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PROBLEMS AND PROSPECTS OF DEVELOPMENT OF FOREST USING IN KAZAKHSTAN

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Abstract

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In this article for the first time since the adoption of the Forest Codex of the Republic of Kazakhstan (2003), where the forest management is allowed to be carried out on a new basis (charged long-term and short-term rentals), we analyze the state of forest management organization in the country. It was found that the share of non-timber and growing forest management does not take up more than 15% of total volume of the forest areas assigned for this purpose, and the income from these types of forest management is not more than 15% of whole income submitted into the national budget. The main problems are clarified and perspective directions of forest management's development and expansion are defined.

Key words: forest areas, forest management, forest resources

Abbreviations: tg - tenge, EPNAs- Especially Protected Natural Areas

Introduction

In market economies, forestry increasingly filled with commercial activities, covering both the basic processes: the process from forest growing to logging, and development of a variety of resources, products, and useful properties of the forest, all of which are summarized as forest management.

Market relations to forest management are becoming commonplace in our country, as it is the only way to improve the effectiveness, role and place of forest management in the socio-economic development of our country. Its legal basis lies in the Forest Codex of the Republic of Kazakhstan, by which the objectives of forest management can potentially become:

- Forest resources, consisting of timber, resin and tree sap, secondary wood resources (bark, branches, stumps, roots, leaves and buds of trees and shrubs), wild fruits, nuts, mushrooms, berries, medicinal plants and industrial raw materials, other products of plant and animal origins gathered and harvested in the forests;

- Useful properties of forest in the form of its environmental and socially significant functions characteristic to growing forest (release of oxygen, carbon sequestration, and protection of soil from water and wind erosion, transferring surface runoff water into the subsurface water, recreational, balneological and climate-regulating properties).

Accordingly, in the State Forest Reserves the following points can be realized:

- Extraction of resin, tree sap;

- Production of secondary wood resources (bark, branches, stumps, roots, leaves, buds);

- Subsidiary forest management (mowing, livestock grazing, deer breeding, animal breeding, beekeeping, horticulture, melon cultivation and growing other crops, planting and collecting medicinal plants and industrial raw materials, wild fruits, nuts, mushrooms, berries, and other foods, moss, forest litter and fallen leaves, reeds);

- Using sites of the State Forest Reserves for hunting;

- Using sites of the State Forest Reserves for scientific research;

- Using sites of the State Forest Reserves for culture, recreation, tourism and sports purposes.

In fact, the Forest Codex of the Republic of Kazakhstan allows conducting one or more kinds of managements for long and short terms.

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Long-term forest management is allowed for a period of 10 to 49 years based on a tender and a signed contract as the result of the tender [2]. In long term rental, forest management includes followings from the above mentioned: logging, gum, tree sap, secondary wood resources in the form of bark, branches, stumps, roots, leaves and buds, as well as using the sites of State Forest Reserves for hunting, research, culture and recreation, tourism and sports.

Short-term forest management is limited to one year, and is carried out as the following three types:

- Subsidiary forest use, consisting of haying and cattle grazing, deer breeding, animal breeding, beekeeping, horticulture, cultivating melons and other crops, planting and collecting medicinal plants and industrial raw materials, wild fruits, nuts, mushrooms, berries and other food products, moss, forest litter and fallen leaves, reeds;
- Using sites of the State Forest Reserves for scientific researches;
- Using sites of the State Forest Reserves for culture and recreation, tourism and education.

As can be seen, among the allowed types of forest management, there are some types, which can be carried out in both the long and the short-term managements. These, for example, include the use of the State Forest Reserves:

- For research purposes;
- For culture and recreation, tourism and educational purposes.

The aim of the study is to evaluate the state of the organization of forest management and identify orientation of further development and expansion in the country.

Materials and Methods

Since the forest management on charged and rented basis in the country was initiated in 2004, the collection of materials for it has been carried out in all regions of the country and in the Committees of Forestry and Hunting which subordinate to the Ministry of Agriculture. Obtained materials were collected in Especially Protected Natural Areas (EPNAs), thus the comparative and graphical methods of analysis of the actual volume of forest management are used widely in the research. Their dynamic series in time allowed making the forecast of forest management for its separate groups and a number of regions.

