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REPORT ON NATIONAL FOREST AND WATER POLICY OF MONGOLIA

I. CURRENT SITUATION OF FOREST RESOURCES AND THE FORESTRY SECTOR

Land, population, economy, and forest resources

Land area. Mongolia has an area of 1564,1 thousand km². The territory of country has been divided into the Hangai mountain, steppe and gobi-desert zones.

Northern part of Mongolia, i.e. Khangai and Khentii ranges covered with coniferous forests, and the southern part with saxual forests.

Population. Mongolia has a population of 2407.5 thousand people (by 2000 census). The city with the greatest population is the capital city of Ulaanbaatar with 2407.5 inhabitants. The aimags with the large populations are Hovsgol (119.8 thousand people), Oborhangai (113.0 thousand people) and Selenge (100.9 thousand people).

Population density. Population density of Mongolia is 1.57 inhabitants per square kilometer and in Ulaanbaatar it is equal to 147.98 inhabitants per square kilometer.

Annual population growth rate. The annual average rate of population growth is 1.4 percent in Mongolia.

Percentage of urban and rural people. According to the 2000 population census, 786.5 thousand people live in Ulaanbaatar, and 1621.0 people live in the countryside.

Gross National Product /GNP/ per capita. The Gross Domestic Income (GDI) in 2000 reached 1038976.5 million tugrics, and in Ulaanbaatar of which per capita Gross National Product (GNP) has reached 434627.3 million tugrics.

Annual growth rate of Gross Domestic Product. The annual rate of GDP of Mongolia is 1.1 percent.

Forest area: The forests are mainly located in the northern parts of the country, basically within the Khangai and Khentii ranges and Khobsogol region.

Mongolian forests are located on the very brink between the Siberian taiga or Southern Baikal's forest area and the Central Asian steppe zones, functioning as a separator of great taiga and steppe, and protect them of drying effect. It shows that Mongolian forests have international ecological duties.

Forests in Mongolia due to their Central Asia hard continental origin, have low capacity of natural regeneration, stretch grow and they are very sensitive to forest fire, insects and anthropological activities on forest use.

Forests of Mongolia are situated along the three water basins in the world, and play an important ecological role in regulation of river's water resources, protection from soil erosion, softening the hard climate conditions, adsorption of green house gasses, creating of suitable or pleasant conditions for growth of flora, fauna and micro organisms, and restricting of eternal frost.

Total forest area /or forest fund/ of country equals 18291.8 thousand ha and it covers only 8.1 percent of total territory, so by global scale, Mongolia considered as a country with poor forest reserves.

Mongolian forests contain about 140 species of trees, shrubs and woody plants, of which coniferous and non- coniferous forest cover 84.0 percent, and Saxaul /*Haloxylon ammodendro*/ forest 16.0 percent.

Land covered by forest classified as follow: forest and non-forest land, covered and uncovered by forest land.

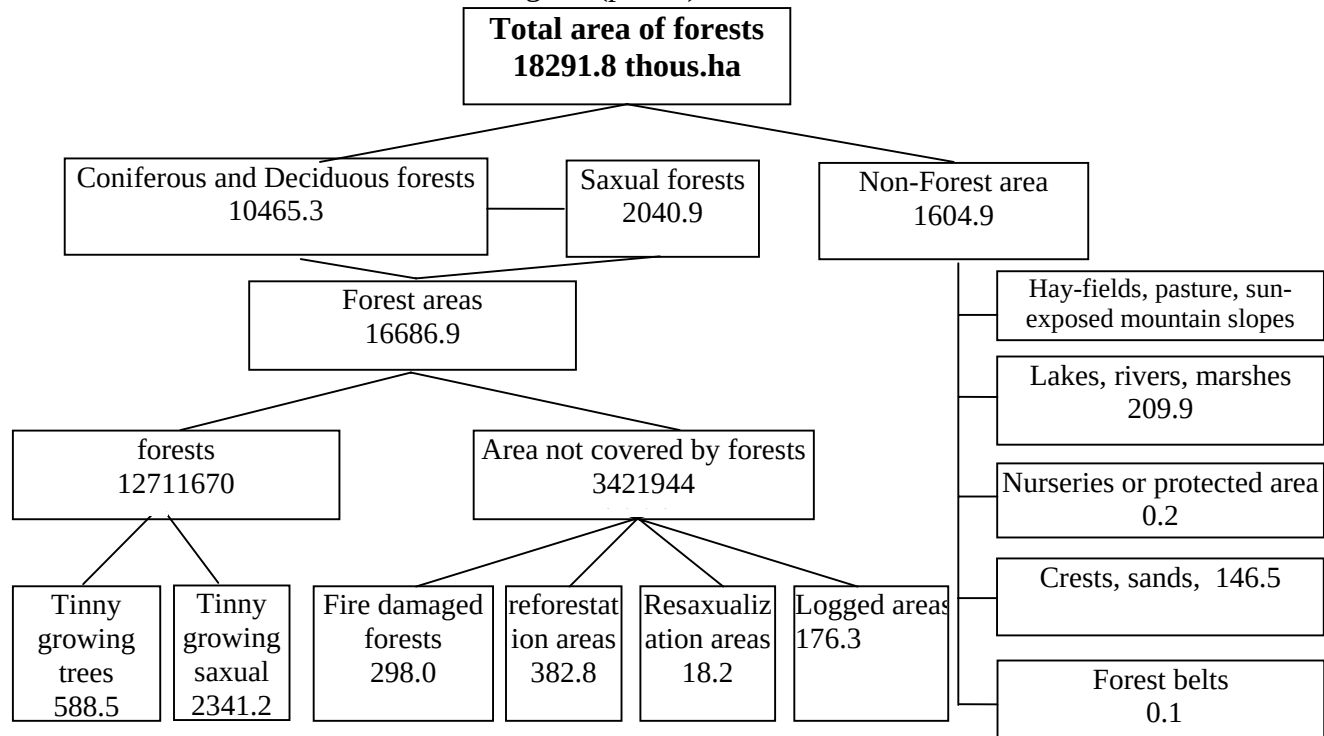
From country's total forest area is 16686.9 thousand hectares or 91.2 percent are currently growing trees, while 1604.9 thousand hectares or 8.8 percent of are not.

