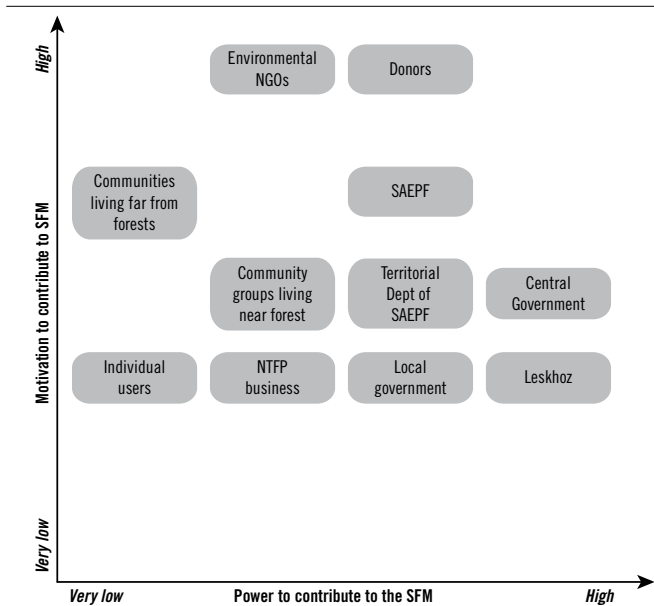
4

INCENTIVES AND INFLUENCE

The interests and incentives that drive key stakeholders on the ground, particularly *leskhoz*, have created the current climate in forestry management. The institutional and legal frameworks that shape their activities—as well as the basic economic incentives of individuals who are affected by forest management, from poorly paid *leskhoz* employees to various community members—also contribute to the system’s function and dysfunction. (See table 4.1 for a comprehensive chart of major stakeholders and issues.)

Changes to improve the overall usage of forests to allow for maximum protection *and* production—in short, sustainable forest management—will need to be considered in the context of these incentives. Below is a composite picture of stakeholder interests and their ability and means to influence policy and implementation of sustainable forestry management practices. “Motivation to support sustainable forest management” is defined as the readiness to balance specific demand for the use of forests for personal gain (including having forests serve a protective and productive role in general, in the case of the central government) with preventing the overall depletion of forest resources.

Figure 4.1 Mapping the Power and Incentives of Major Stakeholders



Several insights inform this chart:

- With the exceptions of donors that have a specific mandate to support sustainable forest management with no countervailing economic pressures and a limited number of environmental nongovernmental organizations, there are no unequivocal champions for sustainable forest management. State agencies, including the SAEPF, are constrained by administrative weakness and lack of capacity. Communities and individual users are rated as having poor or medium

TABLE 4.1 MAJOR STAKEHOLDERS

STAKEHOLDER	INTERESTS	AVAILABLE RESOURCES	CONSTRAINTS	ACTION CHANNELS IN USE	POTENTIAL ROLES IN IMPROVING FOREST MANAGEMENT
Central government (Prime Minister's office, President's Administration, Ministry of Finance)	<ul style="list-style-type: none"> Ensure overall environmental sustainability, economic development, and poverty reduction Obtain revenue 	<ul style="list-style-type: none"> State budget Subsidies for local population 	<ul style="list-style-type: none"> Lack of finances Lack of commitment 	<ul style="list-style-type: none"> Policy approval Allocating state budget Attract investments 	<ul style="list-style-type: none"> Establish a wider policy towards sustainable natural resources management Provide funding to implement reforms Ensure coordination between agencies and sectors Ensure institutional stability
	SAEPF	<ul style="list-style-type: none"> Revenue from "Special Means" State budget Donor funding 	<ul style="list-style-type: none"> Lack of finances and human resources Lack of capacity Institutional instability and constant reorganizations High turnover of leadership Political pressures 	<ul style="list-style-type: none"> Formulation of policy and development of legislation Decision-making on national action plan, on allocation of budget among regions, on appointments and dismissing of managers Control over management of <i>leshkhoz</i> 	<ul style="list-style-type: none"> Generally lead reforms Develop implementation arrangements for reforms Coordinate with other agencies and sectors Undertake information dissemination Organize capacity-building programs for foresters and users
Territorial Department of the SAEPF	<ul style="list-style-type: none"> Protect and regenerate forest Obtain revenue 	<ul style="list-style-type: none"> Special Means State budget 	<ul style="list-style-type: none"> Lack of power in decision making Unclear functional role Low capacity Political pressures 	<ul style="list-style-type: none"> Granting permits Collecting revenue Supervising <i>leshkhoz</i> 	<ul style="list-style-type: none"> Provide technical support to <i>leshkhoz</i> Run capacity-building programs for <i>leshkhoz</i> Coordinate with other state agencies at the regional and local level Mobilize investments
<i>Leskhoz</i>	<ul style="list-style-type: none"> Implement plan Obtain revenue 	<ul style="list-style-type: none"> Special Means State budget Grants from SAEPF and Territorial Departments of SAEPF 	<ul style="list-style-type: none"> Low salaries and difficult work conditions Lack of infrastructure Low capacity High turnover, insecure jobs 	<ul style="list-style-type: none"> Allocating leases and use rights Collecting revenue Controlling use and making decisions on withdrawal of rights and penalties Harvesting and selling timber and NTFPs 	<ul style="list-style-type: none"> Implement reforms on the ground Interact with stakeholders Cooperate with local governments and community groups Disseminate information

Table 4.1 continued on p.47

Table 4.1 continued from p.46

STAKEHOLDER	INTERESTS	AVAILABLE RESOURCES	CONSTRAINTS	ACTION CHANNELS IN USE	POTENTIAL ROLES IN IMPROVING FOREST MANAGEMENT
Donors	<ul style="list-style-type: none"> Promote sustainable forest management (SFM) Improve economic development of constituency 	<ul style="list-style-type: none"> Grant resources Limited local resources 	<ul style="list-style-type: none"> Lack of mandate Low commitment from the central government Lack of knowledge and skills in forestry Lack of formal arrangements for SFM Lack of financial and human resources 	<ul style="list-style-type: none"> To facilitate reforms at the central government and SAEPP levels Informal agreements with /eskhoz on pasture use and provision of timber and fuel to poor and for public needs Passive participation in CFM commission 	<ul style="list-style-type: none"> Develop and test approaches and arrangements for SFM Finance reform initiatives Disseminate information to the community Mobilize community for SFM Partner with /eskhoz on SFM
NGOs	<ul style="list-style-type: none"> Support SFM 	<ul style="list-style-type: none"> Grants from donors 	<ul style="list-style-type: none"> Lack of resources Lack of capacity 	<ul style="list-style-type: none"> Undertake small-scale initiatives, lobby changes to policy and legislation 	<ul style="list-style-type: none"> Act as agent for grassroots capacity building
NTP businesses	<ul style="list-style-type: none"> Generate revenue 	<ul style="list-style-type: none"> Own funding 	<ul style="list-style-type: none"> Lack of capacity Lack of capital and financial resources Lack of technical knowledge 	<ul style="list-style-type: none"> Work directly with users on collection of resources Work directly with /eskhoz on procuring resources 	<ul style="list-style-type: none"> Cooperate with users and communities on marketing TNFP products Cooperate with /eskhoz on undertaking some production functions
Community groups living near forest (pasture users' associations, water users' associations, etc.)	<ul style="list-style-type: none"> Ensure access to resources for group Ensure fair benefit sharing within group Have good quality resources 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Limited formal regulations and arrangements for participation in SFM Lack of capacity Lack of resources Focus on consumption 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Cooperate with /eskhoz and local government on management, improvement, and protection of forest lands, especially areas such as grazing land and riverside forest Mobilize community groups for SFM Disseminate information in community groups on SFM
Individual users	<ul style="list-style-type: none"> Income subsistence use, fuel and construction wood 	<ul style="list-style-type: none"> n/a 	<ul style="list-style-type: none"> Lack of capacity Low income and limited job opportunities, high dependency on forest resources Poor awareness of sustainable forestry practices Focus on individual consumption not communal good 	<ul style="list-style-type: none"> Leasing forest land and resources Informal use Illegal use of resources 	<ul style="list-style-type: none"> Cooperate with /eskhoz on forest management and improvement

Table 4.1 continued on p.48

Table 4.1 continued from p.47

STAKEHOLDER	INTERESTS	AVAILABLE RESOURCES	CONSTRAINTS	ACTION CHANNELS IN USE	POTENTIAL ROLES IN IMPROVING FOREST MANAGEMENT
Communities remote from forests	<ul style="list-style-type: none"> ▪ Income through subleasing or being hired labor; subsistence use of NTFP, fuel, and construction wood ▪ Good quality natural resources, such as water, air, protection from disasters 	<ul style="list-style-type: none"> ▪ n/a 	<ul style="list-style-type: none"> ▪ Lack of formal channels to participate in SFM ▪ Lack of access to forest land and resources ▪ Low income and high dependency on forest resources 	<ul style="list-style-type: none"> ▪ Subleasing forest land and resources ▪ Informal use ▪ Illegal use of resources 	<ul style="list-style-type: none"> ▪ Cooperate with <i>leskhoz</i> on forest management and improvement

support because of a lack of awareness. Having had no larger responsibility for maintenance of the asset at any time in the past, community members are used to viewing the forests as simply a resource to be drawn upon for individual household use. There is little awareness of the larger role that forested areas play for ecosystems and the potential impact of individual consumption of forest products and illegal felling.

- The influence of individual citizens is weak. This situation reflects both the lack of opportunity for participation outside of mixed opportunities in the CBFM model and the poor transparency and near absence of accountability of forestry management institutions to them.
- The rating of motivation of *leskhoz* is ambiguous. On one hand, they have the strongest professional understanding of the requirements for sustainable forest management, notwithstanding capacity constraints. They are on the ground, should be more cognizant of the true condition of forests, and presumably would be responsive to issues. On the other hand, their economic and institutional constraints prompt their membership to utilize forests as a resource, likely on a scale much larger than how communities are using these resources. Poor motivation levels among the individuals who run the key management institution for forests rank as one of the main problems for incentivizing sustainable forest management practices.