Results and Discussion

In the Republic, the traditional forest management in the form of procurement of timber, animal grazing, haying, beekeeping in the forest, cultivating melons and others plants was carried out long ago. However, after 2003, they were carried out on charged basis under the new by-laws, adopted based on the Codex.

Provision of land for rented forest management was started in 2004, when the first 32 businesses and individuals were provided 5.1 hectares of forestland for long-term rental (Table 1). Since then, the total area rented increased up to 2776.4 thousand hectares (Figure 1).

Now in the Forest Reserves of the republic 476 working individuals and legal entities have received 1651.6 hectares of forestland (Table 2) for long-term forest management. The largest number of renters is from Almaty, East Kazakhstan, Kostanay and North Kazakhstan regions.

Geography of long-term forest management comprises 10 administrative regions. Of those, the largest areas leased by 2011 were in the East Kazakhstan region (1.09 million hectares), Almaty region (211.3 hectares), North Kazakhstan region (189.3 ha) and West Kazakhstan (102.1 hectares) region. Approximately 97% of all those forest sites leased are for long-term management (Figure 2).

In the main areas of forest management, forest areas and the number of forest users are also distributed diversely (Table 3).

Table 1
Changes in the number of forest users and areas of State Forest Reserves leased for long-term rental in the Republic in 2004-2010

Indicators	Changing units	Years							Total
		2004	2005	2006	2007	2008	2009	2010	
Quantity of forest users	Entity	32	56	24	104	279	102	91	688
Areas released for long-term rental	Thousand hectares	5.1	101.6	178.7	707.8	1587.9	56.8	138.5	2776.4
Medium rentable area	Hectares	159.4	1814.3	7445.8	6805.8	9436.5	1188.6	4376.6	4376.6
The number of terminated contracts	Units					14	15	45	212

More than half (52%) of forest managers (249 units.) used the forest areas for cultural and health, recreational and touristic and sport purposes. Renters of areas (155 persons) for non-timber forest use follow them.

However, the largest areas of leased forestlands are given to 68 tenants for wood harvesting (1.4 million hectares in 2010). Their share in the total area of forest is 84.6%.

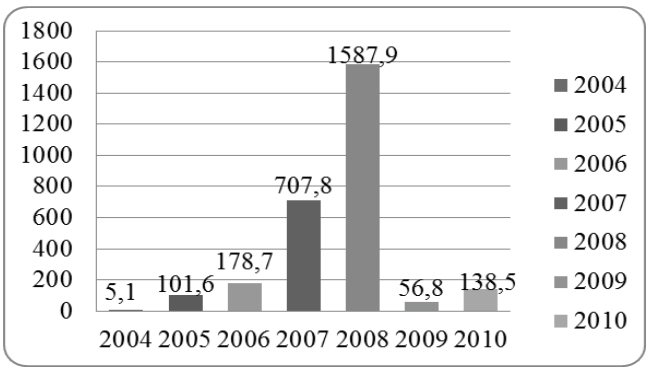

Fig. 1.1. The Changes of the total forest areas, provided for long-term forest management in the republic for 2004-2010

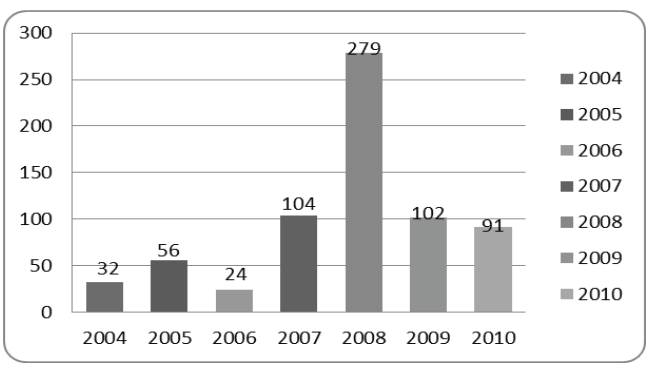

Fig. 1.2. Changes in the number of forest users in the Republic for the period 2004-2010