70.4 percent of country's forest fund consisted from land, covered by forest, but 8.8 percent is non-covered by forest land.

On land of 10465.3 hectares covered by forest grows coniferous and non-coniferous forests, and total area of land, covered by saxaul equals to 2040.9 thousand hectares.

Non-forestry lands of 1604.9 hectares consists from southern side of mountain without trees, and crests, pasture and grass haying sites, protected areas, lakes and rivers so on. /See Figure1/

Figure 1
The forest resource structure of Mongolia (per ha)



Area under the forest management plans. Inventory of Mongolia's forest resources were begun in 1958 and at this time the main task was to calculate forest reserves for supplying timber industry, to make calculations, related to forest use, and mapping of resources.

In 1956 and 1974 Mongolians with Russian researchers has provided complex survey investigation on Mongolian forest resources, and had issued full forest data and forest map of the country.

Since 1988, for environmental protection reasons, we began to formulate forest resource management projects and forest management plan of future ten years for each aimak /provinces/.

After acceptance of resolution on formulating forest resources management plan for each aimak, we already provided forest management work in following aimaks on field of:Uvs aimak-185.6 thousand hectare, Zavkhan-990.0, Tuv-1505.1, Selenge-2225.6, Ovorkhangai-203.0, Arkhangai-1165.4, Bulgan-1986.4, Khovsogol- 2000.0 thousand hectare, respectively.

It means, that on basis of provided assessment of forest coverage, total square of forest areas and spreading frame, general condition of forest for each sum /county/, aimak and region, we formulating and implementing forest management plan of men years. And we also issued maps of forest areas, with scale of 1:50000, where investigation was carrying out.

In future, we planing to complete forest investigation in Khovsogol aimak, and also considering to include Khentii and Dornod aimaks in this investigation. Thus, in near future we will complete complex detailed investigation fully and it gives as good opportunity to formulate national forest management plan in the future.

Forest area per capita. Forest area per capita Mongolian person equals to 6.9 hectare, and this is a quite big figure in comparison with world average.

Regeneration of forest. In Mongolia, only forest utilization activities have been popular and restoration and reforestation activities have largely been abandoned till the end of 1960. Forest restoration started in 1970 but only very small areas were reforested starting from 1980. As a result of intensifying these activities according to the state plan, the scale of this sort of work is being gradually enhanced.

In past years we reforested about 90.0 thousand ha. In last decade reforestation and forest regeneration activity implemented on 4-9 thousand ha. Afforested area in last decade showed in Figure 2.

