

**TRENDS IN FOREST OWNERSHIP,
FOREST RESOURCES TENURE AND
INSTITUTIONAL ARRANGEMENTS:
ARE THEY CONTRIBUTING TO
BETTER FOREST MANAGEMENT AND
POVERTY REDUCTION?
A CASE STUDY FROM MONGOLIA**

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Acronyms

AAC	annual allowance cut
ADB	Asian Development Bank
CPG	community partnership group
FAO	Food and Agriculture Organization of the United Nations
FMP	forest management plan
GDP	gross domestic product
GTZ	German Agency for Technical Cooperation
JICA	Japanese International Cooperation Agency
MLF	Mongolian Law on Forests
MNE	Ministry of Nature and Environment
NGO	non-governmental organization
NPA	national protected area
NWFP	non-wood forest product
SFM	sustainable forest management
SPIA	State Professional Inspection Agency
UNDP	United Nations Development Programme
UNESCO	United Nations Educational, Scientific and Cultural Organization
USAID	United States Agency for International Development
WWF	World Wide Fund for Nature

Mongolian terms

<i>Aimag</i>	province
<i>Bag</i>	sub-district (subdivision of a <i>soum</i>)
MNT	Tugrur (Mongolian national currency)
<i>Soum</i>	district (subdivision of an <i>aimag</i>)

Summary

Mongolia had very healthy forest areas until the middle of the twentieth century, when factors such as industrial development, improper harvesting methods, urbanization, weak governance, poverty and climate change started to cause the sharp degradation of forest resources. The government has not adequately protected forests from these influences.

Worldwide trends demand that Mongolia change its current forest management practices. Many past environmental policies, which neglected community issues, have had disappointing results. Mongolia is therefore seeking new approaches to environmental conservation, and donor organizations, led by FAO and others, have brought new concepts of diversified forest tenure. Forest tenure is a relatively new issue for many countries.

Mongolia is establishing the legal environment to enable forest tenure diversification, but much regulatory work remains to be done to ensure favourable conditions for different interest groups.

Although it is too early to draw firm conclusions and to evaluate fully the outcomes of existing forest tenure systems in Mongolia, this case study describes the current situation of the main ones: national protected areas (NPAs), community partnership groups (CPGs) and private enterprises. Each of these tenure systems has been carefully assessed, and positive impacts, along with challenges, are identified and described. The case study also seeks to identify which forest tenure systems contribute most to sustainable forest management (SFM) and poverty alleviation.

Initial studies demonstrate that community involvement in forest management through appropriate tenure systems can be effective.

The views and conclusions expressed in this paper are those of the author and not necessarily those of the Government of Mongolia or FAO.

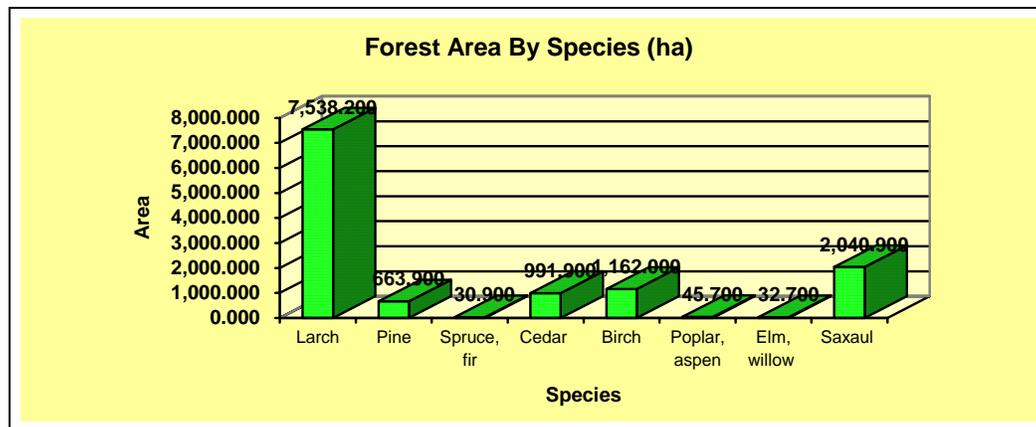
Forest resources and tenure

FOREST AREA, TYPES AND CONDITION

Mongolia’s forests along the southern edge of the boreal forests of Siberia and the Central Asian Steppe surround three huge watersheds of worldwide importance. This is a fragile ecosystem whose many essential functions include collecting and regulating river flow, protecting soil from erosion and degradation, mitigating climate change, absorbing greenhouse gas emissions, creating favourable conditions for flora and fauna, preserving permafrost, and maintaining the natural balance. The latest data from the Ministry of Nature and Environment (MNE) record a total of 19 002 200 ha of forest area, of which 13 397 100 ha are forested. This accounts for only 8.56 percent of Mongolia’s territory, making the country one of the world’s poorest in terms of forest resources, according to the FAO classification

The MNE forest report records about 140 species of trees and bushes in Mongolia’s forests, and three main forest types: coniferous, deciduous and saxaul. Coniferous and deciduous forests cover 75.3 percent of the total forest area, and saxaul forests (*Haloxylon ammodendron*) 24.7 percent. Larch trees cover 60 percent of forest land, with the remainder under major species such as pine (5 percent), cedar (*Pinus cembra*, 8 percent), birch (9 percent), spruce, fir, poplar, aspen, elm and willow (Figure 1)

Figure 1. Forest areas by species (ha)



The estimated average standing volume of northern closed forest is 103 m³/ha, for a total standing volume of more than 1 300 million m³ (Table 1).

TABLE 1
Estimated standing volumes of Mongolian forests, 2000

Species	Estimated standing volume (million m ³)
Larch (<i>Larix sibirica</i>)	1 030.0
Pine (<i>Pinus silvestris</i>)	92.0
Cedar (<i>Pinus cembra</i>)	164.0
Birch (<i>Betula</i>)	86.0
Other (fir, spruce, poplar, etc.)	7.0
Total	1 379.0

Source: Wingard, 2004.

The Mongolian Law on Forest divides forest resources into two categories as the primary basis for management: protected zones occupy 93.2 percent of total forest area, and utilization zones 6.8 percent. In protected zones, restrictive green areas are established for 5 km around

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the headwaters of major lakes and rivers, 3 km on each side of major rivers, 1 km on each side of railways or major roads, 80 km around large cities, and 30 km around smaller towns. Protected zones also include forest on slopes of more than 30°, forest areas of less than 100 ha in area, forests within 50 m of a harvesting block, and saxaul forests. Regulated collection of domestic fuelwood and non-wood forest products (NWFPs) are the only forms of exploitation permitted.

This category also includes the strictly protected zones of the old forest law, which include forest areas classified as sub-alpine and those within special protected areas, national parks, nature reserves and cultural monuments. Very limited exploitation in some of these areas is allowed for local fuelwood needs and designated NWFPs. The utilization zone is a default category covering remaining forest areas, which are designated for commercial timber harvest subject to permits and government fees.

The natural regeneration of Mongolian forest is slow, and the harsh climate causes frequent forest damage by fire and insects. It is estimated that over the last 30 years, unregulated logging, forest fire and insect invasion destroyed 1 million ha of natural forest area. Over the same period, the scarcely forested and logged area increased ten- to 15-fold, and burned forest area three- to fourfold. This area of scarce, burned and logged forest, as well as that of reforestation, have increased as a result of external factors. Global warming and the negative impact of human activities over the last ten years have increased the drought area of Mongolia by 3.4 percent, resulting in desertification. The area under severe desertification has increased to become up to 5.4 times as great as it was. Mongolia lost approximately 4 million ha of forest over the last century, averaging 40 000 ha/year, although the deforestation rate increased during the 1990s to approximately 60 000 ha/year (World Bank, 2006). The major hazards to forest are climate change, wildfires, pests and unsustainable timber harvesting. This last causes a particularly large share of forest resource depletion.

STAKEHOLDERS IN FOREST MANAGEMENT

According to Mongolia's Constitution, forest resources are State property held on behalf of the Mongolian people. The Mongolian Law on Forests (MLF), the Mongolian Law on Environmental Protection and the Mongolian Law on National Protected Areas grant forest resources management rights to three main types of stakeholder: government (MNE, local authorities and the Ministry of Industry and Commerce); private (enterprises, individuals and community partnership groups [CPGs]); and other (international donors, buffer zone councils, non-governmental organizations [NGOs], research and scientific institutions, and local environmental organizations).