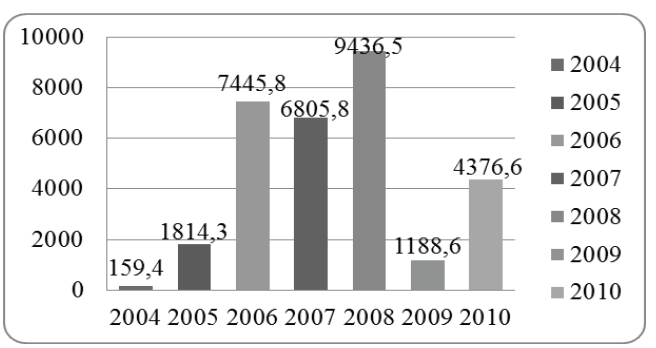

Fig. 1.3. Changes of the average size of the area of forest land available in the country for long-term forest management for the period 2004-2010

The main leased areas for wood harvesting concentrated in 4 regions of the country: East Kazakhstan, North Kazakhstan, Kostanay and West Kazakhstan regions. Of these, the East Kazakhstan region, which is the most forested region of the republic, owns 84% of all forest lands allocated for this purpose and 95% of the stock of wood harvested. Their actual tenants now are 21 forest managers. According to the contract, they are allowed to cut down 129.2 million M^3 of timber for 49 years, which is equal to 33% of the growing stock in Kazakhstan.

At present, forest users of long-term lease actually harvested about 38.5% of the total volume of timber. However, this figure will gradually increase, as most permitted logging, as stated above, is in the leased areas of the forest.

Table 2
Distribution of areas transferred to long-term forest management on areas of the Republic in 2008 – 2011

Regions	Years		
	2008	2009	2010
Akmola	4501	8711	3226
Aktobe	8	8	73
Almaty	33582	220881	211264
Atyrau	-	155	125
East Kazakhstan	1062932	1147995	1095405
Karaganda	3401	3390	425
Kostanay	141929	47194	49406
West Kazakhstan	21400	16400	102147
North Kazakhstan	285350	199616	189306
South Kazakhstan	168	126	129
Pavladar	-	23	-
Total	1553271	1644469	1651550

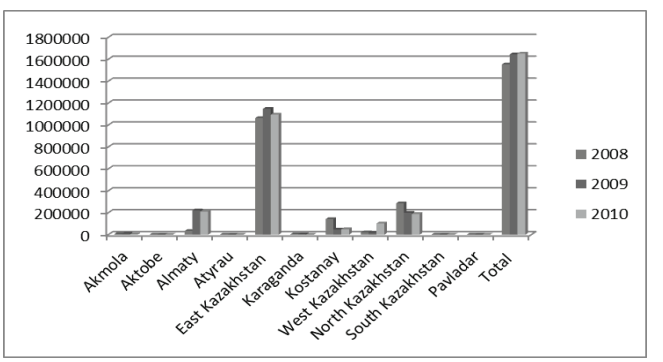

Fig. 2. Location of areas transferred to long-term forest management on the republic in 2008 - 2011

Forest uses not related to logging, are carried out in 15.4% areas of all leased forest lands on long-term basis (Tables 4 and 5, Figure 3-4). At the moment, they include subsidiary forest use * such as haying, animal grazing, crop production, harvesting and gathering wild fruits, berries, mushrooms, herbs, placing apiaries and hives, deer breeding, and cultural, health and research activities, hunting.

Among these uses, animal grazing develops much more quickly than other types. This is due to the increasing number of livestock in rural areas.

In total area of Forest Reserves of the Republic, pasture areas consist 4.4 million hectares, of which only 1.3 million hectares or 30% are used for animal grazing in 2010. However, a number of areas face the problem of complete use: Mangystau, North Kazakhstan, Pavlodar, Atyrau, Aktobe, Kyzylorda and West Kazakhstan, where pastures are not even in moderate amounts. In fact, regulated and standardized animal grazing on charged terms, allows forestry to gain significant revenue. In addition, this, in practice, is proved in Almaty, Kostanay, Zhambyl and South Kazakhstan regions.