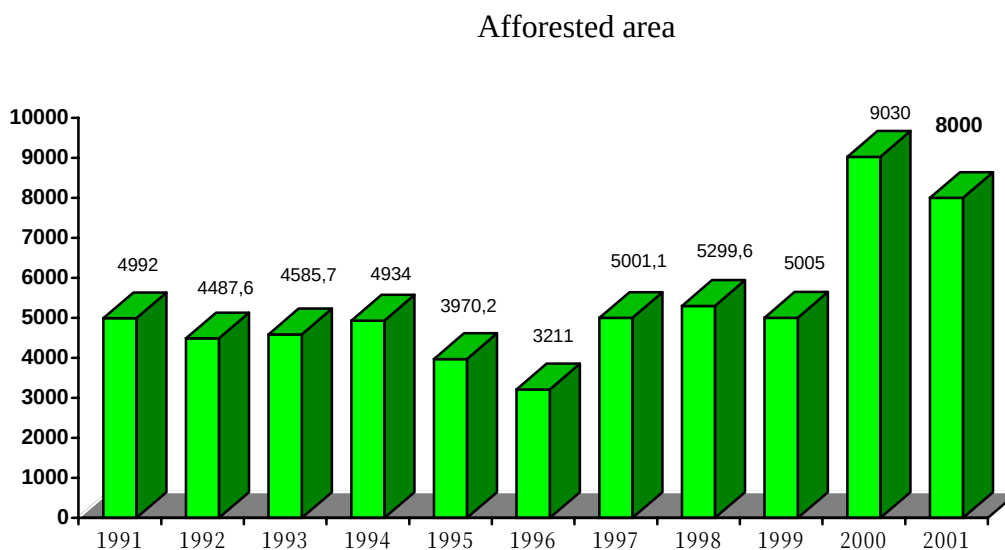


Figure 2

In 2001 reforestation and forest regeneration activity implemented on 8 thousand ha and from which 4987 ha reforestation was financed from state budget. The works on the rest 3013 ha was financed by local budget, by capitals of logging enterprises and other sources. Foreign countries such as Japan and Holland have real contribution to the re-forestation in our country, establishment of nursery grown seedlings, growing of seedlings, by implementing different projects.

By national wide, recently we are growing 9.1 million pine seedlings of 1-3 years old, 10.6 million larch seedlings, and 1.5 million seedlings of other types of tree.

In 2001 in Mongolia 64 organizations carried out activities for reforestation, growing seedlings and sapling in the tree nurseries and green houses. And 15 organizations built new green houses, and 12 new organizations were involved in this work last year.

Rate of deforestation. According to statistics data, in 1970-th and 1980-th, when logging activities was booming, in Mongolia 2.0 million cubic meter wood was cut annually by non-technological methods. Then no body cared about prevention of fire, struggle against harmful forest insects and prevention of them, so during last two decade the total forest area decreased by 1.4 million ha.

Thus, the quarter of total land, covered by forest affected to anthropological influence, and forests damaged by timber exploitation, fires and insects.

Forests damaged by timber exploitation, fires and insects

Table1

Year	Timber exploitation areas, (per 1000 m ³)	Area damaged by fires, (per 1000 ha)	Area damaged by insects, (per 1000 ha)	Reforested areas, (per ha)
1980	2130.2	107.2	115.0	966.6
1981	2173.5	4.6	150.0	876.6
1982	1939.1	153.6	150.0	1688.2
1983	2203.4	87.3	141.0	2610.2
1984	2068.1	156.2	105.0	2236.1
1985	2236.1	33.3	24.2	3202.6
1986	2205.3	28.6	26.6	3575.0
1987	1919.1	143.3	32.3	3819.1
1988	1800.5	2.3	24.0	3229.0
1989	1290.8	17.4	27.0	4038.7
1990	1200.0	649.8	33.1	4401.5
1991	892.4	63.9	25.2	4992.0
1992	854.8	390.7	29.1	4487.6
1993	856.6	205.2	32.6	4585.7
1994	864.5	120.0	135.0	4934.0
1995	636.2	34.1	130,5	3970.2
1996	653.2	2300.0	200,0	3211.0
1997	509.1	2700.0	250.0	5001.1
1998	711.2	731.5	151.0	5299.6
1999	464.4	25.3	160.5	5065.0
2000	500.0	289.0	150.0	9030.0
2001	593.2	87.9	1080.0	8000.0

1.2. Percentage of protected area land. Protected areas play a key role in maintaining ecosystems of different natural zones, conserving habitats for rare and endangered species and cultural heritage, providing biosphere balance and saving them for next generations.

Today, special protected areas of Mongolia encompass 20.5 million hectares covering 48 areas, roughly 13.1 of whole country's territory. 60 percent of the total protected territory is forest areas.

There is need to carry out permanent monitoring, create database on forest condition in the protected areas.

1.3. Production, trade and consumption

Industrial round wood /production, import, export consumption/. As world demand in wood production is increasing constantly, in Mongolia we also see tendency of increasing demand in this products.

Total annual demand in an industrial round wood of our country equals to 350 thousand cubic meters and it has tendency to increase in future, because of revive of national industries and increase of general demands in wood products.

Within the frame of implementation of two programs, enacted by Parliament and Government resolution, we are considering of annul tax on round wood import, by creating legal framework for round wood. If this problem will be solved in favor to us, the quantity of wood, which produced in Mongolia, will be decrease. We think, that there is a possibility to buy about 100 thousand cube meter round wood from abroad.

According to foreign trade statistics, even this situation, where import tax on round wood products was about 5 percent, by the end of 2001 we imported about 500 cubic meter wood. But due to high tax on the round wood, we think that there is no future of expansion of round wood import.