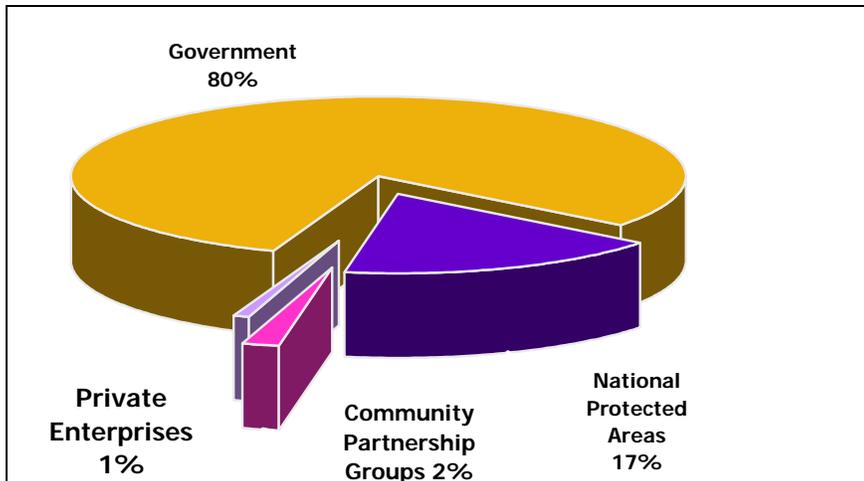
As the owner of most forest land, the government grants forest tenure to national protected areas (NPAs), private enterprises, and CGPs (Table 2; Figure 2).

TABLE 2
Forest tenure distribution in Mongolia

Stakeholder	Type of management	Duration of contract	Estimated total forest area (ha)
NPAs		Unspecified	3 320 00
Private enterprises	Contract	Up to 60 years	160 000
CPGs	Contract	Up to 60 years	343 691
Total			3 823 691

Source: National Forestry Programme Committee

Figure 2. Forest tenure holders in Mongolia



Stakeholders and tenure reform

MNE, the State Professional Inspection Agency (SPIA), communities, NGOs and international donors are the groups most likely to support forest tenure development, which is still in its early stages. The main priority is to establish agencies with trained personnel to increase community awareness of tenure issues.

Other stakeholders that may support tenure change include Parliament (*Ikh Khural*), the Cabinet Ministry, local governments and the Ministry of Industry and Commerce, but the interests of these entities may be conflicting, depending on whether they give priority to economic development or nature conservation. Government agencies tend to support industrial and infrastructure development without paying much attention to its undesirable side-effects on nature.

Stakeholders that are likely to resist or distrust tenure changes include private logging enterprises, mining companies, illegal loggers and small-scale mining operations. All of these groups benefit from short-term uncontrolled exploitation of forest natural resources, and do not welcome forest tenure changes that focus increasingly on the need to conserve forest resources and work with local communities rather than local governments.

FOREST MANAGEMENT RIGHTS AND RESPONSIBILITIES

MNE

Through its Forestry Management Division, MNE is responsible for all aspects of forest management, including legislation, policy-making and implementation. It determines annual harvest volumes for forest resources, and carries out monitoring. The newly established National Forestry Agency provides technical support and organizes forest land transfers.

Local governments

Mongolia is decentralizing management power and responsibilities – including for forests – to local government at the city, province (*aimag*), district (*soum*) and sub-district (*bag*) levels. Most environmental legislation grants the authority for natural resources management to local governments, making them responsible for implementing forest legislation, monitoring forest management and leasing forest resources to private and community bodies.

National protected areas

At the United Nations Earth Summit in Rio de Janeiro in 1992, Mongolia committed to putting 30 percent of its territory into protected areas by 2030. A protected area system was established in 1994 by the Law on Special Protected Areas, which recognized four protected categories: 1) strictly protected areas; 2) national parks; 3) natural reserves; and 4) natural and

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historical monuments. Protected area management concentrates on biodiversity conservation, ecotourism promotion and traditional livelihood supporting activities in cooperation with local government. NPAs are established for unspecified periods, but Parliament can remove some areas from protected status to meet critical development needs, or change the protection regime.

At present, the country has 61 NPAs, covering a total of 21.8 million ha, or almost 14 percent of the national territory. Of these, 35 NPAs have forest area, covering 3.32 million ha, or almost 17 percent of the country's total forest area: 1.77 million ha of this is coniferous and 1.54 million ha saxaul forest. Some 12 percent of the forest area is under strictly protected forest management (MNE, 2003).

Community partnership groups

CPGs are voluntary associations of local people with common interests. In Mongolia, more than 260 CPGs, involving 4 224 families and 8 793 members, lease 343 691 ha of forest area.² The first CPGs were established in the late 1990s with support from international donor projects. Their basic goal was nature conservation and the sustainable use of natural resources. According to the Law on Environmental Protection and MLF, these groups have the right to lease natural forest areas for up to 60 years, with possible extension. Each CPG can lease a maximum 6 000 ha of forest area, and use timber and other natural resources from this area in accordance with a forest management plan (FMP). The law also provides CPGs with ownership rights to CPG any forest resources they plant themselves. In exchange, CPGs are responsible for providing annual reports on the status of their forest areas, enforcing relevant environmental legislation, carrying out rehabilitation and reforestation activities, and recruiting volunteer rangers and conservation managers to protect against wildfire, pest infestation, forest degradation, etc.

Private enterprises

Logging companies account for most private involvement in forest resources management, but available data on this vary and are conflicting.

The Tax Department reports that of 678 private companies operating in the forest sector nationwide, 89 are logging companies. Parliament banned the export of timber in 1999, so these companies can operate only in internal markets. In 2006, 574 800 m³ of timber was harvested. Timber companies do most logging in Selenge, Bulgan and Tuv provinces, where infrastructure is relatively well developed and market demand high. Private companies manage forested area according to 60-year leases or management concessions, which have to be renewed every year. The 60-year limit can be extended if the forest has been properly managed. In general, the rights and responsibilities of private enterprises are similar to those of CPGs, but their annual budgets include reforestation and other environmental rehabilitation expenses. They also have to pay local taxes.

MNE reports that 164 private enterprises have licences for forestry operations. Nine of these have leased 160 000 ha of forest.

Academic and research organizations

National universities and research organizations lease 10 500 ha of forest, but Mongolian legislation does not specifically provide for these organizations to lease land for research and training purposes.

Other actors

The Ministry of Industry and Commerce's Mineral Resource Authority leases some forest territories to mining companies, in coordination with local governments.

² According to MNE data for February 2008. The results of an FAO-funded nationwide census of CPGs, and MNE's own updated information are likely to change these figures.

Mongolia's border patrol controls about 15 km of territory along the border, including forest areas along the northern border with the Russian Federation.

Provinces and districts have established their own local protected areas, but data about these are not available.

MANAGEMENT AGREEMENTS

Under Mongolia's current legislation there are three main types of forest resource tenure: public, leasehold (community or private corporate) and private.

Public forest

Although only a few district forestry agencies have been established so far, local governments have clear authority over the forest resources allocated to them by the State for unspecified periods. This authority includes the right to reallocate forest resources to private and community management. Government organizations do not pay taxes on the forests they manage themselves, and the State provides a budget for their operation.

Community leasehold forest

The New Forestry Law of 2007 provides greater opportunities for community involvement, by allowing citizens to form voluntary partnership groups – CPGs. In forest areas, a forestry CPG must have at least 30 individual or 15 family members; in steppe and *gobi* (semi-desert) areas the minimum is 20 individuals or ten families. At least 80 percent of the CPG members must be permanent residents of the local administrative division. CPGs have the right to lease forest areas near their homes. Lease applications should be approved at local government meetings, after which the CPG should approach the local governor, who issues the Nature Conservation Community Group Certificate.

To guarantee sustainable forest management (SFM), the partnership group submits an FMP to the Provincial Environmental Management Department for approval, and provides annual reports on implementation of this plan to the local authorities.

Private corporate leasehold forest

Private companies follow similar forest resources leasing procedures to those of CPGs. As already noted, most of these companies are profit-oriented logging companies, which have contracts with the local authorities. Large areas are allocated to logging companies.