The goal of having forests serve a protective function has dominated forestry management policy for more than half a century. Since 1960, the active use of forests for economic or productive purposes has been discouraged. Legislation has stipulated four major purposes for forest management, all of which are protective in nature: shielding waterways, forestalling soil erosion, providing for recreational and sanitation use, and preserving flora and fauna. The policy has been adjusted in recent years to recognize the human utilization of forests, particularly in communities near forests, as part of a “State, Forest, Man” approach. However, this policy has yet to be reflected in legislation or in operational guidance to the chief management entity, the *leskhoz*.

Yet forests play a critical economic role in reducing poverty in local communities, one that merits a more holistic approach to forest management by recognizing forests as part of a larger ecosystem and local livelihoods. Although conditions differ, the five *leskhoz* studied in depth show that there is extensive formal and informal use of forests for a wide range of products, especially by adjacent communities, and that forests are a key element of local economic life. The harvesting of hay and other crops as well as the gathering of NTFPs are important to the subsistence economy of many people in mountain areas; *leskhoz* lands are also important for animal grazing and beekeeping, which underpin the wider commercial activity of some villagers. Moreover, in many cases these communities are facing significant economic difficulties. They may be located on the territories of *leskhoz* themselves, meaning that local villagers did not receive a land share as other rural Kyrgyzstani did during the land reforms that have been carried out since independence. Forests tend to be in more remote mountainous areas with limited infrastructure and relatively poor conditions for most types of agriculture.

The Kyrgyz Republic has been seeking to overhaul forestry management for much of the past 20 years, often with significant donor support. A wide range of policy documents and targets for measuring improved forestry management have been developed. In particular, the National Forestry Policy and NAP 2006–2010 were comprehensive attempts to chart reforms and performance that should have improved the forests. The KIRFOR provided substantial technical assistance in developing and facilitating discussion of these documents, as well as seeking to test new approaches on the ground, notably CBFM.

Implementation of this policy reform has been poor, however, mostly due to lack of political will. Forest management has not been a priority for any of the post-independence governments. The central agency responsible for policy and implementation has been reshuffled and reorganized five times in the past 20 years and is currently just a department in the SAEPF. There have been frequent rotations of the head of department/agency, including three directors appointed in one year, and the forestry unit is often one of the first to be cut when administrative reforms are implemented. The weakness of the institution is part of the reason behind the inability to pass a new Forest Code that would provide a stronger legal basis for reforms on the ground. Most of all, though, the state has not provided anything approaching the resources that forestry management entities need to perform their duties effectively.

The legislative framework is inconsistent. As in many spheres in the Kyrgyz Republic, forestry legislation draws heavily on Russian law. However, many of the innovations that have been sought in policy documents and regulations in the past 10 years are not consistent with the code. Moreover, the practice of frequently producing administrative orders and regulations is a source of confusion in the field, especially since the mechanisms for transmitting and explaining changes are weak. This practice further complicates any attempts—if they are made at all—to provide information to communities.

A three-tiered, vertically integrated system for forest management exists, but the field-level *leskhoz* (forestry enterprises) play the *de facto* key role because resources and capacity constraints limit centralized control. The SAEPF has significant formal authority enshrined in the Forest Code, particularly approving the budget and making staffing decisions. However, the small SAEPF is simply not able to monitor performance adequately. Territorial units are similarly understaffed and serve as clearinghouses rather than directing *leskhoz* activities. At the same time, there are no mechanisms for local-level control over *leskhoz* performance, meaning that *leskhoz* management faces limited scrutiny.

The institutional framework for *leskhoz* creates incentives that run counter to effective forestry management. Several elements of *leskhoz* operations create poor incentives. First, there is a lack of meaningful accountability for performance. Any formal accountability is to SAEPF, which lacks the capacity to monitor *leskhoz* performance despite the controls it holds over budgets and administrative appointments for major management positions. In effect, there is only the ability to take the extreme measure of firing (or accepting the pre-signed resignation letter) of a director. Accountability to citizens or elected local government is not part of the institutional set-up. Second, project planning for *leskhoz* activities is driven by top-down NAPs that seek generalized targets with limited consideration for ground realities. Next, *leskhoz* funding is inadequate to carry out any projects that would improve the forest; moreover, several types of local user fees go to the Territorial Divisions or central agency rather than directly to the *leskhoz*. Finally, extraordinarily low salaries combined with frequent turnover provide for poor motivation and increase the temptation to carry out or allow for the illegal collection of forest products.

Leskhoz undertake tasks beyond forest management due to their legacy as Soviet-era administrative units. The territories consist not only of forests but also of other significant amounts of land that is targeted for eventual afforestation. This other land is usually suitable for grazing and sometimes even for cultivating crops or allowing settlements, even if the latest not allowed by law. There was no comprehensive overhaul of *leskhoz* operations akin to the reforms that took place in collective or state-owned farms, and in particular no provision of land shares was given to villagers living on *leskhoz* territory. *Leskhoz* settlements naturally lead to pressure on the land for villagers' economic activities since the villagers did not otherwise receive any land. Furthermore, *leskhoz* pasture land is usually adjacent to pastures now under the management of neighboring *aiyl okmotu* (often with unclear borders), but separate management regimes create inconsistency and confusion.

Lease agreements set up under *leskhoz* discretion are the usual formal basis for community use of forests, while a significant percentage of the use of *leskhoz* land resources occurs without any formal agreement. Seasonal leases remain the prevailing instrument for individuals and individual households to utilize *leskhoz* land resources. In the *leskhoz* studied, these leases would regularly be renewed to the same lessees for multiple years. Even CBFM effectively involved a lease arrangement with households for individual plots, albeit with additional maintenance requirements on the lessee. Longer-term leases also occur, as well as the sale of use permits (forest tickets). Leases are provided ad hoc without formal competition for amounts that are set by norms. It is not possible to identify the volume of activity that occurs without any formal arrangement, but the prevailing practice in rural areas often has not required contracts even when they are required by law. Fifty-six percent of respondents noted that their use of resources from *leskhoz* occurred either under an informal agreement or with no agreement at all.

CBFM, introduced in 2001, has promising elements but faces many issues. CBFM arrangements provide for greater shared responsibility in maintaining forest resources between *leskhoz* and the users involved through upkeep requirements (monitored by the *leskhoz*) and longer-term tenure arrangements of first five and then 50 years. However, it essentially consists of multiple leasing arrangements to individual households for a series of plots that have particular economic value (harvest potential, along roads, etc.). All planning and the ultimate responsibility for maintenance still lies with the *leskhoz*. The community as a whole is not represented in planning or use arrangements. Because of maintenance requirements, women-led and poor households are rarely included in CBFM arrangements.

Leskhoz engagement with communities is poor. *Leskhoz* lack both the resources and the incentives to be more transparent about planning and performance in forest management. Although there are some specific requirements, especially under CBFM, to provide information, in effect little is provided. Large majorities of community members surveyed showed little knowledge about *leskhoz* activities and high levels of suspicion about the possible misuse of resources entrusted to it. Because of the institutional framework, communities are effectively excluded from participating in planning for *leskhoz* resource use and have no formal mechanisms to hold *leskhoz* accountable, with the exception of the expensive, impractical option of going to court over lease agreement disputes.

Communities' social capital and capacity in terms of supporting sustainable forest use are also weak. Use patterns have conditioned members to see the forest and adjacent lands as resources controlled by an entity that lies outside of the community: the *leskhoz* management. Individual households thus seek to utilize the resources—formally, informally, or outright illegally—for their own benefit. Although there is a general desire for increased information about the management of forests, there is little sense of communal ownership for the resource. Professionals in forestry management have deep doubts about the interest of local community members in truly sustainable forest management, and a majority of people surveyed spoke of the dangers inherent in increasing community authority over forest planning due to the lack of social capital, proper arrangements, and capacity building to manage the asset for the benefit of all.

Local governments have no formal role in forestry management, but there is significant potential. Despite the lack of a formal role, informally there are strong connections. The *leskhoz* at times must rely on labor or other support from surrounding villages, which is mobilized by elected *aiyl okmotu* heads. With the transfer of the management of all pastures (outside of *leskhoz*) to the *aiyl okmotu* heads, the need to coordinate the use of pasture land in areas under *leskhoz* control has grown. Finally, since there is increased local community involvement in the use of *leskhoz* resources, elected local government officials are often called upon, at least informally, to play a mediation role.

Recommendations

The current set of relationships reflects long historical antecedents, making change difficult. There are no extraordinary circumstances that would provide a window of opportunity for a “big bang approach” to overhaul *leskhoz*; indeed, one of the difficulties has been the relatively low priority that the national government has given to the sector. Therefore, the approach to reforms must be to build on positive elements among current actors and within existing structures by improving incentives for sustainable forest management. The following are seven key broad recommendations for possible avenues to alter the current dynamics of forestry management to allow forests be utilized for maximum benefit and sustainably:

1. **Review and ensure alignment within policy direction, the legislative underpinning of that policy, and the on-the-ground realities of how forests are used now and may be used in the future.** Forest resources are being used for a variety of purposes, including

many economic functions by a wide spectrum of users. To the extent that state policy seeks to ensure the preservation of forests and their role in countering the erosion of soil and sustaining river systems, policy must accommodate the pressures of nearby communities in using the forests. Legislation therefore should provide a firmer foundation for the sustainable use of forests, reflecting these realities and including a clearer framework for transparency and fairness in the provision of use rights to local communities, thus allowing for community involvement.

- 2. Address the poor incentive structures within *leskhoz* management by revising their administrative and financing frameworks.** *Leskhoz* must continue to protect forests from unsustainable use by communities and businesses at large, but in practice that protective role is not possible solely through the vertical accountability structure that controls the performance of *leskhoz*. Central agencies should engage in more coordinating and policy-making, while allowing *leskhoz* to have greater operational authority in terms of developing workplans and the like. More stability in appointments is also warranted. At the same time, greater horizontal accountability to communities and particularly to local governments is an option to increase performance standards. Transparency requirements in terms of reporting on the amount of forest resources, expectations for sanitation cutting, and all use/lease arrangements should be established. There may be a role for some formal reporting on the annual performance of *leskhoz* to local governments as well.