Sawnwood /production, import, export consumption/ In general, taking into account that sawnwoods are equal to round wood products, because of they have the same processing technological rate and use the same techniques, we considering sawnwood as usual wood product.

Demand on the sawnwood materials /plank or board/ equal to 80 thousand cubic meter, and in the future demand in this type of wood product will increase due to revive of national industries and demand itself.

Wood-based panels. /production, import, export consumption/ Wood-based panels, like plywood - are products, which require special processing technique and equipment.

Before 1990 in our country we produced above-mentioned products, but we are now using only imported products. According to foreign trade import statistics data by the of 2001, even import tax was about 5 per cent, we imported 262 square meter wood-based panel, above 1 million square meter wooden board and 53 thousand square meter plywood.

Pulp for paper. Since we do not producing paper productions, all kind of pulp for papers are imported from foreign countries. For example, according to foreign trade import statistics data at

the end of 2001, Mongolia imported about 800 ton paper for table-napkin, notebook, newspaper, 1133 ton toilet paper, 5 million pieces notebook and 400 million label papers.

PROBLEMS FACING IN THE FORESTRY SECTOR

Problems facing now. The main reasons, deteriorating the quality and decreasing forest resources are: anthropological activities, forest fire, insects, use of pasture without any control, mining, timber cutting without management plan, illegal cutting of trees for construction and fuel wood, and haying grasses in areas, close to forest areas.

Forest resources are decreasing by above-mentioned reasons. Forest restoration in Mongolia started in 1970, but only very small areas were reforested from 1980. Reforestation method, technology were old and nursing for seeds was not properly, and on another hand, because of harsh weather conditions in Mongolia, the results of forestry work in some places were unsatisfactory.

In connection with deteriorating of forest resources and losing their ecological importance, Mongolian Government from 1990 paid more attention on the protection of forest resources, diversifying of forest use, and combat desertification.

The main problem in the Mongolian forestry sector is weakness of structure and poor management. In last decade structure of forestry sector has changed several times, resulting lost of unity of this sector.

Function, duties and responsibilities of forestry sector have divided among several ministries and agencies.

Re-organisation of responsibilities in 1987 changed the administrative structure in the forestry sector, placing forest management within the Ministry of Nature and Environment and timber harvesting and forest industry development under the Ministry of Trade and Industry.

The Forestry and Wildlife Management Bureau and Geocological Research Institute from Mongolian Academy of Science are responsible for forest resources inventory, and scientific and technological development in this sector.

Different departments of Ministry of Nature and the Environment are responsible for planning, implementation of Programs, management, reforestation and monitoring.

Although the responsibilities and duties for forest management at local level transferred to the provincial governments, there is lack of finance, capital, human resources and there is no special organizations, responsible for forestry management.

At the beginning of the reform, we could not find right solution of restructuring of forest and hunting industry, and also during the transition period less attention was paid in this field, so forestry sector of Mongolia fall into stagnation. These factors reflected in following aspects:

There are lack of finance sources, weakness of this sector, because of combined influence from following factors, such as privatization, decentralization and re-structuring.

Harmful effect on ambient environment because of decreasing of quality of forestry works and increasing of wastes from wood production.

Not fully utilization of timber cutting industry's capacity; continuous stagnation; decreasing number of work place and income of employers, rapid decrease of investment in this sector, and loss of forestry sector's position in economics of country. Lack of skilled manpower. Weakness of scientific organization's capacity

Other programs. Mongolian Action Program XXI is fundamental document, determining national wide future development tendency and, which reflects all programs and plans of sum and aimaks /administrative units like county or province/.

There are also other programs and documents like "Action program of Government", "State Policy on ecology"(1995),"Program on combat desertification" (1996), "National Action plan on protection of biological diversity" (1996), "National program on protected areas" (1998), which reflect the tendency of forestry protection and restoration activities.

Current National Forest Policy Review Mongolia

National policy, declaration and tasks on forest.

Mongolians are certainly one of few nations in the world, who handed down natural resource and pristine conditions of nature to next generations quite well by creating legal bases for regulating inhabit of nomads life and standard of civilization in treating nature.

Beginning from 1970s, conservation of natural environment took an intensive impetus in our country and began to take a number of aimed measures such as month campaigns to conserve natural environment and wild animals, and to conserve and restore forest resources. It has passed over thirty years since Mongolia began to mark Day of Forest men and Hunters on the third Sunday of every September, during which workers of our sector assess results of works done to conserve and regenerate forest and hunting resources.

For the past period, within the process of political and economic reforms, the government has been continuously taking various measures in designing a special policy for conservation, proper utilization and regeneration of the forest, as well as in providing legal and economic basement for policy implementation, though there were some mistakes in these works.

Constitution of Mongolia, which enacted in 1992, states that land and its womb, forest, water, wild animals, plants and other natural resources are the property of Mongolia and will be under the ownership of Mongolian citizens and state protection. Human rights to live in a healthy and safe environment and to be protected from environmental pollution and ecological imbalance were confirmed for the first time in the basic law-in the constitution.