Hay fields in the forest areas consist 312.5 hectares, of which 53.3 ha. (17.1%) are currently in use. They are located in 12 regions of the country, including the West Kazakhstan (11.4 ha), Kostanay (10.4 ha), Zhambyl (7.5 ha), Akmola (6.7 ha) and East Kazakhstan (5.2 ha).

In the forest areas, the share of arable land is even less (106.7 ha). However, they are not used in practice in due measure (25.1%). More systematic organization of arable land management is realized only in Kostanay, Akmola, Karaganda and North Kazakhstan region.

According to the above three types of forest uses, there have actually been instances of their leases to the long-term use, but in these cases, how can they appear to be of the subsidiary usage permitted only for short term (1 year) by the Forest Codex of the RK? These cases are in the hay fields of

Table 3
Distribution of the areas and the number of forest users in the main areas in the republic for 2007-2010

Areas of forest management	Years							
	2007		2008		2009		2010	
	Number of forest management entity	Areas of forest management	Number of forest management entity	Areas of forest management	Number of forest management entity	Areas of forest management	Number of forest management entity	Areas of forest management
Timber harvesting, HA./km^2	62	4662 276589	73	1479583 -	72	1372682 -	68	1397059 -
Subsidiary usage, HA.	28	8342	62	57012	124	247704	154	237035
Cultural, recreational purposes, HA.	157	3148	212	16633	304	24039	249	17410
Cultivation of plants, HA.	-	-		13,8	3	14	3	13
Establishing plantations, HA.	-	-	1	30	1	30	1	33
Total	247		352	1553271	504	1644469	475	1651550

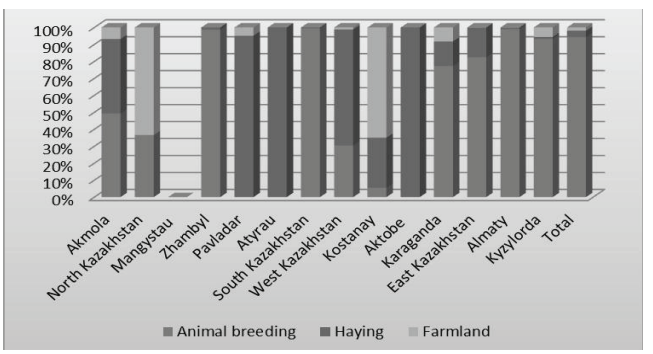

Fig. 3. Forest area allocated for grazing, haying and crop growing areas throughout the country on 01.01.2010

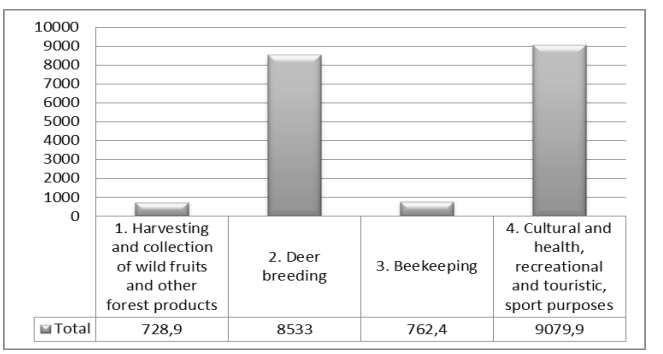

Fig. 4. Forest management in the state forest fund, by regions of Kazakhstan

Kostanay (285 ha) and Almaty (5.0 ha) regions, and in farmlands in Kostanay (18.0 ha) region.

Compared with the above types, subsidiary usages of forest lands, such as harvesting and collecting of wild fruits, nuts, berries, mushrooms, medicinal plants and other forest products, deer breeding, beekeeping, as well as cultural, health, recreational, tourist and sports activity, are much weaker developed in the country.

Of these, fruit production and other forest products harvesting as well as deer breeding are in the areas of 728.9 and 8533.0 hectares respectively only in East Kazakhstan and Almaty regions.