Second, resource constraints must be urgently addressed. The salaries and other benefits of *leskhoz* employees should be made at least comparable to other public servants. This is critical for morale, enforcing appropriate behavior and performance among *leskhoz* workers while not unduly burdening the budget. *Leskhoz* should be allowed greater latitude for revenue generation, with a larger direct retention of various types of user fees and permits to fund projects.

Encouragement for the separation between regulatory and economic functions is appropriate, but it is important to recognize that in the short term, such a move costs the *leskhoz* revenue, given the lack of a developed market with entities prepared to contract with *leskhoz*. Flexibility in entering such relationships or continuing the past practice of *leskhoz* directly conducting sanitation cutting should be retained for a substantial interim period.

- 3. Integrate the management of *leskhoz* lands suitable for pasture to the overall pasture management systems.** *Leskhoz* should identify the lands that are used as pastures and cede their authority for establishing use arrangements to local pasture management committees. The committees would be responsible for remitting payments to *leskhoz* for the use of pastures proportionate to the amount of *leskhoz* land in the overall pasture land under their purview. This would ensure more holistic pasture management and equal treatment of livestock owners, as well as utilizing the established transparency and governance mechanisms inherent in these committees. A more radical option to integrate management that would make this permanent would be to subdivide *leskhoz* lands and turn pastures over to the direct management of *aiyl okmotu*, but pasture management can be improved without such an extreme change.
- 4. Increase involvement of communities through a deliberate, gradual process.** As noted above, the steps to improve transparency should be implemented rapidly to give a sense of how the forest assets are being used and to improve accountability. This should include planning for future activities to improve the forests under *leskhoz* management. There should be local level reporting by *leskhoz* to the communities to further build understanding of how *leskhoz* resources are utilized. However, given the lack of precedent for true community management of forest resources and the issues of potential exclusion, community involvement should be implemented in a controlled manner.
- 5. Other CBFM implementation methods need to be considered.** The crux of the issue is that, at present, no consolidated community with an interest in forest resources as a whole exists. Although CBFM contains positive elements of community involvement in the maintenance of

respective areas, the practice of setting up separate, *de facto* lease agreements with individual households does not contribute to having broader participation. It also undermines the holistic use of the resource, leading in some cases to unproductive subdivision of the forests themselves. Also, the usage patterns of the *leskhoz* studied in depth showed that elements of the community—particularly households led by women—were excluded.

More intensive mobilization of the community as a whole and the opportunities afforded by CBFM should be conducted to allow for broader participation. In addition, more intensive efforts to broaden planning and review of the use of forests by the community as a whole would contribute to better understanding and hopefully more sustainable use of forest resources. There is variation in terms of the typologies of neighboring communities, (e.g., more urbanized in some cases, using forest solely for grazing purposes) which in turn will affect the nature of community involvement. Current regulations have established one model for CBFM, but provisions should be made to allow for greater flexibility in community involvement, with inclusion of the community playing an equal role to the forestry management aspects of CBFM.

6. Consider an enhanced role for local governments in holding *leskhoz* accountable.

Mechanisms for local governments to provide feedback on *leskhoz* performance, needs, and interface with adjacent *leskhoz* should be developed. Assessments within the forestry management hierarchy should take this feedback into account for the staffing of local government directly interfacing with *leskhoz*. This involvement does present the danger of undue local political influence on the *leskhoz*, but on balance is the most appropriate means of building local level accountability. Such accountability is necessary because the forests are important to the lives of local communities. Local governments should be aware of and involved in tenure arrangements.

7. Solicit assistance to continue capacity support at both the national and local levels.

Support from donors is needed in part to carry out governance and management reforms to realign central agencies to policy and regulation and to assist *leskhoz* in carrying out their primary functions. The bulk of support would be to provide material and technical capacity to forestry management units at all levels. The KIRFOR experience was overall quite positive, and a similar partnership should be considered in the future.

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APPENDIX 1. SUMMARY OF MAJOR RECENT POLICIES AND LEGISLATION FRAMEWORK IN FORESTRY SECTOR

POLICIES	
1	<p>Presidential Decree on the New National Forest Policy</p> <p>Decree #300, October 6, 1998</p> <p>1998</p> <ul style="list-style-type: none"> ▪ Directed to develop new National Forest Policy for 2000–2025 ▪ To launch administrative reforms in forest management ▪ To develop Forest Code ▪ To review possibility to transfer unused lands from the Land Redistributions Funds for afforestation and nurseries ▪ Local administration and bodies of local self-government to mobilize population for afforestation in and near settlement areas and to promote CBFM and commercial forests
2	<p>Concept on National Policy Development</p> <p>1998</p> <p>Based on five goals:</p> <ol style="list-style-type: none"> 1. Promotion of sustainable forest management 2. Improvement in management of <i>leshkhoz</i> with bigger independence for them 3. Involvement of local population in forest management 4. Promotion of private sector involvement 5. Role of the state to develop policy
3	<p>National Program “LES” (Forest)</p> <p>#281 on Approval of State Program Forest, July 13, 1995</p> <p>1995–2000</p> <ul style="list-style-type: none"> ▪ To undertake annual afforestation on 3,000 ha ▪ To promote natural forest regeneration on 10,000 ha annually ▪ Introduce leases ▪ Introduce payment for use of natural resources
4	<p>Concept of Development of Forestry Sector</p> <p>#298, dated May 31, 1999</p> <p>1999</p> <p>Forest policy objectives:</p> <ol style="list-style-type: none"> 1. Sustainable development of forest sector 2. Improved management of <i>leshkhoz</i> with transfer of some functions to private sector 3. Engagement of population in forest management 4. Partnership with private sector
5	<p>State Program “LES” (Forest)</p> <p>#715, on November 17, 2001</p> <p>2000–2005</p> <ul style="list-style-type: none"> ▪ Decentralization of functions to forestry enterprises ▪ To introduce CBFM ▪ Economic changes in functioning of <i>leshkhoz</i> ▪ Promotion of lease of forest
6	<p>Concept on Forest Sector Development</p> <p>#256, April 14, 2004</p> <p>2005–2025</p> <ol style="list-style-type: none"> 1. Sustainable forest management (increase of area at expense of unused agricultural land, commercial forests, conduct forest inventory) 2. Engagement of population in forest management, economic activities function to be transferred to private sector 3. Clarify role of the state
7	<p>National Forest Program</p> <p>Presidential Decree #858, November 25, 2004</p> <p>2005–2015</p> <p>Program is based on the “Concept on Forest Sector Development”</p>

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POLICIES			
8	National Action Plan on Forest Sector Development, 2006–2010	Gov. Resolutions #693, September 27, 2006, and Gov Resolution #145, April 11, 2008	2006–2010 <ul style="list-style-type: none"> ▪ Increase area of specially protected areas by 400,000 ha ▪ Undertake biodiversity preservation actions ▪ Formulate strategy and regulation on separation of regulatory and control functions from economic functions. ▪ Revise status of the SAFE, establish three tier management ▪ Reorganize territorial forest structures ▪ Decentralize functions ▪ Provide support to foresters ▪ Increase number of women in management structure by 30% ▪ Develop integrated management plans for four forest types ▪ Further develop of leases, CBFM ▪ Improve legislation (regulation on JFM, regulation on CBFM, resolution on allocation of pastures into use, new regulation on seasonal lease) ▪ Determine norms of sustainable forest management and multipurpose use ▪ Initiate economic reforms in the forest sector (certification of forest products, development of economic enterprises in forestry, marketing services of the territorial units, reinvestment of funds into forestry) ▪ Promote education and research in forest sector ▪ Create informational resources for forest sector ▪ Develop strategy for information dissemination ▪ Increase population awareness of forest issues
9	Action Plan on Forest law Enforcement and Governance	2009	2009
LEGISLATION			
1	Forest Code	July 8, 1999 with latest changes in July 2007	2007 Major principles of forestry management, use, control in country
2	Land Code	June 2, 1999 with latest changes on December 5, 2003	1999 Major principles of land management, use, control
3	Law on Base Rates for Use of Fauna and Flora	N 200, August 2008	Revised in 2010 Establishes base rates for different NTFP and resources

POLICIES				
4	Government Resolution on Procedures for Payment for Special Use of Fauna and Flora Resources Based on Special Permit	N 306, June 13, 2011		Defines procedures for collection of payment for special use (i.e., commercial purposes) and distribution of revenue obtained from these payments
5	Government Resolution on State Agency for Environmental Protection and Forestry	N 788, December 18, 2009, amendments N395 on July 18, 2011	2009	Establishes current structure of the SNAEPF and its territorial divisions
6	Government Resolution on Liability for Damage Caused to the Forestry	N 403, August 17, 1992		
7	Government Resolution on Approval of Regulation on the Community Based Forest Management	N 377, July 27, 2001, updated on August 3, 2002, N 482 October 19, 2007		
8	Presidential Decree on Regulations on Establishment and Use of Funds of the National and Local Funds of Environmental Protection and Forestry	N 263, May 17, 2006	2006	National Fund has the following revenue sources: <ul style="list-style-type: none"> ▪ Local funds transfer 25% of their collected revenue to the National Fund ▪ Investments and grants ▪ Payments from use of resources ▪ Donations Local Fund has the following revenue sources: <ul style="list-style-type: none"> ▪ Various environmental payments ▪ Payments for use of resources ▪ Penalties for illegal use ▪ 5% from income of <i>leskhoz</i>
9	Government Resolution on Rules for Collection of Medicinal, Food Plants and Mushrooms	N 288, June 6, 2011	2011	Procedures on how to harvest sustainably different plants and mushrooms
10	Presidential Decree on Moratorium on Felling, Processing and Marketing of Specially Valuable Timber Growing on Land of the SFF	Decree N 331, 28 June 2006	For 3 years	Imposes moratorium on felling of especially valuable trees for three years
11	Government Resolution on Action Plan to Strengthen Law Enforcement and Governance in Forest Sector	N 534, August 15, 2009		Adopted under the FLEG Initiative; contains an action plan to be implemented in 2009–2010 on various issues of governance and law enforcement