Accordingly, it has become necessary to make amendment to other relevant legislative acts adapting to the new constitution. The parliament passed package of laws, including Law on Forest,

Law on Payment for Preparing and Using Forest for Firewood in 1995 and Law on Protection of Forest and Steppe from Fire.

By doing so, relations between the state, enterprise, organizations and individuals concerning to conservation, proper usage and rehabilitation of forest resource, became to carry more new directions and contents and legal regulations became more improved reflecting peculiarities of market economy.

In 2001 the government of Mongolia renewed National Forest Programme. /National Forest Programme attached in full text/

Main aspect of the renewed National Forest Programme is about some structural and organizational changes, including enlargement of Natural Resource Board as Government Implementory Agency, establishment of Forest Board and forest offices in the provinces with forest resource, as well appointment of forest specialists in provinces without forest. By appointing official establishment in rural areas in order to centralize forest payment fully, there will be possibility to increase forest profits twice. This is considered to cover expenditure of above forest boards, while increasing profit to the state budget.

Under a government's resolution 13, 2002, action plan of implementing first stage tasks of National Forest Programme, and the staff of National Commission, which responsible for National programme implementation and work rule of this commission were adopted.

Moreover, the parliament has passed a programme of measures to solve employment and social problems of villages, established under the task of restoring forest processing industry.

For the purpose of publisizing legislative acts on forest to the public, a number of law collections have been published. For example, the Ministry issued "Laws of Mongolia on Natural Environment" in 1997, "Legislative Acts on Forest" in 2001 and "National Forest Programme" in 2002 for citizens and organizations. Besides, the ministry many times distributed copies of above and other relevant legislative acts throughout the country.

Separate Tools for Forest Policy and its implementation process. For the purpose of implementing legislative acts on forest and national forest programme, the government of Mongolia passes resolutions and approves a number of regulations and rules.

In particular, the government passed "Regulations of having forest resource possessed on contract" for the purpose of creating psychological and scientific fundaments and environment for complete implementation of conservation, proper usage and rehabilitation of forest resource by bringing close the entities, which use forest resource, to forest resource.

Over the past five years with the aim of implementing legislative acts on forest, Ministry of Nature and Environment together with other relevant state central administrative agencies issued over thirty rules and regulations concerning forest conservation and rehabilitation.

In particular, the Ministry approved a model normative costs of 1 hectare for forestry activity together with Finance Minister and legislative rules, including Regulation to Grant and Use Certificate of Log and Timber Origin, Recommendation to Prepare Wood from Forest, Regulation to Grant Consumer Wood from Forest and its Control, Temporary Rules to Clean up the Forest and Regulation on Control on Trading Wood and Wooden Materials in the capital city, province centers

and other urban areas, were issued and are being implemented by order of Ministry of Nature and Environment.

Current situation of forest production. Production of this sector has developed in Mongolia since 1924 and is one of the eldest industrial sectors, which carried out continuous operation for the past eighty years.

Until 1990 the government paid a great attention to wood supply and process industry working with definite plans, common management and organization due to demand and requirement of wood and wooden products of that time and made considerable contribution to economic development of the country.

By 1990, 10 main items of products including 700 thousand m² industrial round wood, 550 thousand m² sawn wood, 400 thousand m² wood-based panels, 33 million match boxes and other wooden furniture used to be produced every year by 27 wood process plants, in which over 10000 people work.

Privatization of above-mentioned plants without any preliminary preparations in the process of privatization has broken technologically connected units into over fifty independent entities. After the privatization, most of them got into bankruptcy because of the fact that volume of investment and building construction decreased, consumers' purchasing capacity decreased, machines and techniques got backward, investment to implement technological innovation was not satisfactory, price of spare parts and fuel sharply rose, many types of taxes and payment increased, the sector's common management and organization lost.

By the end of 2001, registered 106 entities are operating in this sector, of which 65 domestic companies, and 41 foreign invested joint ventures. 81 entities of the total operate in local areas and remained 25 in Ulaanbaatar.

Over the past period with the aim of supporting forest industry, "National Forest Programme", "Programme of Measures to Solve Employment and Social Issues of Villages Established under the Task of Rehabilitating Forest Processing Industry" were approved and is in the process of implementation.

According to statistical data, ¥1368.9 million wooden products were produced in 2001, which is an increase of 31.7% compared with 2000.

However, programme implementation is very slow and has not yet reached a desired result due to financial problems. But major reason is lack of works of improving legal environment for relevant state agencies, NGOs and enterprises in acting in mutual support under a common policy.

In other words, it is required to improve current management structure and organization of the forest sector adapting to real modern requirements.

In order to restore forest and wood production, it is necessary to take a package of measures to attract foreign investment, introduce state of the art technology, improve the wood production level, and produce export products.