Private forest

Private enterprises, community groups and individuals have the right to own any forest they plant, but no forest areas have yet been privatized.

PLANNING AND MONITORING SYSTEMS

Forest planning

MNE plays a major role in coordinating forest planning. According to forest legislation, only MNE-approved professional forestry organizations are eligible to carry out forest planning. FMPs should be drawn up for ten-year periods and monitored annually. All levels of government except the sub-district are required to establish and implement FMPs. Table 3 outlines the organizations responsible for designing and approving FMPs for different stakeholder groups.

TABLE 3
Design and approval of forest stakeholders' FMPs

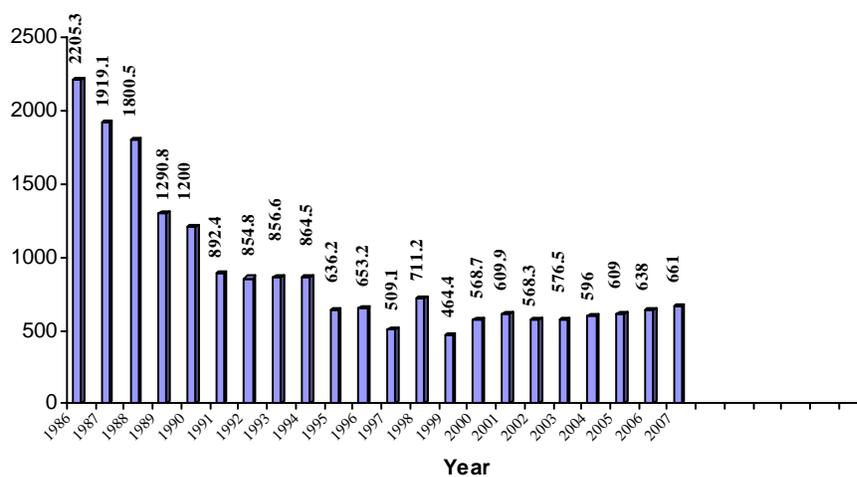
Stakeholder	FMP designed by	FMP approved by
National government	MNE	Cabinet
Provinces and capital city	National Forestry Agency	MNE
Districts	Local Nature and Environmental Unit	National Forestry Agency
CPGs* and private enterprises	Professional forestry organization	Provincial and central Nature and Environmental Units

* The State pays the costs of establishing the first FMP for each CPG. The CPG itself is responsible for the arrangement and expenses of all subsequent FMPs.

The national FMP is based on the ten-yearly forest inventory carried out in all provinces with forest by the Forest and Water Research Centre under MNE. The government funds this activity, which for the 2005 inventory cost an average of 70 tugrug (MNT), or US\$0.6, per hectare.

MNE sets the annual allowable cut (AAC) at the start of each year. This determines the maximum national harvest levels for three main categories of timber: industrial, private-use, and fuelwood. Recently, MNE has maintained national maximums of approximately 40 000 m³ for timber production and 600 000 m³ for fuelwood (Figure 3).

Figure 3. Timber harvest volumes approved by MNE, 1986 to 2007 ('000 m³)



Source: MNE Forest Monitoring Report, 2007.

MNE allocates the national AAC on the basis of requests from districts and provinces indicating the timber volumes they wish to harvest from their territories the following year, and of similar requests from timber processing and logging companies, submitted via the Ministry of Industry and Commerce. MNE divides the AAC among the provinces, which subdivide their AAC allocations among districts. The district administration then allocates its AAC among the stakeholders that have applied to harvest timber.

Forest monitoring

Day-to-day monitoring and inspection of forest resources is the responsibility of the local authorities and local branches of MNE and SPIA, to which law enforcement authority was transferred in 2005. MNE has established Nature and Environmental Units in every province, and these supervise district-level rangers while MNE monitors databank management and FMPs. FMPs are monitored annually, based on the forest inventory.

Changes and trends

THE PAST

Mongolia has no history of forest tenure, which was of little relevance to a nomadic culture based more on the exploitation of open areas, plains and steppe for livestock grazing than on using forest resources. The main exception to this was the Buriad tribe, which used timber for house construction and hunted in the forests of northern Mongolia.

Between 1924 and 1990, Mongolia was part of the communist Soviet Union, with the State owning all land resources, including forest. As urbanization and industrial progress accelerated in the 1970s, the communist government began to pay more attention to the economic benefits of forest resources and a Ministry of Forestry and Wood Industry was established in 1974.

The forestry sector generated high economic benefits. Between the early 1970s and the mid-1980s, forest exploitation increased dramatically, peaking at between 1.8 and 2.8 million m³/year from 1970 to 1988. The industry employed more than 20 000 people, accounted for 18 percent of industrial production and contributed 6 percent of gross domestic product (GDP) (World Bank, 2004). All enterprises were State owned or joint ventures with other communist countries. Mongolia exported raw timber to Romania, Poland and Russia from an average annual harvesting volume of 2 million m³.

Major timber industry towns were established in many forested areas, and whole communities started to depend on a single forestry sector. The environmental impact was huge, however, because these enterprises used the clear-cutting forestry techniques of the Soviet Union, which were inappropriate for Mongolia's limited forest resources. State-owned timber companies used two methods of transporting logs from the forest: dragging them by tractor, or lifting them by air. The latter results in less damage to the forest floor and young trees (Tseven, 2002).

The economy and management were highly centralized, as favoured by the political regime and all legislation. Most enterprises were under great pressure to achieve the five-year economic plans of the communist government.

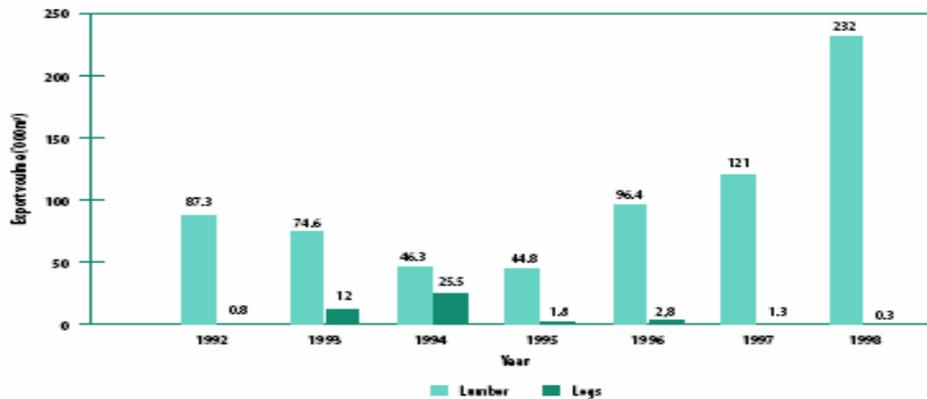
THE POST-COMMUNIST TRANSITION

In July 1990, Mongolia became a parliamentary republic with a President and a multi-party system, and started the slow transition from a centrally planned economy to a free market system. As the communist system collapsed, Mongolia's international economic partners vanished or weakened, and timber exports to Eastern Europe and the Russian Federation have declined dramatically. Most State enterprises were not economically self-sustaining or profitable, and part of the economic transition process was their privatization to remove a heavy financial burden from the State budget. Most of the large timber industries were split and privatized, and the government centralized economic regime ended.

MNE was established in 1992 with a broad range of responsibilities and rights. The same year, Parliament passed the new Constitution of Mongolia, granting rights of landownership, but land privatization did not begin for another decade. According to the Mongolian Law on Land, adopted in 2002, each Mongolian household can own 0.07 ha of land in urban areas for free. So far, more than 30 percent of households own private land.

Forestry management declined owing to the lack of State support following collapse of the centrally planned economic system. China emerged as a new market, however, and most small private timber enterprises revived; the number of sawmills increased sharply in the late 1990s. Timber export to China became highly profitable, and the timber export rate increased steadily until 1999, when the Government of Mongolia banned timber exports (Figure 4).

Figure 4. Exports of timber and uncut logs, 1992 to 1998 ('000 m³)



Source: World Bank, 2006.