LEGISLATION				
12	Order of the SAEPP on Changes to Rate of Penalties for Damages Caused to Forestry, Flora and Fauna	N 13/189, October 8, 2008	Establishes rates for different natural resources used illegally. However, there are no procedures specified on process of payments. Penalties are still too low; for example, for killing endangered species such as <i>maral</i> , the penalty is 4,173.12 soms (less than US\$100).	
13	Government Resolution on Process of Forest Monitoring	N 335, June 3, 2009	Resolution gives definitions related to forest monitoring, establishes procedures for monitoring. Monitoring is conducted by the SAEPP and with involvement of local government bodies, based on strict instructions and technical rules. No involvement of users is envisaged	
14	Government Resolution on Approval of Results of the National Forest Inventory	N 407, July 26, 2011	Provides updated data on area of forest, and establishes schedule and budget needed for inventory of forests of Unified Forest Fund	

APPENDIX 2. IMPLEMENTATION OF NATIONAL ACTION PLAN 2006 TO 2010 WITH REGARD TO FOREST ECOSYSTEMS DEVELOPMENT

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Result 1.3. The forest area has been increased							
1.3.1	To promote natural regeneration (see Annex)	2006–2010	FMD, TDDFRHR, Leskhoz	BIA, BLSG, IFWR NAS KR	40,000 hectares	Implemented partially	Not implemented adequately because of lack of financial means and lack of capacity on the local level
1.3.2	To make an inventory of existing forest seed plots	2006–2010	FMD, TDDFRHR, Leskhoz	IFWR NAS KR	Database on forest seed plots	Not done	Lack of finances and incentives on the local level
1.3.3	To install permanent forest seed plots	2006–2010	FMD, TDDFRHR, Leskhoz	IFWR NAS KR	Number of plots (ha)	Not done	Lack of finances and incentives on the local level
1.3.4	To ensure provision with seeds	2006–2010	FMD, TDDFRHR, Leskhoz	BLSG	Quantity of seeds (kg)	381 tons provided	Done with low quality because of lack of finances and incentives on the local level
1.3.5	To ensure the availability of storage facilities for long-term preservation of seeds	2006–2010	FMD, TDDFRHR, Leskhoz	International projects	Number of forest seed storage facilities	Being implemented with the support from Korean project	Plan was overambitious
1.3.6	To ensure the growth of planting material	2006–2010	FMD, TDDFRHR, Leskhoz	BIA, BLSG, IFWR NAS KR, international projects	Annually, 25 million pieces of planting material	Implemented	Not implemented adequately because planting materials for valuable plants and varieties are not grown

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NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
1.3.7	To develop measures for ensuring development of permanent, temporary, and private forest nurseries	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	IFWR NAS KR, private sector, international projects	Approved action plan	Not done	Not enough capacity to implement
1.3.8	To establish greenhouses for growing seedlings with closed rotagte	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	IFWR NAS KR, international projects	Number of greenhouses	Not done	Lack of finances and incentives
1.3.9	To plant forest cultures on State Forest Fund lands (see Annex)	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	IFWR NAS KR, international projects	Area under the forest cultures (ha)	Done	Quality of works and planting materials are under questions
1.3.10	To restore stands composed of specially valuable tree species (see Annex)	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	IFWR NAS KR, international projects	Area under the valuable tree species (ha)	Partially	Lack of finances and capacity
1.3.11	To install commercial plantations composed of fast-growing species (see Annex)	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	IFWR NAS KR, international projects	Commercial plantations (ha)	Poplar plantations established on 627 ha and saksaul on 344 ha.	Lack of arable land, lack of good seeds, lack of capacity
1.3.12	To make plantations of forest cultures outside of State Forest Fund territory in the oblasts (see Annex)	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	BLA, BLSG, IFWR NAS KR, international projects	Planted forest cultures (ha)	Half of the planned area afforested	Lack of available municipal lands, lack of incentives and finances
1.3.13	To develop joint plans for making field-protection anti-erosion plantations on arable lands	2007	FMD, TDDFRHR, <i>Leskhoz</i>	ME, MAIPI, BLA, BLSG	Approved action plans	Not done	Lack of capacity and incentives
1.3.14	To make field-protection anti-erosion plantations on arable lands	2007–2010	FMD, TDDFRHR, <i>Leskhoz</i>	ME, MAIPI, BLA, BLSG	Area under the field protection anti-erosion plantations (ha)	Not done	Lack of incentives
1.3.15	To make an annual autumn inventory of installed field-protection anti-erosion plantations	2007–2010	FMD, TDDFRHR, <i>Leskhoz</i>	ME, MAIPI, BLA, BLSG	Database	Not done	Lack of incentives
1.3.16	To carry out the transfer of forest cultures into forest-covered areas (see Annex)	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	BLA, BLSG	Materials featuring the accounting of forest cultures	Half of the planned area	Lack of finances, poor quality of works and planting materials lead to failure of establishment of forest covered areas

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
1.3.17	To promote the application of alternative energy sources (mini hydroelectric power stations, biogas and helium devices, etc.)	2006–2010	FMD, TDDFRHR, <i>Leskhoz</i>	BLSG	Number of types of the alternative energy sources	Not done	Lack of finances and capacity
Result 1.4. Forest guarding and protection have been improved							
1.4.1	To develop the National Action Plan for application of legal norms and acts with respect to forest management				Action plan	Done	Done but not implemented
1.4.2	To revise the size of the patrol area assigned to foresters	2006–2007	FMD, TDDFRHR, <i>Leskhoz</i>		Approved Regulation	Not done	Lack of finances
1.4.3	To improve guarding and control of forest	2006–2010	SAEPF		Conservation of forest resources	Not done	Lack of finances
1.4.4	To develop a mechanism for cooperation of forest guards and law enforcement bodies	2006–2007	FMD, TDDFRHR, <i>Leskhoz</i>		Approved action plan	Decree was approved but no actual mechanism and joint plan	Lack of finances
1.4.5	To provide the <i>leskhoz</i> with fire-prevention equipment	2006–2010	FMD, TDDFRHR, <i>leskhoz</i> , Environment and Forestry Development Fund	BLA, BLSG, international projects	Availability of fire prevention equipment and of 575 stands with equipment	Partly done	Lack of finances
1.4.6	To install mineralized strips as a fire-prevention measure	2006–2010	FMD, TDDFRHR, <i>leskhoz</i> , Environment and Forestry Development Fund	BLA, BLSG, international projects	320 km	Done	
1.4.7	To repair fire-prevention roads	2006–2010	FMD, TDDFRHR, Environment and Forestry Development Fund	BLA, BLSG, international projects	1,700 km	Partly done	However, low quality of works due to limited finances

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
1.4.8	To make and repair the barriers	2006–2010	FMD, TDDFRHR, Environment and Forestry Development Fund	BLA, BLSG, international projects	2,700 pieces	Almost fully done	However, low quality of works due to limited finances
1.4.9	To develop the database for the forest pathology supervision for long-term and short-term prognoses	2006–2007	FMD, TDDFRHR, <i>eskhoz</i> , Forest protection station	IFWR NAS KR, IBSR NAS KR, international projects	Database	Not done	Lack of finances and lack of capacity
1.4.10	To implement forest pathology monitoring (supervision, prognosis) in the juniper, spruce, and walnut-fruit forests	2006–2010	FMD, TDDFRHR, <i>eskhoz</i> , Forest protection station	IFWR NAS KR, IBSR NAS KR, international projects	Registers, reports, database	Not done	Lack of finances
1.4.11	To improve the material and technical base of the forest protection station	2006–2010	FMD, Forest protection station	IFWR NAS KR, IBSR NAS KR, international projects	Material and technical base	Partly done with the support from Turkey	Lack of finances
Result 1.5. The legal framework for conservation of forests has been improved							
1.5.1	To complete and submit for approval by the Jogorku Kenesh of the Kyrgyz Republic the draft of the new Forest Code of the Kyrgyz Republic	2006	FMD		New Forest Code of the Kyrgyz Republic	Not done	Being approved by the Government
1.5.2	To complete and submit for approval by the Jogorku Kenesh of the Kyrgyz Republic the Draft Law of the Kyrgyz Republic “On the specially protected nature territories”	2006	SAEPF		Law of the Kyrgyz Republic	Done	Low quality of document
1.5.3	To complete and submit for approval by the Jogorku Kenesh of the Kyrgyz Republic the Draft Law of the Kyrgyz Republic “Rules for felling of the specially valuable tree species”	2006–2007	FMD		Law of the Kyrgyz Republic	Not done	Lack of incentives

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
1.5.4	To develop the draft instructions "On the procedure for bringing to justice for violation of the forest legislation of the Kyrgyz Republic" and to submit the draft for approval by the Government of the Kyrgyz Republic	2006–2007	SAEPF, FMD, Department for State Ecological Control		Instructions	Not done	
1.5.5	To develop the new redaction of the draft "Strategy for conservation of biodiversity"	2006–2007	SAEPF, reserves, SNWP, BT "Issyk-Kul"	IBSR NAS KR, IFWR NAS KR, international projects	Decree of the Government of the Kyrgyz Republic	Not done	Lack of finances
1.5.6	To develop the draft Decree of the Government of the Kyrgyz Republic "On genetic resources cadastre"	2010	SAEPF, reserves, SNWP, BT "Issyk-Kul"	IBSR NAS KR, IFWR NAS KR, international projects	Cadastre	Not done	Lack of finances and capacity
1.5.7	To make amendments to the regulation "On the state forest guarding of the Kyrgyz Republic" approved by the Decree of the Government of the Kyrgyz Republic of 24.06.1997. #371	2006–2007	FMD, Department for State Ecological Control		Decree of the Government of the Kyrgyz Republic	Not done	
1.5.8	To make amendments to the regulation "On the material responsibility for the damage inflicted to forestry" approved by the Decree of the Government of the Kyrgyz Republic of 17.08.1992. #403	2006–2007	FMD, Department for State Ecological Control		Decree of the Government of the Kyrgyz Republic	Not done	Lack of capacity
1.5.9	To make amendments to the regulation "Rules for fire prevention in forests of the Kyrgyz Republic" approved by the Decree of the Government of the Kyrgyz Republic of 24.06.1997. #371	2007	FMD		Decree of the Government of the Kyrgyz Republic	Not done	Not really needed
1.5.10	To develop the draft "Rules for implementation of the biotechnical activities"	2007	SAEPF, DHSRUHR	IBSR NAS KR	Rules	Not done	Lack of capacity and incentives

