

## **FORESTS AND FORESTRY OF THE REPUBLIC OF KAZAKHSTAN**

*Dr. Kuralay Karibayeva, 40, Mk-n Orbita-1, 050043, Almaty, Kazakhstan*

*Director of Institute of Ecology and Sustainable Development*

*Ms. Long Chao (as correspondence author of this article), Programme Officer, Asia-Pacific Network for Sustainable Forest Management and Rehabilitation, Beijing 100021, China*

*Ms. Kong Zhe, Programme Officer, Asia-Pacific Network for Sustainable Forest Management and Rehabilitation, Beijing 100021, China*

*Mr. Peng Peng, Programme Officer, Asia-Pacific Network for Sustainable Forest Management and Rehabilitation, Beijing 100021, China*

*Mr. Xiao Jun, Programme Officer, Asia-Pacific Network for Sustainable Forest Management and Rehabilitation, Beijing 100021, China*

*Mr. Arkadiy Rodionov, 40, Mk-n Orbita-1, 050043, Almaty, Kazakhstan*

*Institute of Ecology and Sustainable Development*

*Mrs. Shynar Toilybayeva*

*Director of country office of Regional environmental centre for Central Asia in Kazakhstan, Kazgidromet Building, 11/1 Mangilik El ave.,*

*office #207, Astana, 010000, Kazakhstan*

*Mr. Kairat Ustemirov, 36, Kenesary str, 020000, Astana, Kazakhstan*

### **ABSTRACT**

The Republic of Kazakhstan is located in the Center of the Eurasian continent. The forest sector of Kazakhstan after gaining sovereignty was faced with a number of problems. Structural reforms and changes in forest management system, improvement of the legislative framework of the industry contribute to overcoming some of these problems.

However, the problems of transition in the system of forest management is not completely overcome and requires serious government support, partners help them complete overcoming and further development of the industry.

**Keywords:** forests, forestry, governmental support, forest owners.

The total land area of the economy forest fund (forest and non-forest lands intended for needs of forestry) is 29.3 million hectares and occupies 10.7% of the economy covered by forest area -12.6 million hectares.

Wooded with all the associations of forest types determined the national average of 4.6% (taking into account only the high forest - about 1.1%). At the same time, in some regions it ranges from 0.1 to 16% (Table 1).

The variety of landscapes and climate of the economy determines the wide range of diversity of flora and fauna, as well as the forest vegetation types. In the desert zone are grown saxaul forests, along rivers - and riparian floodplain, in the mountains - coniferous, in the plains of the steppe and forest steppe zones - birch and aspen forested forests, island and tape forests. At the same time forests are located in Kazakhstan which is extremely uneven [1].

**Table 1. Distribution of areas of forest covered areas by prevailing species**

<b>Преобладающие древесные и кустарниковые породы</b>	<b>площадь, тыс.га;</b>	<b>Итого площадь, %</b>
<i>Coniferous</i>	1605,8	13%
<i>Soft-leaved</i>	1378,1	12%
<i>Hardwoods</i>	98,9	1%
<i>Saxauldrons</i>	6088,0	50%
<i>Shrubs</i>	2963,2	24%

The forest sector of Kazakhstan after gaining sovereignty of the economy was faced with a number of environmental, social, and economic problems. It is developing the processes of deforestation, reducing the productivity of forest plantations because of unsustainable forest use offensive on natural forests of industrial infrastructure, the consequences of major forest fires of past years and the growing impact of climate change. Extremely acute in the difficult period of transition, the economy has been a problem of underfunding forest management, forest science and a significant reduction in this regard, volumes of reforestation and forest management activities. There was lost a part of nursery areas, infrastructure, stopped updating of technical base, where was broken system of forest management and forest management planning and an outflow to other sectors of the experts.

Structural reforms and changes in forest management system, improvement of the legislative framework of the industry contribute to overcoming some of these problems. In order to restore valuable coniferous and saxaul desert forests, the Government of the Republic of Kazakhstan has introduced a moratorium on the felling of forests in 10 years (completed in respect of coniferous forest at the end of 2013). A moratorium on all kinds of cuttings in saxaul extended until the end of 2018. The use of forest resources other than timber also includes hunting, collection of forest fruits and berries, nuts, mushrooms and etc. Restoring forests is carried out mainly in clearings and burnt areas. It is envisaged expansion of the scope of work of reforestation. It should be noted that over the past five years, in general there is a steady tendency of growth of the area of the Economy Forest Fund. So, since 2010 it has increased to 1 million 508.5 thousand hectares, and forest area grows to 369.1 thousand ha. Wooded economy increased by 0.1% (Table 2).

**Table 2. Main indicators of the forest fund**

<b>Years</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>
Total area of forest fund, million hectares	28,4	28,4	28,8	29,3	29,3	29,3
Lands covered with forest, million ha	12,29	12,29	12,45	12,59	12,59	12,62
The total stock of standing timber, million cubic meters. M.	380,74	380,74	380,74	412,25	412,25	412,25
Forest area,%	4,5	4,5	4,6	4,6	4,6	4,6

President of the Republic of Kazakhstan in the long-term Strategy “Kazakhstan-2050” and in the number of annual Address to the Nation identified among the priorities of the economy is increasing of green spaces, linking it primarily with the environmental rehabilitation of the economy [2].

In the period from 2010 to 2015 in the republic of reforestation and afforestation carried out on an area of 283.2 thousand hectares, including planting forests - 114.3

thousand hectares, planting of saxaul in the southern regions of the economy - 124.6 ha and promote the natural regeneration of the forest within the area of 44.3 thousand ha.

The volume of work on reforestation and afforestation in 2015 increased by 17% compared to 2010. The maximum amount of 80.5 thousand ha recorded in 2014 [3].