Since the ban, illegal logging has increased dramatically, resulting in depleted forest resources in some areas. The following are some of the main reasons for this increase:

- *Unemployment*: Many private factories have had to close or reduce their personnel, leaving many forestry industry workers out of work and without income. The government has not provided training in new skills for these people, so they continue their logging activities, either legally or illegally.
- *Poverty*: Natural resource depletion is unavoidable when nearby communities lack food. Most Mongolian families are suffering hardship during the economic transition period, and natural resources, including forest, provide the means to increase their incomes, or at least the fuelwood for heating or cooking.
- *Lack of local community involvement*: There are no incentives for communities to protect forest and combat illegal logging.
- *High profits*: Illegal logging is a highly profitable activity, and the penalties are inadequately enforced by State organizations, which lack the capacity to establish full control over forest areas. This has made it possible to create an illegal logging network.

It is estimated that the annual illegal timber harvest equals the legal, MNE-approved one. This demonstrates the need to improve law enforcement if Mongolia's forest resources are to be saved.

LEGAL AND INSTITUTIONAL FACTORS

In spite of its impressive array of environmental legislation, Mongolia suffers from inefficient law enforcement and low public awareness, particularly at the local level. The National Policy on Forest for 1998 to 2015 (Government Decree 122) was adopted in 1998 with FAO assistance, but its ambiguous goal, unclear implementation approaches and lack of funding – like those of many other national programmes – have limited its effectiveness.

Environmental management authority has been decentralized to local governments and institutions, which now have more than 270 specific responsibilities covering all aspects of environmental law (Wingard and Odgerel, 2001). Central government expects local entities to establish and manage water protection zones, hunting reserves, plant protection zones, land-use contracts in special protected areas, all activities in nature reserves, contracts with private individuals and companies for virtually all types of resource use, fire protection programmes, compliance monitoring and enforcement, etc. In addition, they must compile and report all baseline data. This is an almost impossible range of tasks for local governments, which lack training, guidance and financial support.

The government has therefore been looking for other instruments for environmental management, and first turned its attention to the diversification of forest tenure in 1995.

International donors such as the German Agency for Technical Cooperation (GTZ), FAO and World Vision, have implemented pilot projects in Selenge, Khentii and Bulgan provinces aimed at demonstrating the value of participatory community-based natural resource management. CPGs were established in project areas, prompting the government to approve Resolution 125, which allows the leasing of forest resources to business entities and local residents. Leases last for 15 to 60 years, and are extendable for a maximum of a further 40 years.

This was the first attempt to provide local communities with forest tenure rights in the history of Mongolia, and both national and local government officials had very limited understanding of the issue. In addition, they were still heavily influenced by the communist concept of public landownership. Local communities and the private sector, on the other hand, received the development with enthusiasm, and 21 CPGs and eight private enterprises had leased total of 270 000 ha of forest resources by 2000. However, the resolution focused on the responsibilities of the forest users rather than addressing their rights, and nothing has since been done to rectify this.

The resolution made CPGs responsible for funding and conducting all environmental management, including wildfire, pest and deforestation control, and assisting environmental law enforcement in the forest resources they leased. Although it granted the groups the right to use NWFPs, it did not allow them to cut timber, which is more profitable than NWFPs. The CPGs could therefore generate only very limited economic return from the forest, making it difficult for them to fund forest conservation management activities. Leasing communities ended up becoming volunteer rangers or unpaid forest guards, and this imbalance of responsibilities and rights discouraged other communities from setting up CPGs. Some CPG contracts were terminated, leaving the community with no benefits from the forest. This is an example of the common situation where regulations are approved by central government but cannot be properly implemented by local governments. International donors lobbied MNE to make tenure improvements, but forest resources continue to face the tragedy of the commons.

RECENT DEVELOPMENTS

Since 2005, an amendment to the Law on Environmental Protection, MLF (2007) and MNE Order 114, along with new contracts and certificates for community-based natural resources management, have clarified the rights of CPGs and established some basic requirements.

Article 4.1 of MLF provides ownership rights to planted forest, stating that “A forest planted by a citizen on the land in his/her ownership or possession, or by a partnership (CPG), economic entity or an organization on the land in their possession, using their own means, can become their property in a manner prescribed by law”. CPGs can therefore own the forests they have planted themselves, and are also granted more NWFP and timber use rights, including AACs based on their FMPs. The new regulation is expected to bring more positive outcomes in the future.

These legal changes help to balance the rights and responsibilities of forest users, by granting CPGs the rights to: 1) conduct the activities identified in the FMP; 2) utilize the timber and non-timber resources extracted from their tenured forest according to the FMP and licence, and market excess resources; 3) formulate project and programme proposals for national and local budget funding, and participate in tenders; and 4) participate in management and professional skills building and training activities.

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Legal milestones

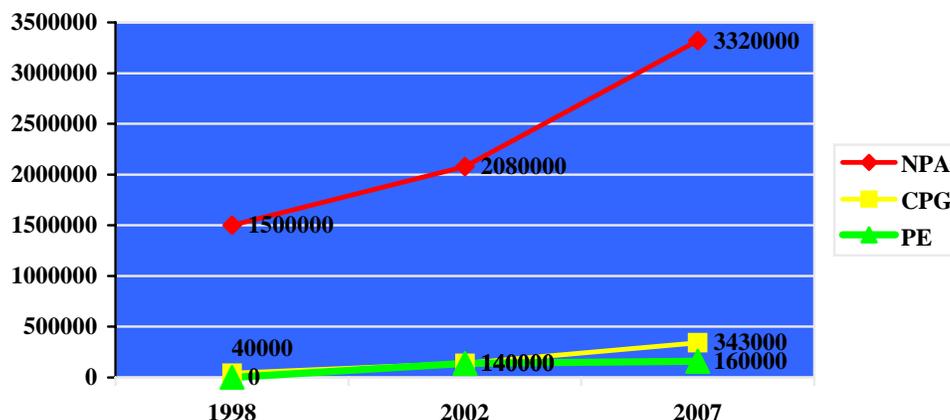
- Constitution of Mongolia (1992)
- Protected Area Management Law (1994)
- Forest Law (1995)
- Government Resolution 125 (1998)
- National Forest Programme (1998, 2001)
- Amendment to Environmental Protection Law (2005)
- Nature and Environmental Minister's Order 114 (2006)
- Forest Law (2007)

Analysis of tenure systems

FOREST MANAGEMENT

Figure 5 shows the increasing total area of forest under various tenure arrangements in Mongolia.

Figure 5. Total forest area subject to some form of tenure arrangement, 1998 to 2007 (ha)



The greatest threats to Mongolian forest and forest resources are wildfires, illegal logging and pest problems. Human-caused and natural destruction has a strong negative impact on forest ecology in northern Mongolia, particularly Selenge province, where young pine forest was the dominant forest type until 1992. Since then, the pine forest has suffered from overexploitation for short-term economic benefits, and from forest fires. Today, young birch and poplar trees occupy the many former pine forest areas.

Some CPGs and private enterprises are building their own capacity to combat these risks, and most stakeholders agree that community leasehold tenure management leads to improved forest protection. This is mainly because it encourages communities to control their forest areas, leaving little room for illegal forest users to operate and reducing the outbreak of forest fires. Research carried out in March and April 2008 by the FAO-funded Capacity Building and Institutional Development for Participatory Natural Resources Management and Conservation in Forest Areas of Mongolia project found that most people consider CPG leasehold forest to be better managed than the forest under other tenure types.

SPIA took over the former MNE Environmental Protection Agency's staff of about 700, and assigned about five staff members to each province and one or two to each district (ADB, 2005). Most rangers (three per district, with a nationwide total of 500) remain MNE employees and are assigned increasingly to protected areas, where they are most needed. In some locations outside protected areas, such as in utilization zone forests, MNE supervision remains woefully weak. SPIA also complains that development partners have paid little attention to environmental inspection since this ceased to be an MNE responsibility.

Illegal logging and wildfires are common in all forest tenure types. For example, an illegal clear-cut logging enterprise was found to be operating without hindrance in the Bogd Khan Strict Protected Area – a United Nations Educational, Scientific and Cultural Organization (UNESCO) Man and the Biosphere Reserve – on the outskirts of Ulaanbaatar, in clear view of the main road to the national airport. If such activities can continue unimpeded in highly visible national parks, what enforcement actions can be expected in remote provinces and districts (World Bank, 2004)?

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In spite of its strictly protected status, Bogd Khan mountain faces further risks of deforestation owing to economic development in the area. Tour camps, apartments, houses and other settlements are encroaching on to the protected area, and one member of Parliament is seeking to have some areas removed from the NPA. Private enterprises also play a part in increased deforestation, by seeking to harvest ever-increasing volumes of forest and carrying out reforestation activities on smaller areas than indicated in their FMPs.