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Objective 2. Improvement of the system of forest management							
Task 2.1. Separation of the control and regulation functions and the economic functions							
Result 2.1.1. Legal framework for separation of the control and regulation functions and the economic functions has been developed							
2.1.1.1	To develop and approve the legal documents for handing over of a part of productive activities to the private sector	2006–2007	FMD	Private sector, international projects	Legal documents	Not done	Lack of incentives and capacity
2.1.1.2	To develop rules for the sale of standing trees	2006–2007	FMD, DFMPFI, Department for Ecological Strategy and Policy		Rules	Done	
2.1.1.3	To develop rules for forest use in the Kyrgyz Republic	2006–2007	FMD, Department for Ecological Strategy and Policy		Rules	Not done	Lack of capacity and finances
2.1.1.4	To develop a system for installing private plantations in the Kyrgyz Republic	2006–2007	FMD, Department for Ecological Strategy and Policy		Approved document	Not done	Lack of capacity and finances
Task 2.2. Optimization of the management structure of the forestry sector							
Result 2.2.1. The management structure of the forestry sector on the national level has been improved							
2.2.1.1	To increase the status of SAEPP	2006–2007	FMD, Department for Ecological Strategy and Policy		Decree of the President of the Kyrgyz Republic	Not done	
2.2.1.2	To apply a three-level management (republican, territorial, and forest range)	2006–2007	FMD, Department for Ecological Strategy and Policy		Decree of the Government of the Kyrgyz Republic	Not done	Lack of commitment

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Result 2.2.2. The management structure on a territorial level has been improved							
2.2.2.1	To implement the decentralization of functions	2007	FMD, Department for Ecological Strategy and Policy		Order of the SAEPP	Not done	Lack of commitment
2.2.2.2	To reorganize the territorial structures of forest	2007–2008	FMD, Department for Ecological Strategy and Policy		Order of the SAEPP	Not done	Lack of commitment
Task 2.3. Enhancement of the status of employees of the forestry sector							
Result 2.3.1. The legal status of employees of the forestry sector has been enhanced							
2.3.1.1	To revise the regulations on the rights and obligations of forest guards	2006–2007	FMD, DFMPFHI, Department for Ecological Strategy and Policy		Regulation	Not done	
2.3.1.2	To raise the level of wages for forest guards up to the salary level of employees of social and cultural organizations and institutions financed from the republican budget	2006–2007	SAEPF	MEF	Decree of the Government of the Kyrgyz Republic	Not done	Lack of finances and commitment at the central government level
2.3.1.3	To make amendments to the Administrative Responsibility Code of the Kyrgyz Republic	2006–2008	SAEPF		Amendments to the Administrative Responsibility Code of the Kyrgyz Republic	Done	
Result 2.3.2. The social status of the employees of the forestry sector has been increased							
2.3.2.1	To develop measures for the material and technical provision of forestry employees: communications, transport, uniform, and official firearms	2006–2008	SAEPF		Regulation and the material and technical base	Not done	Lack of finances

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Task 2.4. Improvement of the gender policy in the forestry sector							
Result 2.4.1. Women have been involved in the state bodies of the forestry sector as employees, including the positions on the decision-making level							
2.4.1.1	To create conditions for pursuance of the gender policy in the forestry sector	2007	SAEPF	International Projects	Approved Regulation	Not done	Not feasible
Objective 3. Involvement of local population and local communities in the joint forest management							
Result 3.1. The mechanisms for the joint management of forests have been developed							
3.1.1	To develop an integrated plan for management of juniper forests	2006–2007	FMD, TDDFRHR of Batken and Osh oblasts, /esk/hoz	BLA, BLSG, SARRIP, civil sector, international projects	Approved management plan	Partially done	There is a approved by SAPF regulation on integrated plans but no plan. Lack of finances and lack of capacity
3.1.2	To develop an integrated plan for management of spruce forests	2006–2008	FMD, TDDFRHR of Issyk-Kul and Naryn oblasts, /esk/hoz	BLA, BLSG, SARRIP, civil sector, international projects	Approved management plan	Not done	Lack of finances and capacity
3.1.3	To develop an integrated plan for management of walnut-fruit forests	2008–2010	FMD, TDDFRHR of Jalal-Abad Oblast, /esk/hoz	BLA, BLSG, SARRIP, civil sector, international projects	Approved management plan	Not done	Lack of finances and capacity
3.1.4	To develop an integrated plan for management of river-side forests	2008–2010	FMD, TDDFRHR of Chui, Naryn, and Talas oblasts, /esk/hoz	BLA, BLSG, SARRIP, civil sector, international projects	Approved management plan	Not done	Lack of finances and capacity
Result 3.2. The tools of the joint management of forests have been developed							
3.2.1	To develop regulations on the tools for Joint Forest Management	2006–2007	FMD, TDDFRHR	BLA, BLSG, international projects	Approved Document	Not done	Lack of incentives, finances, and capacity
3.2.2	To improve the Joint Forest Management system	2006–2010	FMD, TDDFRHR	BLA, BLSG, international projects	Approved Document	Not done	Lack of incentives, finances, and capacity

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Objective 4. Determination of norms for the sustainable management and the multi-purpose use of forests. necoB							
Result 4.1. The norms for the sustainable management of forests have been determined							
4.1.1	To develop the set of criteria and indicators of sustainable forest management	2006–2008	FMD, DFMPFHI	IBSR NAS KR, IFWR NAS KR, international projects	Set of criteria and indicators of sustainable forest management	Not done	Lack of capacity
4.1.2	To develop “interim recommendations for application of criteria for and indicators of the sustainable management of forests of the Kyrgyz Republic”	2009	SAEPF, DFMPFHI	IBSR NAS KR, IFWR NAS KR, international projects	Approved Document	Not done	
4.1.3	To adapt the criteria for and indicators of the sustainable management of forests of the Kyrgyz Republic	2010	FMD, DFMPFHI	IBSR NAS KR, IFWR NAS KR, international projects	Set of criteria and indicators of sustainable forest management	Not done	
4.1.7	To interpret and classify the aerial photos and satellite images of the country's forests	2006–2007	SAEPF	GIS	Results of interpreted satellite images	Done	Implemented by Kyrgyz Swiss project
4.1.9	To obtain the National Forest Inventory data and submit these data for approval by the Government of the Kyrgyz Republic	2010	FMD, DFMPFHI		Decree of the Government of the Kyrgyz Republic	Done	
4.1.10	To publish and disseminate National Forest Inventory data	2010	FMD, DFMPFHI	International projects	Published material	Done	
4.1.11	To implement the forest inventory (see Annex)	2006–2010	DFMPFHI, FPD, Environment and Forest Development Fund	International projects	On the area of 1,245,068 hectares	Is being implemented	Lack of finances and capacity
4.1.12	To implement the hunting inventory (see Annex)	2006–2010	DFMPFHI, FPD, Environment and Forest Development Fund	IBSR NAS KR, international projects	On the area of 12,019,600 hectares	Not done	Lack of finances, incentives and capacity

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
4.1.13	To develop a system to assess forest resources	2006	DFMPFHI	IFWR NAS KR, international projects	Regulation	Not done	Lack of finances and capacity
4.1.14	To carry out the global assessment of forest resources	2006–2010	DFMPFHI, FMD	IFWR NAS KR, SR, NSC, international projects	Assessment Results	Not done	Lack of finances and capacity
4.1.15	To adapt the national data on forest area and forest resources to international requirements	2006	DFMPFHI, FMD	IFWR NAS KR, SARRIP,	Regulation	Not done	Lack of finances and capacity
4.1.17	To prepare the National Report “Global Assessment of Forest Resources (GAFR) – 2010”	2009–2010	DFMPFHI, FMD	IFWR NAS KR, SARRIP, international projects	National Report	Not done	Lack of finances and capacity
4.1.18	To establish a database on forest resources	2006–2010	DFMPFHI, FMD	IFWR NAS KR, SARRIP, international projects	Database	Not done	Lack of finances and capacity
4.1.19	To develop methods for the annual registration of forest resources	2006–2007	DFMPFHI	IFWR NAS KR, international projects	Methods	Not done	Lack of finances and capacity
4.1.20	To ensure the systematic review of forest statistics with regard to quantitative and qualitative indicators and changes of forest areas and forest resources	2007–2010	DFMPFHI	IFWR NAS KR, SARRIP, NSC	Annual Publication	Not done	Lack of finances and capacity
4.1.21	To ensure dissemination of the forest statistics data on the national level for all interested parties	2006–2010	DFMPFHI		Website, publications in mass media	Not done	Lack of finances and capacity
4.1.22	To develop the guidelines for the new forest typology of the Kyrgyz Republic	2006–2007	DFMPFHI, FMD	IFWR NAS KR	Forest Typology	Not done	Lack of finances and capacity

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Result 4.2. Norms for the multi-purpose use of forests have been determined							
4.2.1	To determine the technical norms for the multi-purpose use of forests, including the hunting resources	2006–2007	DFMPFHI, FMD, DHSRUHR	IBSR NAS KR	Regulation	Not done	
Result 4.3. The legal framework for the determination of technical norms for the sustainable forest management and for the multi-purpose use of forest resources has been improved							
4.3.1	To develop the draft regulation "On the forest inventory in the Kyrgyz Republic" and to submit it for approval by the Government of the Kyrgyz Republic	2006–2007	DFMPFHI		Decree of the Government of the Kyrgyz Republic	Done	
Objective 5. Ensuring the efficiency of the economic reform and the system of financing of the forestry sector							
Task 5.1. Ensuring the efficiency of the economic reform in the forestry sector							
Result 5.1.1. The procurement of both timber and non-timber forest products has been improved							
5.1.1.1	To certify forest products	2006–2010	SAEPF		Certificate	Not done	Lack of finances and capacity
5.1.1.2	To develop a system of technological activities	2006–2010	SAEPF		System	Not done	Lack of finances and capacity
Result 5.1.2. Development of production enterprises has been supported							
5.1.2.1	To promote the setting-up of production enterprises	2006–2010	SAEPF	BLSG	Number of enterprises	Not done	Lack of incentives and capacity
5.1.2.2	To develop the relevant mechanisms for cooperation with the territorial structures	2006–2010	SAEPF	BLSG	Mechanism	Not done	
Result 5.1.3. The marketing service has been organized							
5.1.3.1.	To organize marketing services for production activities in the forestry sector	2007–2020	SAEPF		Regulations	Not done	Lack of finances and capacity