Reproduction of forest resources is focused on the use of natural and artificial methods of reforestation. In the context of sharply continental climate and humidity deficiency the top priority is to provide a method of plantations reforestation. To date, the economy of artificial planting is 950 thousand ha or about 7.5% of forested land.

Particular attention is paid to the restoration of the relic tape pine of forests Irtysh Land covering an area of 883.1 thousand ha. As part of the GEF/WB project on "Forest conservation and reforestation in the republic" is put into operation 3 forest nursery, including forest seed center, which is equipped with the latest equipment for the cultivation of planting material with closed root system capacity of 3 million pieces per year, which will increase the annual reforestation in tape pine forests to 9500 hectares.

155 permanent forest nurseries with total area of 4364 hectares, which is possible to grow annually more than 200 million pieces. Pieces of standard seedlings of different species to ensure forest cultural activities for planting on the lands of the SFF created. The actual volume of production of planting material for the economy is on average about 162 million pieces, of which the standard is about to 75.0 million pieces.

Forming Forest Seed Base on the basis of breeding and genetic represented by 1231 plus-trees, 2 thousand hectares of plus-plantations, permanent forest seed plots and seed orchards on an area of over 3,4 thousand hectares. At the same time, the volume of forest seed objects permanent seed coated with the need for them is only 30%.

It formed a network of breeding and genetic facilities on a total area of 77.7 thousand ha [4].

The Republic of Kazakhstan has a two-tier system of forest management of economy forest fund: the republican (national) and local (regional) level.

At the national level, managed by the Government of the Republic of Kazakhstan through its authorized central executive body - the Ministry of Agriculture of the Republic of Kazakhstan. Direct control, economy control and supervision of the forests throughout the economy carried out by a specialized republican body - the Committee of Forestry and Wildlife, which is part of the Ministry of Agriculture and its territorial departments. All the issues of land use of the economy forest fund (SFF) are within the competence of national authorities.

At the regional level, control is executed by the local executive bodies – regional Akimats through their subordinate management of natural resources and environmental management and forestry institutions.

To date, 78% of the SFF reserved for the executive bodies of the regions, 21% (mainly, it is SPNA) is managed by the Committee of Forestry and Wildlife of the Ministry of Agriculture of the Republic of Kazakhstan (CFW of the MoA of the RoK), about 1% - the jurisdiction of other ministries and departments [5].

The Government of the Republic of Kazakhstan over the years has been approved by a number of sectoral medium-term programs, which are determined by the individual target setting and activities for each of 3-5-year development period.

Special long-term forest policy in the economy is not yet accepted that, due to the numerous reorganizations in recent years and the national body of forest management [6].

- In the future, you must update (revision) policy objectives of forestry development in the longer-term (up to 2050) with a focus on:
- forest conservation for future generations and a further increase in the forest cover of the economy;
- improving the sustainability of forest ecosystems to climate change and other adverse effects;
- increasing research and innovation as the basis for the technological development of the industry;

- wide intersectoral cooperation and the development of public-private partnerships;
- increased use of mechanisms for public participation and involvement of all stakeholders in the management, including the gender dimension;
- development of private forest and private forest management;
- active participation of the industry in raising the level of food and biological safety, strengthening the economy's economy;
- institutional development and human resource development sectors;
- implementation of regular monitoring, evaluation and adjustment of the forest policy in view of new challenges and opportunities of the industry [7].

## **Conclusions**

- The disintegration of the USSR had a negative impact on the country's forest fund, as financing was discontinued;
- President of the Republic of Kazakhstan identified among the priorities of the economy is increasing of green spaces, linking it primarily with the environmental rehabilitation of the economy.
- The country has a two-tier forest management system of the state forest fund: at the national and local levels
- In order to restore valuable coniferous and saxaul desert forests, the Government of the Republic of Kazakhstan has introduced a moratorium on the felling of forests in 10 years (completed in respect of coniferous forest at the end of 2013). A moratorium on all kinds of cuttings in saxaul extended until the end of 2018. The use of forest resources other than timber also includes hunting, collection of forest fruits and berries, nuts, mushrooms and

etc. Restoring forests is carried out mainly in clearings and burnt areas. It is envisaged expansion of the scope of work of reforestation.

- Permanent forest nurseries with a total area of 4364 hectares were established on the lands of the State Forest Fund, on which it is possible to grow more than 200 million standard seedlings of different breeds annually.
- It formed a network of breeding and genetic facilities on a total area of 77.7 thousand ha

**Acknowledgement:** this research forms an integral part of Asia-Pacific Network for Sustainable Forest Management and Rehabilitation's (APFNet) project titled Study on Current Status, International Cooperation, Development Strategy of Forestry and Best Practices of Forest Management in Greater Central Asia (2016—R22).

## References:

1. Bebiya, S.M. Differentiation of trees in the forest, their classification and determination of the vital state of the stands / S.M. Bebia // Forest Science. 2000.- No.4-C. 35-43.
2. Kleinhof A.E., Kleinhof I.A. Theoretical and practical aspects of strategic management of the forest sector of the economy in the context of globalization // Lesnaya Vestnik. - 2008. № 5.
3. Concept of the I Central-Asian Forestry Forum "Integration and Innovative Opportunities of the Forestry Complex in the 21st Century" // Vestnik of the Entrepreneur.
4. The concept of the state forest policy of Kazakhstan until 2020 (draft)
5. Kuusela, K. Dynamics of boreal coniferous forests: monograph / K. Kuusela. - Helsinki: A / O Repola, 1991. 210 p.
6. Forest Code of the Republic of Kazakhstan of July 8, 2003 No. 477-II

7. Environment and sustainable development in Kazakhstan (Overview). Almaty.  
Series of publications UNDP Kazakhstan.