The main institutional problem in Mongolia's environmental management today is the same as it was in 2001: imbalance between the assignment of responsibilities and the allocation of budget resources to local governments, resulting in serious constraints to implementation unless budgets are supplemented by development partner funding. In the meantime, local environmental management continues to be unsustainable.

An additional challenge is the shortage of forest management planning capacity (forest professionals and companies licensed to design FMPs) to fulfil the increasing demand from CPGs and other stakeholders requiring FMPs. In addition, many CPGs have not yet developed sufficient capacity to implement their FMPs.

Compared with previous legislation, MLF of 2007 has improved the balance between management responsibilities and access to benefits. Citizens, economic entities and organizations can form partnerships to obtain rights and responsibilities in the possession, protection, rational utilization and regeneration of forest in their areas of residence.

LIVELIHOODS

Forest resources are essential to both rural and urban communities in Mongolia, with some forest resources playing important roles in both income generation and own consumption. Useable forest resources can be divided into two main categories: timber-based, including fuelwood and commercial logs; and NWFPs, including wild animals, fruits, mushrooms, vegetables, herbs, scented plants, fodder and tourism value. The following subsections describe some of the main uses of forest resources.

Fuelwood

Fuelwood is a major source of heating and cooking. In 2002, the National Statistical Office reported that 479 656 families (about 2 million people) depend on fuelwood, generating a nationwide demand of 4.7 million m³/year. In recent years, MNE has issued an average of about 600 000 m³ of fuelwood a year, while the more than 70 000 families living in the Ulaanbaatar area use more than 320 000 m³ every winter (ADB, 2008). Alternative fuels include livestock dung, which is the main heating and cooking source for most herders.

Industrial timber

Timber is highly profitable in Mongolia where it is widely used as construction material for houses, furniture and other products. Today, more than 678 timber companies operate in the forestry sector. Forestry is not recorded independently in national statistics, but the National Statistical Office report for 2006 indicates that the agriculture, hunting and forestry sector had contributed about 20 percent of GDP for the previous four years.

For the timber towns and villages established during the communist era in northern Mongolia there is no other major industry in the area. Some communities in Selenge, Khentii, Bulgan and Zavkhan provinces are therefore completely dependent on forests. Private timber enterprises faced hardships during the transition period, but they have survived, and today's more favourable legal environment and increasing domestic demand are likely to increase the importance of this sector.

Some CPGs have established carpentry workshops for producing furniture and other wooden products.

NWFPs

This type of forest resource generates a broad range of economic benefits for both rural and urban populations in Mongolia. Recent legislation puts communities on an equal footing with private enterprises in terms of NWFP forest tenure, allowing CPGs to lease forest resources and claim ownership of the forest they plant. CPGs' internal organizational rules, approved by a majority of their members, usually include equal benefit-sharing arrangements.

It is still too early to evaluate the economic and other impacts of any forest tenure type on people's livelihoods.

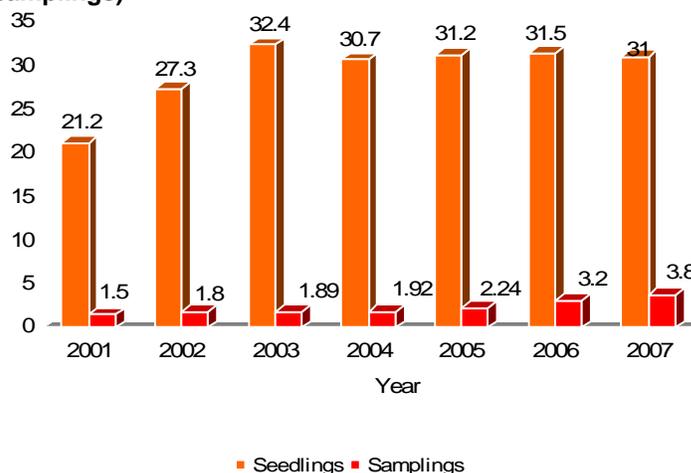
CAPACITIES

Public forest

MNE has very limited financial capacities and the smallest budget of all government ministries. This budget is increasing every year, however, and grew by 65.2 percent between 2001 and 2004, from US\$2.3 million to US\$3.8 million. Of this budget, nature protection was allocated 20.0 percent; special protected areas 22.6 percent; reforestation and forestry activities 34.5 percent; land protection and rehabilitation 13.9 percent; and environment protection 8.9 percent.

In 2006, MNE's budget increased to US\$6.4 million, according to the National Statistical Office – three times the budget of 2001. This demonstrates the government's increasing attention to environmental issues, as does the increasing allocation to forest management funding within the MNE budget. As a result, forest rehabilitation and reforestation activities have also increased (Figure 6). In 2006, 903 million MNT was spent on reforestation and forestry activities.

Figure 6. Reforestation and afforestation activities, 2001 to 2007 (million seedlings/samplings)



Source: MNE.

A new Forestry Management Agency is to be established to implement the new MLF. Following Cabinet approval in 2007, MNE is planning this agency, which will have 25 staff members in three divisions at its headquarters in Ulaanbaatar, and branches in all provincial Nature and Environmental Units and in some districts. Some district-level branches have already been established in cooperation with GTZ, but the overall structure for the new agency has still to be established. The State is likely to allocate more funding to forest management as the Forestry Management Agency emerges, and public forest management is expected to improve.

The largest proportion of public forest is under NPA forest tenure, and the NPA network covers 17.3 percent of the national territory (MNE, 2007). A number of factors have a negative influence on the management of NPAs, including their forest resources.

Weak law enforcement: MNE employs 200 rangers in NPAs, but has no legal jurisdiction to inspect activities or impose fines for contraventions, which dramatically decreases its law enforcement capacity. Instead, MNE rangers have to report environmental crimes to SPIA, whose local law enforcement inspectors have limited human and financial resources and little interest in NPAs, which they regard as the responsibility of MNE rangers.

Poor equipment: Of MNE's rangers in NPAs, 22.0 percent have a rifle or gas pistol, 34.9 percent have binoculars, and 25.4 percent have some means of transport.³ Each ranger is responsible for an average of 17 000 ha of protected area, and average management spending is only US\$4/ha, way below the international average of US\$893. It is almost impossible for such poorly equipped and funded rangers to establish adequate control and monitoring over the vast areas they are responsible for.

Other economic barriers: Rangers also have very low salaries, averaging about US\$220 to \$280 per month. This forces them to keep livestock to ensure economic survival. Although the wages of government employees have recently increased, so have the prices of basic and other goods.

Training: Although MNE, NPA administrations and international donors, such as GTZ and the United States Agency for International Development (USAID), provide some training for NPA personnel, funding constraints make it impossible to establish a consistent training system, and only half the rangers have received any training.

Although these figures imply that public forest management, especially of NPAs, is poor and needs improvement, things may not be as bad as they seem. Government spending on public forests and NPAs is consistently increasing, along with afforestation and other forestry management funding.

Community leasehold forest

CPGs, private enterprises and academic organizations lease some 510 000 ha of forests – only 2 to 3 percent of Mongolia's total forest resources. Most of this area (350 000 ha) is leased by 263 CPGs, some of whose members have become volunteer rangers to acquire the legal right to protect their leasehold forest. MNE plans to recruit 2 000 volunteer rangers to support its 500 employed ones (Mr Ykhanbai, MNE, personal communication).

CPGs are weak in terms of financial capacity. The legislation to support this new forest tenure type was created in 2007, so CPGs have not yet been able to benefit financially from their forest leases. GTZ reports that some newly established CPGs rushed to lease forest area before they had established adequate internal organization. In other cases, households are registered as members of several CPGs.

CPGs in a few areas have received SFM training from international organizations, including GTZ, which has funded training and other activities to support CPGs in Selenge, Khuvsgul and Khentii provinces. GTZ has also provided forest inventories, to assist CPGs and other stakeholders in developing FMPs.

Other support comes from the government. As well as funding the preparation costs of each CPG's first FMP, the government has supplied cash to CPG's reforestation and other nature conservation activities in Selenge province, through the Nature and Environmental Unit.