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Task 5.2. Ensuring the efficiency of the system of financing of the forestry sector							
Result 5.2.1.1. The system of financing of the forestry sector has been adapted to the new conditions							
5.2.1.1	To improve the mechanism for reinvestment of means resulting from the forest use in the development of the forestry sector	2007–2010	FMD, FPD	MEF	Regulations	Not done	Lack of incentives
5.2.1.2	To develop norms and tariffs for all types of forest management work	2007–2008	FMD, FPD		Regulations	Not done	Lack of finances and capacity
5.2.1.3	To revise the accounting system in the <i>leskhoz</i>	2009–2010	FMD, FPD		Regulations	Not done	Lack of finances and capacity
5.2.1.4	To ensure the application of the automated system of accounting	2010	SAEPF		Automated system	Not done	Lack of finances and capacity
Objective 6. Improvement of the forest-related science and education							
Result 6.1.1. The scientific researches required by the forestry sector have been completed							
6.1.1	To implement scientific research in the issues relating to conservation of biodiversity, reproduction, enhancement of forest productivity, and quality	2006–2010	SAEPF	IBSR NAS KR, IFWR NAS KR	Scientific researches, new recommendations	Not done	Lack of finances and capacity
6.1.2	To develop a scientific basis for forest management and the mechanism of sustainable forest relations	2006–2010	SAEPF	IBSR NAS KR, IFWR NAS KR	Methods	Not done	
6.1.3	To implement scientific research on pests and diseases in the forests of the Kyrgyz Republic	2006–2010	SAEPF	IBSR NAS KR, IFWR NAS KR	Researches and methods for control of pests and diseases	Not done	
6.1.4	To develop scientific recommendations for using GIS	2006–2010	SAEPF	IBSR NAS KR, IFWR NAS KR	Articles		

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Result 6.2. The education in universities, colleges and vocational schools has been supported							
6.2.1	To apply the system of cooperation with universities, colleges, and vocational schools that are engaged in training of the specialists for the forestry sector	2006–2010	SAEPF	MESYP, MLSP	System of cooperation	Partially done	Lack of finances and capacity
Result 6.3. The professional skills of the forestry sector employees have been improved							
6.3.1	To develop a strategy and plan for raising professional skills of forestry sector employees	2006–2010	SAEPF	Civil society, international projects	Approved document	Not done	Lack of finances and capacity
6.3.2	To organize refresher training courses for the specialists of the forestry sector	2006–2010	SAEPF	IFWR MAS KR, MESYP	Certificate	Not done	Lack of finances and capacity
6.3.3	To organize the training of the state forest guards jointly with the officers of the law enforcement bodies in issues relating to fighting illegal cuttings and other forest violations	2006–2010	SAEPF	MIA	Training course	Not done	Lack of finances and capacity
Objective 7. Enhancement of the awareness of the forestry sector development							
Result 7.1. The information resources of the forestry sector have been streamlined and improved							
7.1.1	To develop a strategy and action plan for creating information resources on the forestry sector	2006	DFMPFHI	IFWR AS KR, international projects	Approved document	Done but not implemented	Lack of incentives
7.1.2	To create and maintain a database for information resources	2006–2010	DFMPFHI	IFWR MAS KR, international projects	Database	Not done	Lack of finances and capacity
Result 7.2. The mechanisms for dissemination of information have been developed							
7.2.1	To develop a strategy for disseminating information on the development of the forestry sector	2006–2010	SAEPF	Civil society, international projects	Approved document	Not done	Lack of finances and capacity
Result 7.3. The distribution material for dissemination of information is available							
7.3.1	To develop training manuals to increase the level of awareness	2006–2010	SAEPF	PA	Manuals	Not done	Lack of finances and capacity
7.3.2	To develop and publish booklets on development of the forestry sector	2006–2010	SAEPF	PA	Booklets	Not done	Lack of finances and capacity

Appendix 2 continued on p.72

Appendix 2 continued from p.71

NO	ACTIVITIES	DUE TIME	EXECUTOR	PARTNERS	OBTAINED PRODUCT	RESULTS	COMMENTS (INFORMAL ASSESSMENT BY EXPERTS)
Result 7.4. The local population and the interested parties have been instructed and educated							
7.4.1	To inform on a regular basis all interested parties on the scale and level of the illegal cuttings, forest pests and diseases, etc.	2006–2010	SAEPF	Mass media	Programs for dissemination of information	Not done	Lack of incentives
7.4.2	To organize the ecological information center for tourists in the SPNT	2006–2010	SAEPF	Reserves and SNWP	Centres of ecological information in the SPNT	Partially done	Lack of finances and capacity
7.4.3	To ensure the operation of the help line telephone	2006–2010	SAEPF	PA	Contacts with local people	Not done	Lack of incentives
7.4.4	To update the website with information on the forests of the Kyrgyz Republic	2007	SAEPF	PA	Internet Website	Done with low quality	Lack of incentives

LIST OF ABBREVIATIONS USED IN APPENDIX 2

BLA	Bodies of local administration
BLSG	Bodies of local self-government
BT	Biosphere territories
DFMPFHI	Department for Forest Management Planning and Forest and Hunting Inventory
DHSRUHR	Department for Hunting Supervision and Regulation of Use of Hunting Resources
FC	Forest Code
FLEG	Legalization
FMD	Forest Management Department
FPD	Financial Policy Department
IBSR	Institute for Biology and Soils Research of the National Academy of Sciences of the Kyrgyz Republic
IFWR	Institute for Forest and Walnut Research named after Professor P.A. Gan of the National Academy of Sciences of the Kyrgyz Republic
JFM	Joint forest management
KAU	Kyrgyz Agrarian University named after K.I. Skryabin
KIRFOR	Kyrgyz Swiss Forestry Sector Support Program
LC	Local communities
MAIPI	Ministry for Agriculture, Irrigation, and Processing Industries of the Kyrgyz Republic
ME	Ministry for Emergencies of the Kyrgyz Republic
MEF	Ministry for Economy and Finances of the Kyrgyz Republic
MESYP	Ministry for Education, Science, and Youth Policy of the Kyrgyz Republic
MFA	Ministry of Foreign Affairs of the Kyrgyz Republic
MIA	Ministry for Internal Affairs of the Kyrgyz Republic
MLSP	Ministry for Labor and Social Protection of the Kyrgyz Republic
NAS	National Academy of Sciences of the Kyrgyz Republic
NSC	National Statistics Committee
PA	public associations
RB	Republican budget
REC	Renewable Energy Center
SAEPF	State Agency for Environment Protection and Forestry under the Government of the Kyrgyz Republic
SARRIP	State Agency for Registration of Rights to Immovable Property under the Government of the Kyrgyz Republic
SNNP	State Nature National Park
TDDFRHR	Territorial Departments for Development of Forest and Regulation of Hunting Resources

APPENDIX 3 – EXECUTIVE SUMMARY OF THE ANALYSIS OF THE WALNUT VALUE CHAIN IN THE KYRGYZ REPUBLIC.

This analysis was prepared by Willie Bourne,ⁱ an international value chain and marketing specialist, as background documentation for the overall study on The Development Potential of Forests in the Kyrgyz Republic. It presents findings from a rapid appraisal and field study of the walnut value chain in Jalal-Abad province between March 28 and April 1, 2011. Thereafter, the Rural Development Fund research team devoted considerable time and effort to checking data and producing graphs and market maps for the report. The report was revised at the end of September 2011 following comments from stakeholders. The full walnut value chain analysis is available online and on a CD.

The study methodology used was based on an Agro-enterprise and Market Development Process developed by the International Center for Tropical Agriculture (CIAT). The data analysis and structure was based on a Market and Value Chain Framework developed by the United States Agency for International Development (USAID). The study work began in walnut forest areas of the Toskool-Ata *leskhoz* (upstream); then surveys were undertaken of key walnut (in-shell) and kernel wholesale, retail, and export markets (downstream) to understand the actors in the supply chain, their functions, and value added. A review is made of support sectors (finance, cross-cutting, and sector support) government policies, and the legal framework and finally a review is made of global trade arrangements with the Kyrgyz Republic and the ability of Kyrgyz producers and entrepreneurs to apply bioorganic standards for product differentiation to compete more fully in overseas markets.

Walnut Forests and Management

The natural walnut–fruit forests in the Fergana and Chatkal mountain ridges of the Tien Shan mountain system are unique in the world. The main species of walnut is *Juglans Regia*. The actual area of walnut forests has been debated over the past 100 years. In 1989, the area was estimated at 28,279 hectares. In 2008, it was estimated between 33,400 and 43,800 hectares. The economic value of walnut forests is extremely high, including important soil and water protection, valuable “burl” timber, and recognized health and nutritional benefits of walnuts. Walnut production varies considerably, with many climatic factors influencing yields. It is very likely that estimates of peak production yields in exceptional years (of 3,200 tonnes) are underestimates. Custom data for walnut and kernel exports in 2010 show that yields may be more than double this figure.

Since 1990, the Kyrgyz Republic has transition from a centrally planned forest management system to a collaborative forest management system. Forest lease arrangements were legalized through the approval of Decree No. 482 in 2007. The legislation hopes to improve local ownership of walnut forests, leading to more sustainable forest management. A single leaseholder can lease up to 5 hectares for an initial period of 5 years, later extended to 50 years. Cash or labor maybe exchanged as a form of lease payment to the *leskhoz* (state forest enterprise) instead of a share of the walnut harvest. There is still concern regarding access issues, lack of investment in the forestry sector, and little or no emphasis on market development for leaseholders.