STRUCTURE, ORGANIZATION AND LEGAL MECHANISM AND PROCESS TO DETERMINE FOREST POLICY

To determine forest policy. Article 14 of Natural Environment Conservation Law states that work of drawing up and carrying out national programme on conservation of natural environment, provision with ecological safety is the full authority of the Government of Mongolia. But Article 15 of the law states that central government organization is responsible for execution of state policy and laws and resolutions on conservation of natural environment, proper utilization and rehabilitation of natural resources, and keeping eco-balance.

According to this article, the Ministry of Nature and Environment bears the duty to work out and carry out state policy on conservation, proper utilization and rehabilitation of the forest resource and Ministry of Trade and Industry responds in wood and forest industry policy and in the execution of this policy.

Article 16 of Natural Environment Conservation Law stated the duty of governors of provinces and the capital city to manage the implementation of legislative acts and government decisions on natural environment conservation. But there is not any common system for forest organizations, and 2-3 state inspectors of environmental control works in Natural Environment Control Board, and one specialist responsible for natural environment policy in governor's offices.

Active participation of not only professional organizations and specialists but also local citizens, enterprises, research and non-governmental organizations is very important for working out a policy on conservation, proper utilization and rehabilitation of the forest.

The Ministry organizes works on wide involvement of representatives from citizens, enterprises, research and non-governmental organizations in the process of developing forest policy, and reflecting their proposals and give advice in decision-making processes.

It must be noted here that it is necessary to encourage active participation and efforts of state and local administrative bodies, Egos and individuals in intensifying works of conservation, proper utilization and rehabilitation of the forest, further.

It is also required to provide psychological environment and conditions for complete implementation of conservation, proper utilization and rehabilitation of forest. With the purpose of achieving these tasks, the government adopted "Regulations of Getting Forest Resources Possessed on Contract" in 1998, the Ministry of Environment adopted "Recommendations for Utilizing the Forest Resources as Joint Ownership by Forming Forest Groups" respectively. As of today, 25 entities and forest groups possessing the forest resource on contract, are operating in 270.0 ha square.

Within the framework of measures to implement the tasks put in "Programme of Measures to Solve Employment and Social Issues of Villages established under the Task of Restoring Forest Processing Industry", which was approved by a Resolution 30, 2000 of the parliament, Minister of Social Welfare and Labor and Minister of Nature and Environment signed in 2000 an agreement on cooperation in supporting employment in the direction of conservation, proper utilization and rehabilitation of the forest resource.

Basing on results of this measure and with the aim of expanding projects on forest rehabilitation and cleaning-up, above-mentioned two ministries are cooperating in resolution of issue of paying salary of registered unemployed involved in forest rehabilitation and cleaning up from Employment Support Fund.

In 2002 Labor and Employment Board put the objectives to provide 430 unemployed with temporary workplaces and pay their salary from labor employment fund, and to involve 210 unemployed in works of cleaning up the forest greatly affected by harmful insects and diseases” in Ulaanbaatar city, Selenge and Tuv Aimags paying their salary from the fund and to specialize them on the basis of training.

Organizing works of fulfilling government tasks on increasing employment, decreasing unemployment, conserving natural environment, keep ecological balance, and providing people with favor conditions of living in healthy environment with the participation of governmental and non-governmental organizations, enterprises and individuals, is very significant for implementing above tasks.

To improve system and management of forest organizations

After structural changes carried out in 1987 in state administrative bodies, Ministry of Forest Industry was abolished and duty to conserve and rehabilitate the forest was given to the Ministry of Nature and Environment and duty on forest supply and process to the Ministry of Light Industry (currently the Ministry of Trade and Industry). Over the past period, the Ministry of Natural Environment carried out works of working out and implementing the policy of forest conservation and rehabilitation through the Forestry Authority, Forest and Plant Office, Forest Bureau and Natural Resource Board.

As for the Ministry of Trade and Industry it has no unit responsible for the development of a policy of forest supply and process industry until now and even there was some period, when there was no certain official responsible for this issue.

Common policy on forest were lost and forest reserve decreased by 1.4 million hectares in 20 years since that time when duty to conserve, properly utilize and rehabilitate the forest resource were forcefully disjoined into 2 ministries.

In “National Forest program” approved by 248th government resolution of 2001, it was stated to set up a central government organization in charge of forest issues, and establish forest offices with the duties of effectively organizing operations of professional organizations in provinces with forests and capital city.

Measures to establish two forest entities in Tuv and Bulgan provinces under the auspices of UNFAO and one entity in Selenge Province with the support of German technical cooperation project are being taken.

IMPLEMENTATION AND RESULTS OF FOREST POLICY

Implementation and results of forest policy

A number of government resolutions and decisions on protecting, properly using and rehabilitating forest resource are being made and implementation measures are being taken.