Private corporate leasehold forest

Nine companies lease 160 000 ha of forest area in Mongolia. A field trip to Selenge province found that most of these logging companies can barely provide their workers' salaries, and

³ Transport is mainly by horse, but also includes camels and motorbikes.

generate very few profits, although their economic capacity is higher than that of CPGs. Data on the human capacity of this forest tenure group are not available, but it is known that some private leaseholders have received forestry training from international donors.

POLICY AND LEGISLATION

Local communities and private enterprises

Local people have a positive opinion of MLF and its aim to improve SFM through providing rights to local community groups. Legal recognition of CPGs has done much to encourage the establishment of community groups.

Private enterprises are not completely satisfied with the new legislation. Until 2007, local governors had exclusive legal power to allocate forest resources to private logging companies. Under MLF, meetings of local representatives have the right to make decisions regarding the transfer of forest parcels to partnerships, economic entities or organizations, based on contracts. Private logging companies will therefore have to pass through the more careful review of local representative meetings.

MNE and SPIA

MNE and SPIA are both satisfied with the legal changes that give official recognition to CPGs' participation in forest management. It was clear that SFM could not be ensured with the capacities of MNE and SPIA alone, and that forest resources in several areas were being depleted. The new legislation transfers part of this heavy burden from government organizations to other stakeholders. These stakeholders will need the capacity to apply the new legislation, however, and so far CPGs lack the training and personnel to manage their leasehold forests properly.

In the meantime, MNE should establish the new Forestry Management Agency as soon as possible, to fulfil its critical role in facilitating newly emerging forest tenure types in Mongolia. MNE should also complete the regulative framework to enable effective implementation of the legislation.

MLF states that forest NPAs will be managed according to the Law on NPAs, but NPAs cover more than 3 million ha and lack the equipment and funds for proper forest management. Thus, these forests should also be managed according to MLF.

Donors, especially GTZ, the United Nations Development Programme (UNDP), FAO and the Asian Foundation, play an important role in increasing public awareness of forestry policies, laws and regulations. In spite of their limited financial capacity, local governments also deliver information to the public. Various stakeholder groups are informed of policy and legal changes via newspapers, posters, handouts, other media and a variety of training and other meetings.

Box 2. CPGs in Selenge province

Selenge province was established in 1934 and contains 17 districts in the northern part of central Mongolia. This province is considered economically well developed owing to its favourable geographical and environmental conditions, and the international railway and road networks that pass through its territory. It covers 41 100 km² and has a population of 102 200. Forest areas cover 42 percent of its territory.

Under communism, Selenge was one of the main timber industry centres in Mongolia. After the collapse of the communist regime, it became a popular source of both illegal and legal logs and NWFPs. The province's natural resources have decreased sharply as a result of this. Frequent wildfire, pest and disease outbreaks have worsened the area's environmental conditions. Selenge's alarming depletion and uncontrolled use of natural resources have recently caught the attention of international donors such as FAO, UNDP, World Vision and GTZ, which have made it a major target area for their activities.

More than 35 CPGs involving 700 members have been established and are involved in forest management in nine districts. Private enterprises also lease 194 704 ha of forest areas for industrial purposes. Selenge province has become one of the area's best examples of community-based natural resource management to control natural resources depletion.

Source: Selenge province website.

Forest tenure, sustainable forest management and poverty alleviation

NPAs

Positive impacts

The Law on NPAs limits industrial activities in NPAs, but tourism can be developed in livelihood zones. Mining and industrial-scale exploitation are strictly prohibited. Recently, mining groups are lobbying Parliament to remove some areas from NPA status, but this is strongly opposed by MNE, donors and environmental NGOs. Illegal mining has occurred in only a few NPAs in remote semi-arid zones.

External assistance for the environment

A considerable amount of international aid is dedicated to improving environmental management in Mongolia. The following are some of the 98 environmental projects and support activities provided by international donors and listed on the MNE website:

- *UNDP*: Promoting community-based natural resource management, combating desertification, and improving environmental governance and natural disaster mitigation.
- *GTZ*: Community forestry development, improved management of protected areas, and wildfire mitigation.
- *World Bank*: Urban air pollution and mid-term environmental priorities.
- *Asian Development Bank (ADB)*: Urban environmental improvement and strengthened environmental impact assessment.
- *Japanese International Cooperation Agency (JICA)*: Urban waste management and combating yellow dust.
- *FAO*: Promoting community-based forest management.
- *World Wide Fund for Nature (WWF)*: Biodiversity conservation, etc.

NPAs have always been important target areas for these projects, which have focused on strengthening NPA administration capacity, introducing new international best practices and diversifying the income sources of communities living in or around NPAs, to reduce their dependency on natural resources. Activities such as vegetable growing, raising livestock breeds and establishing other small businesses have been promoted by donor projects.

CPGs and logging companies should also explore the possibilities of producing such goods as furniture, jams and medicines from timber and NWFPs.

COMMUNITY LEASEHOLD FOREST

Positive impacts

Community-based natural resource management, including of forests, has been another main area for international donor pilot and other projects that include components to promote the diversification of forest tenure in Mongolia. These projects have demonstrated the effectiveness of community involvement in natural resource management, while new tenure systems that are still in their early stages are already bringing clear improvements. The most important of these developments is the disappearance of illegal logging from leasehold forest areas, thanks to the consistent control of CPG members over their forest areas.

In cooperation with national NGOs and local movements, international projects have lobbied decision-makers, by organizing joint workshops, training courses, study tours and project tours for government officials and lawmakers. Projects have also maintained close links to the media for publicizing their activities through documentary films, handouts, posters and books delivered to the public. As a result, over the last decade, the government

has made substantial – if slow – progress towards establishing an enabling legislative environment for community participation in natural resource management.

In recent years, provincial Nature and Environmental Units and MNE have supported CPGs' planting of new trees in their forest lease areas, after MNE had temporarily stopped doing so for a few years. By the end of 2006, MNE had allocated 17 800 000 MNT (approximately US\$15 000) to supporting CPGs' forest management activities, including forest thinning, and wildfire and pest control. This encouraged many CPGs to focus on afforestation. Although it is still too early to assess the impact of CPGs on community livelihoods, some developments could be considered signs of outcomes to come:

- Some CPGs have established carpentry workshops and are producing furniture and other wooden products in Selenge province.
- Most CPGs in Selenge have planted trees and obtain financial rewards from the government for their reforestation activities.

Obstacles

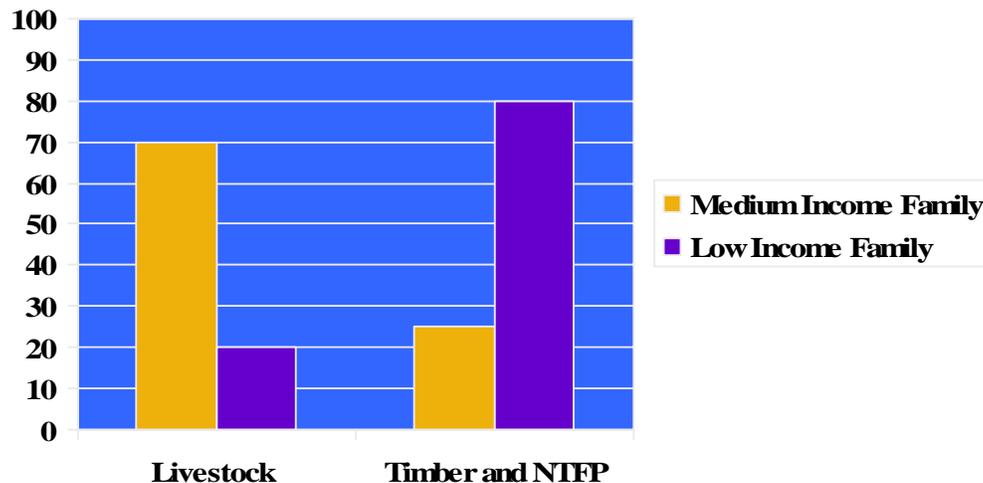
During the communist regime, all livestock was nationalized and all herders lost their animals, which were instead managed by newly established communist collectives. This had very negative consequences. Herders earned very low salaries for herding State-owned livestock, and the penalties for losing animals were severe. Most herders remember this unpleasant period, and so oppose any form of cooperative effort. As soon as communism fell, the government re-privatized livestock ownership, which was widely supported.