Of particular concern, Decree of the President of the Kyrgyz Republic No. 331 (2006) imposed a moratorium on cutting wild walnut trees, even diseased limbs, with the aim of curbing rapid deforestation. Offenders would be subject to serious fines or imprisonment, if caught. The result is that walnut trees do not receive proper care and maintenance to trim broken or diseased branches, which are left to rot. This policy may inadvertently cause a decrease in the stock of walnut trees as older trees become diseased and die off quicker than anticipated.

Upstream Producer Findings

The study reviewed production and marketing conditions in the pilot Toskool-Ata *leskhoz*. A large proportion of income for middle- to high-income families is derived from livestock farming, with the remainder from pistachio and walnut leases. The poorest households have little or no livestock. The sales of walnuts provide these households a significant source of cash income.

Post-harvest facilities at the *leskhoz* for cleaning, drying, and storage are very dilapidated. Many farmers sell walnuts wet, immediately after harvest, losing an opportunity to store or process them later into kernels, but getting compensation for heavy walnuts, even when the price is low (30-35 Kyrgyz soms per kilogram). Many farmers need to sell immediately due to debt.

Economic analysis of gross margins taken from a sample of three leaseholders farming different areas of walnuts for the 2011 harvest showed wide-ranging net income, between som 10,000 and 15,500. Much depended on the area leased (0.5 to 3 hectares), age of trees, and management. Gross margin per labor day was perhaps a more reliable indicator, as each leaseholder would receive between som 450 and 550 per day worked, mainly harvesting.

The main market outlet is Massy market. Leaseholders transport goods there and sell directly to traders, or collectors from Massy come to buy in the villages. Leaseholders lack market information and are unable to negotiate with collectors. The poorest leaseholders sell immediately due to cash shortages and therefore miss the opportunity to store and sell later at higher prices. Poorer households, especially women, could gain income in winter months when there is less to do, if they cracked walnuts to sell the kernels, but leaseholders do not process or “crack” any walnuts.

Peak annual production recorded in the Toskool-Ata *leskhoz* in the past six seasons was in 2008/9 (100 tonnes). The lowest was in 2005/6 (20 tonnes). Other years were between 70 and 90 tonnes. The highest prices per season since 2005/6 have almost doubled from som 50 to 90 per kilogram. There was a sharp dip in farm gate prices in 2009 (som 40/kg) due to a drop in demand from exporters purchasing kernels from other countries.

Seasonal farm gate prices in 2010/11 increased from som 30/kg in September to a peak of som 100–105/kg in March and April. Sales from Toskool-Ata peaked in January (20 tonnes).

Downstream Market Chain

1. **Market chain:** The walnut and kernel value chain is both large and complex, engaging many actors. These include collectors, traders, walnut crackers, processors, exporters, retailers, and a limited number of manufactures for cakes and confectionery (see figure 23, summary map).

The walnut and kernel market chain generates a significant amount of employment, especially for poor households and women. It is estimated that there are between 3,000 to 5,000 poor people employed in Bazaar Korgon to crack walnuts (many may be migrants, but this is not confirmed). Jalal-Abad has 1,000 walnut crackers. Some 20 medium to large companies employ teams of women to process and grade kernels ready for export. Some 400–500 collectors and traders supply and sell walnuts and kernels during the high season in Massy, Bazaar Korgon, and Jalal-Abad wholesale markets. It is estimated that 8,000–10,000 people may be employed in the downstream walnut and kernel value chain in the high season (between September and December) in years of good harvests.

Walnuts from Toskool-Ata and Achy *leskhoz*es are supplied through Massy market. Jai-Terek *leskhoz* sells its own walnuts through the small Jai-Terek walnut market in Bazaar Korgon. The products from eight other *leskhoz*es, some of which are major producers (e.g., Kara-Alma *leskhoz*), are sent directly to Bazaar Korgon, and Jalal-Abad walnut wholesale markets.

Most of the walnuts in wholesale markets are purchased by walnut crackers, who crack the nuts and sell the kernels in the kernel wholesale markets in Bazaar Korgon and Jalal-Abad. The majority of kernels are purchased by exporters for further processing, grading, and export, mainly to Turkey, Iran, Iraq, and Syria. Some walnuts are sent for illegal cracking to Uzbekistan, where labor is cheaper. Exactly how many tonnes is unknown, but it could be 10 percent of the total crop. The kernels produced are probably exported as Uzbek products, not Kyrgyz.

Kernels and some walnuts are sent from Jalal-Abad to retailers in Bishkek at Osh Bazaar market. There are very few Kyrgyz walnut products in Bishkek supermarkets. It is estimated that 75 percent of the walnuts sold in Massy wholesale market are stored for resale later or transported to Bazaar Korgon or Jalal-Abad for sale. There are only 15 traders who buy and sell both walnuts and kernels.

The Bazaar Korgon wholesale market is the largest in Jalal-Abad province, with more than 300 traders in the high season. The market facilities are considered poor and access roads are dilapidated and in need of repair. The design of the Bazaar Korgon market does not facilitate easy vehicle access in and out of the covered area.

The Jalal-Abad market is smaller than the Bazaar Korgon market, with about 100 traders engaged in walnut marketing and 65 traders buying and selling kernels in the high season. Market conditions are basic, with most traders exposed to the harsh winter weather conditions.

2. Walnut supply, demand, and price trends: An attempt was made during this rapid assessment to quantify wholesale market volumes for both the season and long-term trends. However, given the complexity and size of the markets and the short survey duration, it was not possible to obtain reasonable estimates in some cases.

Walnut production is highly variable. The supply in markets was exceptional in the 2008 season and poor in 2006. Demand was generally good, except in the 2009 season, when exporters purchased elsewhere. The wholesale price of walnuts almost doubled from 2005/6 to 2010/2011, from som 60/kg to som 110/kg. The mark-up by traders in different markets is som 5/kg. Grade A walnuts are larger and have a higher percentage crack-out rate than grades B and C. Supply in the high-season months, October and November, is significantly higher than the low season. The majority of walnuts are cracked to make kernels for export.

3. Kernel supply, demand, and price trends: Most recent years reported strong demand, except 2009. The demand for kernels in the 2010/11 season was very robust. Prices have increased dramatically since the 2005/6 season, when the best price for kernels jumped from about som 130/kg to som 335/kg. Kernels sold to traders by walnut crackers were 40 percent grade A, 20 percent B mixed, 20 percent C mixed, 10 percent D dark/reddish pieces, and 10 percent E black small bits. Wholesale prices closely reflected different grades, from a peak of som 325/kg for grade A butterfly to som 20/kg for grade E. Obtaining meaningful estimates for seasonal volumes of kernels traded at Bazar-Korgon or Jalal-Abad markets proved difficult. The Massy market is not important for kernel trading.

4. Walnut and kernel retailing: Traditionally, consumers shop in bazaars in the main cities of Bishkek, Osh, and Jalal-Abad, although the market share for retail is starting to shift slowly toward shopping malls and supermarkets (30 percent in Bishkek). In the Jalal-Abad Garden Pavilion area in the bazaar, 22 tonnes of kitchen grade kernels are sold each year with a peak between September and December, when kernels are cheaper. Walnuts and kernels are easily stored, so many consumers purchase a lot at cheaper prices to consume over time, rather than purchasing as a daily necessity.

In Osh market in Bishkek, the main bazaar, there are 50 or so regular vendors, 5–6 medium and 45 small. Mark-ups on buy and sell prices are about som 25/kg. Medium-sized traders source walnuts and kernels directly from Jalal-Abad and sell them wholesale in the market. Walnut sales in the 2010/11 season are estimated at about 9 tonnes with peaks in the high season. The volume of kernels sold is estimated at 71 tonnes between August 2010 and July 2011. Volumes are slightly higher between August and December (more than 6 tonnes per month) compared with 5 tonnes in other months. Retail prices in the Bishkek market are significantly higher than the wholesale price (som 325/kg) between March and July, retailing at about som 400/kg.

A review of walnut and kernel products on sale in major supermarkets chains revealed that only a few processed products were available, which indicates that consumers mainly shop for walnuts or kernels in retail bazaars; there is limited growth or diversification of manufactured walnut products for domestic consumption. The opportunity to exploit a niche market for particular products aimed at middle- or high income-groups is not being developed. No organic products for kernels were offered.

5. Walnut and kernel processing and export: There are 20 medium to large kernel exporters, 4 of which are based in Bishkek. These companies purchase high volumes at Bazar-Korgon and Jalal-Abad wholesale markets, grade and pack them for export in 22-tonne containers sent to Turkey and Iran via Uzbekistan, Tajikistan, Turkmenistan, and Iran. A couple of companies provide document processing services to exporters at a rate of \$2,000 per shipment.

Great opportunity exists to develop a processing base to add value to local walnut kernels through the manufacture of processed foods as walnut oil, kernel and honey mix, vacuum-packed kernels, beer nuts, etc. In spite of having access to good-quality wild and, if certified, organic raw materials, it has proved difficult to gain access to export markets for processed walnut products. Lack of support services and local suppliers severely restrict the growth of the manufacturing base.

6. Economic analysis of margins by different actors:

The margins and return on investment were assessed in the report.

Storage: Sensitivity analysis was undertaken for the scenario of selling walnuts “wet” immediately after harvest compared with storage and sale after 60 or 90 days, factoring in assumptions related to weight loss (25 percent) and increased prices over time. The 90-day scenario showed an increase in profit of som 1,400 per 100 kilograms stored, equivalent to a 40 percent return on investment. This was considered more than sufficient to cover the 7.5–9 percent interest payment for the three-month period (assuming the person borrowed to finance his investment). As walnut and kernel prices increase each month to a peak in February and March, the “storage to sell later” option is an attractive investment.

Walnut cracking: It is most common, in the walnut cracking business, for people to buy walnuts one day, crack them, and return kernels to the market the next day. Crack-out rates were better in the high season (45–50 percent) than in the low (35–45 percent) because walnuts are tougher to crack the longer they are kept. A team of six persons could crack 35 kilograms of walnuts in September as compared with 10 kilograms in March or April. The daily income per person was calculated together with assumptions on crack-out rates, walnut and kernel prices by month. A walnut cracker could earn som 200 per day in the high season compared with som 25–45 per day in the low season. All cracking is done by hand.