Law amendment to “Law on Forestry” was made. New articles and provinces directed to abolish illegal wood supply from the forest and which tightened up responsibilities to illegal wood suppliers, were introduced in the Law on Forestry.

Alongside, over the past two years by issuing many rules and regulations and having them followed in central and rural areas, the ministry has provided opportunity of putting control on the process of wood supply.

Work of revising National Forest Programme and reflecting an issue of creating structure of state and local agencies responsible for forest in the programme, is in full process.

As a result of above measures taken by the government, damages caused to forest by fire and harmful insects were decreased considerably and work of efficiently organizing fight against harmful insects on time became more possible.

Supply of seedling has improved and reforestation work scale has increased thanks to wide involvement of individuals, enterprises, and organizations in work of rehabilitating the forest.

There is a tendency of the restoration of wood supply and process plants due to investment to these plants and introduction of new technologies.

Currently, six wood process plants with the investment of Germany, South Korea and China are operating in Ulaanbaatar City, and Darkhan-Uul and Selenge aimags.

Existing problems. Execution of forest policy and related legislative acts is not very satisfactory and there are some following difficulties in the implementation:

Due to economic difficulties in the country, satisfactory investment and technical innovation is not being made for the forest sector.

United system of forest organizations is lost in central and rural areas.

Capacity of administrations of central and rural forest organizations is very weak and there is a lack of qualified personnel.

CONCLUSION AND RECOMMENDATIONS

Conclusion. Implementing decisions made at UN meeting on Natural Environment and Sustainable Development held in 1992 and within the framework of irregular meeting between United Nations and Mongolian government on issues of forest, basic principles of forest policy and programme were determined at negotiations on international forest policy.

National forest policy and programme is a complex issue, which include specific elements and principles directed to all types of forest management, conservation, and provision it with stabile conditions. It covers wide range of inter-sector tendencies, which include development of policy,

strategy, and activity plan for all period of forest development, and their implementation, control, research and assessment.

These are implemented in accordance with socio-economic and natural environment conditions. For this, it is necessary to adapt to some documents such as the decisions of UN meeting on Natural Environment and Sustainable Development /Article 10-15 of the Action Programme of the 21st Century/, Principles on Forest and others, as well as, to stable development strategy, a wide-range programme on properly utilizing land and its wombs of a country and others.

Necessity of developing national forest policy and programme, which cover all issues concerning the forest, is especially reflected in the Action Programme towards the 21st century of Mongolia.

Recommendations. Our country considers it purposeful to pay its attention towards following issues in order to provide stable forest management:

- To improve system and organization of forest sector
- To make amendment to legislative acts adapting to today's requirements
- To training and retraining personnel of the forest sector
- To improve the work on conserving and preserving the forest from fire, harmful insects and diseases and take measures of abolishing illegal logging
- To take measures of intensifying the work on creating regular reserve of seeds and sapling and rehabilitating the forest, as well as improving its efficiency.
- To provide firewood necessity of households and organizations by cleaning up the forest affected by forest fire, harmful insects and diseases at the first stage and to abolish the utilization of growing young wet woods.
- To take measures of conducting training for the public on forest conservation and rehabilitation and involving individuals, enterprises, state bodies and NGOs in these works
- To take measures of providing legal environment for the investment to the forest sector and introducing new technology for the activities of preparing wood from remote areas with undeveloped infrastructure, cleaning up the forest and producing export products.
- To provide households with the stoves with high combustion that economize firewood and coal, and to support the production of compressed coal in order to improve forest utilization and economize firewood.
- To develop and follow the policy of granting long-term soft loans to this sector from commercial banks.
- To implement projects by the assistance and soft loans of foreign countries and international organizations.
- To follow the policy of reducing, exempting from and adding customs export and import taxes on wood and wooden products by adapting to necessity, processing rate of the product and security of domestic market
- To estimate item, reserve and location of sub-forest resources possible to use and to settle the period to use these sub forest resources and have it observed.
- To expand cooperation with foreign countries and international organizations in this field.

II. WATER RESOURCES

Mongolia has limited freshwater resources. There are 3800 rivers and streams with a total length of 6708 km. 3500 lakes, 7000 springs, 120 mineral water sources and 187 glacial rivers cover over 500 square km. The total water resources in the country is 38.8 m³ and potential water resources is 34.6 km³. Surface water resources are 22.0 km³ and the ground water resources are 6.8 km³.

The territory of Mongolia divided into three large watersheds in the central and eastern Asia, namely: Northern Arctic Ocean Basin (51 per cent of the precipitation and 20.5 per cent of the territory); Pacific Ocean Basin (37 per cent of the precipitation and 67 per cent of the territory); Central Asian Internal Drainage Basin (12 per cent of the precipitation and 12.5 per cent of the territory).