The second obstacle facing community leasehold arrangements is the weakness of public awareness. Local communities, including herders, often do not receive the information about new legislation that would enable them to participate in natural resources management.

Third, herders have insufficient skills and knowledge to manage forest areas. Local branches of the planned Forest Management Agency will have a key role in supervising and providing professional and technical assistance to CPGs.

CPGs also often fail because of poor internal organization and conflicts among members. Some GPGs have been so concerned to build their own human and economic capacities that they have sought to exclude poor families from membership.⁴ This drives these very forest-dependent families (Figure 7) to engage in illegal logging and sales,

Figure 7. Percentages of forest families' incomes generated from livestock and forest resources



⁴ It is to be hoped that this is just a temporary phenomenon.

SFM is facing problems in all forest tenure systems, and both local governments and the community are waiting for MNE to approve regulations that facilitate current forest legislation. Social changes are always complicated and time-consuming to bring about, and take place in phases. Among the first of these phases are demonstrating the disadvantages of the current situation, outlining the possible options for improvements, and lobbying decision-makers to ensure that legislation, public awareness, institutions and systems are created to ensure implementation of changes. Regarding forest tenure diversification, Mongolia has just passed the legislative phase and is now embarking on public awareness raising via donor projects and government information campaigns. It now faces the most expensive phase – building institutions and a system to ensure successful implementation.

Many stakeholders, especially CPGs, criticize the large minimum number of families required to establish a CPG. This number is lower for CPGs in steppe and semi-arid areas, where livestock holdings average 100 head per family. This is because it was felt that encouraging vast herds to gather in one area – CPGs can lease a maximum of 6 000 ha – would be detrimental to the local ecology.

For centuries, rural communities have had less voice than industrial groups, especially in developing countries. Mongolia is no exception, and today more than 60 percent of its territory is licensed for some kind of mining or geological survey operation. The government-approved cadastral maps of some mining companies even include traditional sacred areas, parts of NPAs and district-level settlements, as a result of the Ministry of Industry and Commerce's irresponsible issuing of licenses. Local communities are also threatened by other industrial groups, and local community movements and NGOs have been seeking to increase communities' influence on decision-makers since the 1990s. Among the positive results of this, the Ongiin gol community movement could be considered one of the most successful. It involves about 60 000 people, mainly herders, who live in the basin and valleys of Ongi river and own more than a million head of livestock (Ongiin Gol Movement Head Munkh-Ochir, personal communication).

PRIVATE LEASEHOLD FOREST

During this case study, private companies leasing forest for industrial purposes reported that local governments were failing to assign them the AACs stipulated in their government-approved FMPs. As well as undermining the companies' financial capacity, this had negative impacts on local community livelihoods, because companies' usual response was to cut staff and decrease salaries in order to survive. In addition, companies were unable to invest in technology upgrades, staff training and high-level professional staff.

There were also negative impacts on SFM, because companies were unable to fund the rehabilitation and reforestation activities laid down by law. They also increased their involvement in illegal logging; when operating within the law becomes difficult and expensive, illegal activities always become more attractive.

Companies' poor reputation has led to decreased support from government. Private companies lease less than half the forest area that CPGs lease, and have no support from favourable export and tax policies, subsidies, national programmes and soft-term loans.

In general, Mongolia is not making the most of this skilled group of private forest management stakeholders.

COMMON OBSTACLES TO IMPLEMENTING NEW TENURE SYSTEMS

The situations described in the following paragraphs all decrease leaseholders' will to invest in forest resources.

Conflict between NPAs and CPGs: The sudden establishment of an NPA tends to produce hostile and negative reactions from community members, rather than cooperation. In addition, MNE cannot manage these huge NPAs properly with its small share of the national budget. Mongolia's NPAs are "paper parks" that lack real protection and management.

Mongolia case study

Little political will to deversify or develop new forest tenure types: Weak government support for CPGs is the most urgent problem. Although the national government, including Parliament and MNE, are designing and passing legislation in support of community-based forestry management, province and district governments and representative meetings are not doing enough to promote local community rights by establishing CPGs and leasing forest areas. Although local government officials do not openly oppose them, they hold CPG requests for longer than the legal time limit and do not provide financial support.

Limited rights to use forest timber: Mongolia's forest is rich in NWFPs, but timber generates higher economic profits. Forest resource users are therefore very interested in exploiting timber, but do not always receive the shares of AAC indicated in their FMPs. This leaves leaseholders with insufficient financial gains, which prevents them from managing and utilizing their forest resources properly. CPG and private leaseholders are therefore unable to fund conservation measures and improve their own and others' livelihoods.

Conclusions and the way forward

COMPLETE THE FOLLOW-UP WORK ON FORESTRY LEGISLATION

In today's unpredictable world, private and public sector management depends on speedy adaptation. The private sector has its own updating mechanism based on competition, income generation, marketing and customer demand. This sector cannot survive unless it can monitor these market signals.

The public sector faces the challenge of responding to different demands from different groups of society. In Mongolia, public servants tend to steer rather than serve public interests and opinions. Training and public awareness activities should therefore be directed to not only communities or private companies, but also – and in the first place – to the government officials delivering public services. It is vital that government staff fully understand and correctly interpret legislation and regulations, and are willing to implement them. Current national forest policies, legislation and government regulations are not perfect:

- Fixing a minimum number of families per CPG is discouraging the formation of CPGs and leading to ecological damage. This number should be decreased or eliminated. The negative effects of this regulation have been dramatic because Mongolia has the largest per capita land area of any country in the world – at 0.6 km²/person in 2001 – and most of the rural population are nomadic herders. It is therefore difficult for a fixed number of families to get together and coordinate their activities. In addition, the concentration of herding families in one forest area would have negative impacts on the ecology of that area.
- By stating that only planted forest can be privatized, the Mongolian legal system provides very few opportunities to develop forest ownership. The growth period for forest in Mongolia is long owing to harsh climatic conditions. Mongolian lawmakers should therefore examine the possibility of allowing ownership of natural forest areas.
- The monitoring and evaluation of leasehold forest areas must be transparent and include civil society or independent third-party representatives. According to current regulations, the district governor has the right to cancel contracts with leaseholders.
- There is need to establish national policies and a favourable legal environment to promote private companies' wider participation in diverse forest tenure management systems.
- Greater coordination among different donors' forestry activities is required. At present, each donor-funded project follows its own path, independent of the others. The best practices, data, trained personnel and handouts from different projects should be exchanged and disseminated among similar areas. MNE should take the lead in this.

STRENGTHEN MANAGEMENT OF NPAs

Mongolia's protected areas face an uncertain future, owing to the lack of funding, capacity, environmental awareness and incentives for ecosystem management. The government does not have the economic resources to invest in increased staff and equipment for NPAs: "paper parks" do not protect natural resources. To break the cycle of poverty and environmental degradation, Mongolia must involve local communities in the long-term conservation of protected areas. New socio-economic and socio-environmental partnerships are needed to maintain the country's NPAs and the biological wealth they harbour.

Empowering local people means building alliances with Mongolia's nomadic population, who knows the environment and will benefit directly from protecting it. This would be an efficient policy for the long term, but current NPA legislation does not allow for community involvement in NPA management and prohibits any kind of leasing. A new NPA law should ensure the rights of communities living within the boundaries of protected areas.

Mongolia case study

Local participation in NPA management compensates for the lack of NPA rangers and other government staff. United, both rangers and local community groups can protect the country's wild lands from poachers, illegal miners, loggers and other invaders.

SETTING THE PRIORITY FOR FOREST TENURE: SFM OR POVERTY ALLEVIATION?

Mongolia faces a major dilemma regarding natural resource management. In the past, corrupt and weak governance allowed private industry groups to benefit from natural resources without control, transparency or accountability. Mongolia now has to find the right balance between utilization and conservation. Today's degraded forest simply cannot survive any more inadequately controlled utilization pressure from stakeholder groups, including communities and private companies: the situation is unsustainable.

However, Mongolia does not have sufficient financial capacity to subsidize the environmental management activities of CPGs. Sustainability depends on generating enough economic benefits from forest resources to motivate leaseholders to invest in conservation and expansion of forest resources. CPGs, private companies and NPAs will then have sufficient income to fund afforestation, pest and wildfire control, prevention of illegal logging, etc.