Collector/traders: A small collector using a small secondhand car traveling from Masy to Toskool-Ata villages, may earn som 4,750 from one trip to collect 400 kilograms of walnuts. This is about a 12 percent return on an investment of som 35,100 to buy walnuts and fuel, which is considered a

reasonable mark up. Large collectors, who collect 2–3 tonnes of walnuts, transport them, and sell them at wholesale markets, have a similar return on investment of 10–12 percent, which is considered a competitive return on the service provided.

Exporter margins: An assessment of returns on capital invested per container exported was calculated for kernels purchased in the 2010 high season compared with kernels purchased during the 2011 low season. With an export price of \$7/kg for 22 tonnes of grade A butterfly kernels sold f.o.b. (free on board) from Jalal-Abad, the margin (excluding fixed costs) for one container exported was \$33,900 in the high season (26 percent return on investment of \$130,000) compared with \$3,360 in the low season (2 percent return on investment of \$160,600).

The most critical variable on margins gained is the cost of the purchase of kernels from the wholesale market as kernel prices gradually increase from som 150–200 in the high season to som 240–325 per kilogram in the low season, when kernels are in shorter supply. Points worthy of note are:

- Mark-up and value added by most actors along the walnut and kernel chain are reasonable, for the service that is provided.
- Margins are better during the high season than the low season (low volumes, poorer quality, demand is less, prices are significantly higher, and crack-out rates are worse).
- Exporters are able to benefit the most of all market chain participants, in terms of value added, particularly in the high season, if they are able to purchase high volumes of kernel at prices lower than the export price of \$7/kg (or som 315/kg). Assuming kernels purchased between January and April are also exported at that time, margins may be slim.

In order to redistribute the economic benefits from the exporters, who may be considered wealthier actors, to the poorer participants along the chain (leaseholders, collectors, walnut crackers), the poor must be given better access to short-term microfinance facilities, so that they too can purchase walnuts and kernels to store for sale later at a higher price.

7. Official export figures: The volume of walnuts exported is generally less than the volume of kernels exported. For the years 2006, 2007, 2010, and 2011 the volume of walnuts was between 7 and 12 percent of the total volume of kernels exported. There was a big increase in the ratio in 2008 (23 percent) and 2009 (32 percent). Prices in soms of exported walnuts have gradually increased over the years, influenced to some degree by the depreciation of the soms. In 2006, US\$1 was worth about som 38, but in 2010 it was valued at about som 47 – a depreciation of approximately 25 percent.

Of significance, the recorded value per kilogram of kernels and walnuts sold that exporters declared to the customs office is highly undervalued. The current export price is between \$5 and \$7/kg but the declared value by exporters was \$1.47/kg. Because each container is subject to a 1 percent income tax of the whole value, one can only assume that the Inland Revenue is losing a lot of tax revenue as a result.

The main countries importing Kyrgyz walnuts are Iran, Turkey, China, and Iraq. The main kernel markets are Iran, Turkey, Iraq, and Syria.

8. Government support for business development: The political unrest and ethnic violence that erupted in June 2010 in the major southern Kyrgyz Republic cities of Osh and Jalal-Abad, between ethnic Kyrgyz and Uzbek people, have affected the investment environment. All of the walnut export companies interviewed in Jalal-Abad provided evidence that the ethnic troubles had caused overseas buyers to cancel orders. Orders have picked up recently, though.

Since independence in the early 1990s, legislation has centered on the liberalization from state ownership to the development of a more market-driven economy. More recent legislation has started to promote good business development practices through business promotion, increased consumer protection, and support for small business development.

Although the provincial government has ongoing programs for economic development in its 2010–2014 plan, there are no special programs developed and implemented to address ethnic tensions and economic fallout following recent events. Apart from a small Food and Agriculture Organization (FAO)-funded project focusing on production technologies, there are no other special support projects for non-timber forest products (NTFPs) from the fruit-nut forests of Jalal-Abad. The Provincial Chamber of Commerce tries to assist with business promotion, but it is severely constrained by funds.

It takes the Jalal-Abad customs office two to three days to process a container, which may be considered slow. However, if the exporter pays the customs office 0.3 percent of total value instead of the normal 0.15 percent as a service charge, then paperwork may be processed in one day. The Bishkek customs office is apparently more efficient, as the volume of containers going through the border is much higher, so delays are not tolerated. Seventy percent of kernel shipments go through the Osh border crossing.

In terms of governance, the competitiveness of the kernel export industry is undermined by coercion and corruption. The result is that transaction costs of exporters are forced higher, which ultimately has an effect on profits and the competitiveness of the Kyrgyz Republic walnut products in the global market.

Labor costs in Uzbekistan are 50 percent cheaper than in the Kyrgyz Republic. It was estimated that 10 percent of the walnuts harvested in Jalal-Abad are smuggled across to Uzbekistan for cracking. It is not known if the kernels are re-imported, but more likely, they are exported as Uzbekistan produce. Export policies between Uzbekistan and the Kyrgyz Republic need review.

9. Support industries and services: Studies show that there are very few companies and firms engaged in providing support services to the walnut industry. Almost all products important to support food processing and manufacturing of Kyrgyz kernels are imported from Bishkek or from overseas. There is no particular firm or company in Jalal-Abad that provides equipment for the nut industry. Most processors and exporters want to further develop walnut products, but are seriously constrained by the lack of support services. It is almost impossible, for example, to have simple supplies like boxes made to specification in Jalal-Abad in the quantity, quality, and timeframe required. This makes processing and value added of kernels expensive and noncompetitive in the global market.

Many processors and manufactures in Jalal-Abad find it difficult to secure markets for their goods. Market promotion and development of entrepreneurial skills should be strengthened, to help potential businesses effectively find markets for their products.

Technical services to assist the export industry in terms of certification for conformity, hygiene, phytosanitary, and other documents are adequate, but improvements could be made in government facilities and timeliness.

The Kyrgyz Republic is exporting the value added out of the country. Produce exported out of the country is being repackaged or sold as the produce of another country. White kernels produced in the Kyrgyz Republic are highly admired the world over. Without further processing into vacuum-packed bags, directly targeting end-consumers in import countries, and labeled as a product of the Kyrgyz Republic, the national identity of wild Kyrgyz walnuts in a sense is lost.

10. Microfinance and access to credit for the poor: Inadequate access to affordable loans is a key constraint for many poor leaseholders, collectors, traders, and walnut crackers to develop their business. Many participants in the value chain are simply not bankable, or cannot afford the interest rates, or lack assets needed to secure the loan. Three microfinance institutions were reviewed representing state, commercial, and microfinance institutions. The state bank lacked capital and resources; the micro-credit company FINCA has great potential to assist with short-term lending to women, but will not consider a loan term shorter than three months. Only the Open Joint Stock Company (OJSC) bank offered a “sprint capital” scheme for 10 days to 6 months, but at high interest (4 percent per month). Linking poor walnut value chain participants in *leskhoz* and urban areas to affordable short-term credit is deemed critical. How to do so should be examined.

Global Enabling Environment

A review was made of the factors that influence global trade and policies of the Kyrgyz Republic (World Trade Organization (WTO), Free Trade Agreements, Good Agricultural Practices of Europe, Hazard Analysis and Critical Control Points (HACCP), organic certification, and fair trade). In the early 1990s, the Commonwealth of Independent States countries formulated a Free Trade Agreement for zero import tariffs, which although never signed has been followed. The Kyrgyz Republic joined the WTO in 1998.

Some progress was made for the certification of Kyrgyz products using organic/bio standards for walnut products, this but has proved difficult to sustain. Certification for organically produced products from different countries (e.g., International Federation of Organic Agriculture Movements, Natural Organic Products, International Organic Accreditation Service, and Japanese Organic Standard) applies slightly different standards that are both rigorous and demanding. Gaining certification is complicated, which is why this practice is not well developed yet in the Kyrgyz Republic. The Bio Service Foundation, an organization based in Jalal-Abad since 2003 established by a Helvetes project, has investigated the potential of certifying walnut products. It has to check varieties, forest areas, and calibration of products. Other problems include dust, drying on pavements, washing standards, cracking methods (cleanliness and hygiene, as well as criteria related to underage workers), and HACCP standards. Gaining organic certification brings many benefits. A review of walnut products in the United Kingdom that compared the prices of organic and non-organic walnuts demonstrated a mark-up of 169 percent.

Final Conclusions and Recommendations

Survey findings have shown that improvements to the efficiency of the walnut value chain in Jalal-Abad could improve the income and livelihoods of many participants, increase employment through value added, and increase the national gross domestic product through exports. Regional economic growth, if equitably distributed, could also serve to reduce ethnic tensions and division. Support to improve the efficiency of value chains of walnuts and other NTFPs would also help to promote sustainable walnut-fruit forestry management practices, currently under threat from increased population pressure, deforestation, and livestock farming.

A number of specific conclusions and recommendations are given in this report. It is now recommended that these findings are shared with a broad group of stakeholders to discuss possible solutions to overcome constraints and improve the flow of benefits to value chain participants.

ENDNOTE

- ⁱ Willie Bourne is a development consultant with over 25 years of experience and has worked widely in South East Asia and Southern Asia, the Kyrgyz Republic and some islands of the

Caribbean with different donors and organizations. He began his development career with Voluntary Service Overseas (VSO) in Thailand in 1985, working on opium drug replacement programs in remote parts of the northern highlands and assisting poor ethnic hill tribe minority farmers in the production and marketing of vegetable, flower and fruit crops. Since then he has worked on development projects to improve aid efficiency, emergency rehabilitation work, M&E system development for projects or government ministries and departments, and sustainable natural resource use and conservation in coastal and remote upland areas. He is currently working with the Department of Planning in the Ministry of Agriculture and Rural Development (MARD) in Hanoi, in the development of renovated planning and M&E system development for improved policy decisions in the agriculture and rural development sector in Vietnam. His home base is in Chiang Mai, Thailand where he lives with his wife and two children.