Nature and the environment of Mongolia are less deteriorated due to low population density and low rates of industrialization and urbanization. For thousand years Mongolians have lived in harmony with the environment and extreme hard climate, with low population having adopted a pastoral, agricultural economy, which no put excessive demand on the fragile ecosystem.

But expansion of business activities, urbanization and rapid economic development in recent years have negative impact on the environment, especially in the settlement areas. Now half of Mongolian population lives in cities. Although the pristine natural environment of Mongolia has been comparatively well preserved, some changes can be seen in the socio- economical and environmental balance of the country due to destructive human activities and climate change. During last 50 years the water level of more than 300 lakes, rivers and streams has decreased significantly and about 5 thousand hectares of forest have been destroyed by fires and insects.

Total amount of annual precipitation in Mongolia is 361km³ or 230 mm per year. Of the total water received by precipitation, roughly 90 per cent is lost to evapotranspiration. Most (95 per cent) of this surface run-off flows out of the country's territory, while a small portion flows into lakes and basins within the territory.

The main source of water supply is ground water. The majority of the sources of water do not meet drinking water requirements and they are ecologically very sensitive. The waste water discharge from urban areas is one of sources of environmental pollution because waste water treatment rate is low. Main problems are pollution and scarcity of water resources, harmful effect of the human activities on the environment, industrial pollution, extensive cutting of trees along the river's catchment area, digging mines in river basins and so on.

WATER QUALITY MONITORING NETWORK

The systematic investigation of the quality of national surface waters begun in 1946 by the National Hydrometeorological Board in Ulaanbaatar (recently Agency for Hydrometeorology and Environment Monitoring) and intended to provide basic data on water quality in Mongolia, information on the present state of the rivers or lakes and to control the quality of the surface waters. The monitoring network consists from 110 stations located throughout territory of country and limited number of variables, such as dissolved salts, major ions, pH and hardness are carry out.

WASTE WATER TREATMENT

The main source of water pollution in Mongolia classified as domestic, industrial, agricultural or livestock wastewater and rain runoff from catchment area or urban settlement areas. Industrial wastewater generated by a variety of production activities contains hazardous substances such as heavy metals. Unlike household effluents, the heavy metal concentrations in industrial wastewater are high, posing serious threats to the environment. The discharge of untreated or inadequately treated waste water into the environment is the basic type of pollution, deteriorating surface water quality.

There are 120 wastewater treatment plants throughout Mongolia. According to statistics data, the total discharge of waste water is 126,4 million cubic meters. The nation's sewage treatment facilities able to handle 39.8 % of daily generated nationwide wastewater. However only 64.2 % of the country is served by sewage pipes and treatment facilities are still using old equipment.

Many settlement areas don't have sewage treatment facilities, and in some of them WWTP either doesn't work at all or are working much below their capacity. Combined treatment plants provide mechanical and biological treatment in large cities and primary settlement or pond systems in smaller ones. Most industrial wastewater is discharged to the public sewerage system.

But in recent years our country paid more attention on reduction of water pollution and done a lots of work in this field. In 1999 The National Water Policy Program was adopted. This Program reflects overall related issues on water management activities including water resource, water quality, water use and protection from deterioration and pollution of the water resources. The Program defined priority objectives as implementation of multi-stage activities on preventing from negative impacts on health of population by improving of water supply and quality, creation an economic and legislative environment aimed at improvement of the level of proper use of water resources and wastewater treatment activities. Within the program the Cabinet established the National Water Committee, which in charge of organization, regulation and monitoring of the program implementation. National Water Committee has local coordinating sub-committees in each aimag (administrative unit).

Modern water management history in Mongolia goes back more than 60 years. Due to economic reforms and structural changes, Ministry of Water Management was abolished in 1986, and some of the functions performed that ministry, were transferred to the Ministry of Nature and Environment, which is in charge of water resource management policy. Therefore, the Law on Water and Law on Fees for utilization of Water and Mineral Waters and more than 20 follow up Regulations on water management were initiated by the Ministry of Nature and Environment.

Law on Environmental Protection is the general law on environmental management. The law has several basic articles related to the natural resources management activities including water management.

Law on Water. The purpose of the law is to regulate the protection, proper use and restoration of water resources. The Law includes general provisions concerning research, monitoring, databanks, water use, and the plenary rights of various institutions involved in water-resource management. There are statements given rights on taking watercourses with ecological importance under local protection, establishment of protected zones for the water sources and sanitary zones for drinking water sources for centralized water supply. Implementation of the Law are still weak due to lack of local and state budget for some activities such as water source's inventory, water resources assessment, establishment of the databank, strengthening of the water monitoring network so on.

Law on Fees for utilization of Water and Mineral Waters. The purpose of this law is to regulate the fee requirements for use of water and mineral water for commercial purposes and incorporating these fees into the local budget. By the law, subjects for the fees are imposed, as identified in the Water Law. By the General taxation Law the rates and amounts for water use fee determined by the central and local Government.

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