In the meantime, Mongolia has a high rate of poverty, especially among rural populations. This is therefore a "chicken and egg" problem, and some stakeholder groups have critical roles. First, professional forest planners should establish transparent and correct FMPs for forest leaseholders. Second, forest leaseholders should acquire the skills and capacities to implement approved FMPs, through the government training and support stipulated in MLF. Third, an adequate professional monitoring and evaluation system for leasehold forest resources should be established through a transparent process involving interested civic groups.

PREPARE CPGs AND COMMUNITIES TO MANAGE FOREST RESOURCES

For a long time, environmentalists have sought to separate humans from nature, through methods and approaches that diminish people's role in environmental management. Humans have managed or steered the environment. Scientists have focused on ecosystems (which existed long before humans became involved in them) as the measure of success for environmental management. Today, this approach is no longer viable. In a world of increasing human population and decreasing natural resources, it is difficult to implement environmental programmes and achieve environmental goals without considering the human aspects. Environmental management now needs to focus on not just the ecosystem but also human factors.

In terms of environmental legislation, Mongolia is ahead of its former partners in the ex-Soviet Union. For the first time in its history, the Mongolian government is officially providing people with rights to participate in forest management. Mongolia now seems to be on the way to ensuring that forest leaseholders especially communities, have sufficient support to gain the skills necessary to manage forest sustainably while obtaining economic benefits from it.

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ANNEX 1. A SAMPLE MATRIX

Matrix 1 Cumulative Data	Owner is the exclusive manager	Forest operation contracted/ Partnerships	Devolved management rights	Other	Total
Public	12,882,909		503,691	10,500	13,397,100
Private					
Community/Group owned					
Owned by indigenous or tribal people					
Other types of ownership					
Total	12,882,909		503,691	10,500	13,397,100

(*) Forest Area: ha
 (**) Ownership of the land = ownership of the forest

Matrix 2 Detailed data public ownership	Owner is the exclusive manager		Forest operation contracted/ Partnerships		Devolved management rights		Others	Total
	Strictly limited: No extraction rights for others	User rights/ Customary rights/Permits to hunt, gather dead wood and NWFP	Joint forest management with communities. Community timber concessions /licenses	Private company volume permits/logging concession /schemes	Community forest leases/forest management concessions	Private company leases/forest management concessions		
State	3,320,000		Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:		3,320,000
Local governments: regions, provinces and districts		9,562,909	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: 343,691 Duration: 60 Number: Access: yes	Area: 180,000 Duration: 60 Number: Access: yes	10,500	10,077,100
Local governments: villages, municipalities			Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:		
Other public bodies			Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:		

(*) Forest Area: ha; Duration: years; Number:number; Access: Y/N

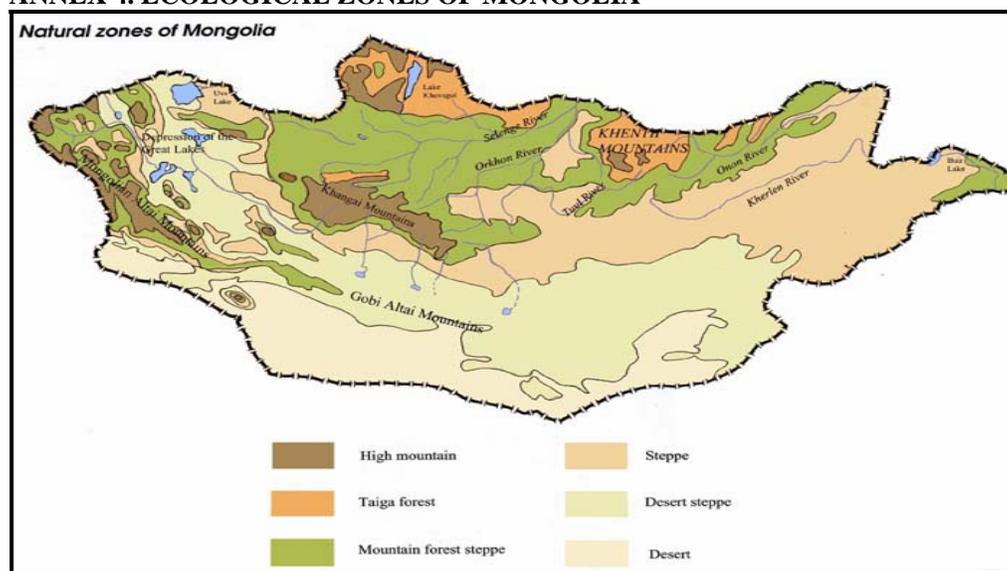
Matrix 3 Detailed data private ownership	Owner is the exclusive manager		Forest operation contracted/ Partnerships		Devolved management rights		Others	Total
	Strictly limited: No extraction rights for others	User rights/ Customary rights/Permits to hunt, gather dead wood and NWFP	Joint forest management with communities. Community timber concessions /licenses	Private company volume permits/logging concession /schemes	Community forest leases/forest management concessions	Private company leases/forest management concessions		
Individual			Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:		
Industries			Area: Duration: Number: Access:	N.A.	Area: Duration: Number: Access:	N.A.		
Others			Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:		

(*) Forest Area: ha; Duration: years; Number:number; Access: Y/N

Matrix 4 Detailed data Community/Indigenous/Other ownership	Owner is the exclusive manager		Forest operation contracted/ Partnerships		Devolved management rights		Others	Total
	Strictly limited: No extraction rights for others	User rights/ Customary rights/Permits to hunt, gather dead wood and NWFP	Joint forest management with communities. Community timber concessions /licenses	Private company volume permits/logging concession /schemes	Community forest leases/forest management concessions	Private company leases/forest management concessions		
Community/Group owned/User groups			N.A.	Area: Duration: Number: Access:	N.A.	Area: Duration: Number: Access:		
Owned by indigenous or tribal people			N.A.	Area: Duration: Number: Access:	N.A.	Area: Duration: Number: Access:		
Other types of ownership			Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:	Area: Duration: Number: Access:		

(*) Forest Area: ha; Duration: years; Number:number; Access: Y/N

ANNEX 4. ECOLOGICAL ZONES OF MONGOLIA



ANNEX 5. PEOPLECONSULTED

B. Otgonsuren	Forest and Water Research Centre, MNE
L. Dorjtseden	Secretary, National Forest Programme
D. Enkhsaikhan	National Consultant, FAO, MNE
Patrick Evans	FAO, Mongolia
H. Yhanbai	Head of Forest Policy Coordination Division, MNE
Saule	Officer, Forest Policy Coordination Division, MNE
A. Enkhbat	Head of Policy and Monitoring Department, MNE
Z. Odonchimeg	Head of Soum Forestry Unit, Altanbulag soum Selenge aimag
Ch. Munkhbayar	Director of Numj Obbi LLC, Selenge aimag
N. Narantuul	Director of Selenge Khokh Chono LLC, Selenge aimag
Ts. Ganbat	Leader of Tsevtseg Forest NGO
Ch. Munkhzul	Environmental Law Enforcement Officer, Selenge aimag
G. Batzorig	Soum Ranger, Altantbulag soum Selenge aimag
O. Otgontogs	Soum Ranger, Altantbulag soum Selenge aimag
T. Tuvshintogs	Officer, NEU of Selenge aimag
G. Tsengelzaya	Officer, NEU of Selenge aimag
D. Dovdondemberel	Head of Bayan tsatsargana Herders' Group
S. Radnaabazar	Head of Bayangol CPG, Mandal soum, Selenge aimag
L. Gankhuyag	Member of Bayangol CPG, Mandal soum, Selenge aimag
I. Davaasumbuu	Director of NEU Tuv aimag
A. Dorjsuren	Director of Central Forest LLC
J. Natsagdorj	Director of Ulaanbaatar Forest LLC
S. Dashdavaa	General Engineer of Forest and Water Research Centre, MNE
Chuluundorj	Officer of Forestry mapping bureau
R. Sarangoo	National Consultant, GTZ Project
Ariunbold	Forestry Officer, Khan Khentii Protected Area Administration
D. Batmunkh	Law Enforcement Officer, Khan Khentii Protected Area Administration
S. Bilegsaikhan	Senior Officer of Khan Khentii Protected Area Administration
D. Sergelen	Head of CPG union of Binder soum, Khentii aimag
R. Tsogtsaikhan	Head of CPG union of Jargaltkhaan soum, Khentii aimag