Beekeeping is in 6 regions (North Kazakhstan, South Kazakhstan, Almaty, East Kazakhstan, Kostanay and Kyzylorda), but only one of them (East Kazakhstan) is leased as a long-term rental (9 hectares). The remaining areas (762.4 hectares) are registered as lands of State Forest Reserves leased for the year under review.

Forest management for cultural and health, recreational and touristy and sport purposes is very useful and necessary for the population, which increases with the growth of well-being of people. However, its scale in the regions do not meet today's requirements, even in long-term, these activities are carried out in a small area (9079.9 ha) and only in one Akmola region.

According to the Tax Codex of the Republic of Kazakhstan for all types of forest uses, there should be made tickets on harvesting (logging) and forest uses(subsidiary and other forest uses), and the fee from which should be submitted to the regional budget in the form of forest income. In 2010, the total amount of such revenues was equal to 582.5 million tg, and the entire contribution of forest users of regions including additional costs incurred by them into forest management on the leased areas was 685.04 million tg.

However, this is not the full attained amount of income in forestry (Table 6, Figure 5). Significant amounts come into

Table 4
Forest area allocated for grazing, haying and crop growing areas throughout the country on 01.01.2010

Regions	Animal breeding					haying					Farmland				
	The whole areas of forest reserve	includes				The whole areas of forest reserve	Out of them				The whole areas of forest reserve	Out of them			
		Land leased for long-term rental	Used in the year under review				Land leased for long-term rental	Used in the year under review				Land leased for long-term rental	Used in the year under review		
			total	includes				total	includes				total	includes	
				By tenants	By other forest users				By tenants	By other forest users				By tenants	By other forest users
Akmola	80033	0	7552	6812	740	52661	0	6725	6037	688	20663	0	1039	566	473
North Kazakhstan	47734	0	497	0	497	33	0	0	0	0	7438	0	862	0	862
Mangystau	85214	0	0	0	0	–	0	0	0	0	0	0	0	0	0
Zhambyl	917221	0	567789	567789	0	23498	0	7520	7520	0	2323	0	9	9	0
Pavladar	44368	0	0	0	0	32766	0	1958	1743	215	2151	0	100	100	0
Atyrau	9443	0	0	0	0	1527	0	1527	0	1527	0	0	0	0	0
South Kazakhstan	699251	0	243771	0	243771	3372	0	1316	0	1316	972	0	9	0	0
West Kazakhstan	5081	0	5081	5081	0	31221	0	11437	11437	0	200	0	200	0	0
Kostanay	23605	285	1957	285	1682	72526	5027	10406	5027	5379	53777	18981	22899	18981	3918
Aktobe	27733	0	0	0	0	3025	0	1246.9	0	1264.9	747	0	0	0	0
Karaganda	82741	0	10333	4500	5833	10060	0	1938	324	1614	3169	0	1100	0	1100
East Kazakhstan	482576	0	24323	9438	14885	47594	8980	5174	1220	2586	3016	0	3	1	2
Almaty	1425497	34028	4549079	8088	446820	28627	5033	3937	6363	3200.5	2808.7	0	301.8	8.4	293.4
Kyzylorda	455059	0	4781	0	4781	5559	0	60	0	60	9541	0	286	0	286
Total	4385556	34313	1320992	601993	719009	312489	14510	53263	33944	17850	106806	18981	26809	19865	6943.4
%	100	0.8	70			100	4.6	17.1			100	17.9	25.1		

the cash office of forest institutions and agencies of Especially Protected Natural Areas (EPNAs) for charged services and business activities. For the last 4 years, such income was within 293.5 (2009) - 748.2 (2007) million tenge only in Especially Protected Natural Areas.

Unfortunately, in Table 7, similar income of state forest institutions, with considerable size, were not included, because they are subordinate to the regional government, and are not registered in Committee of Forestry and Hunting of the Ministry of Agriculture.

However, the total amount of income from forestry by 2010 only from the types taken into account was 965.5 million tenge and really close to a billion tenge. Thus, 1-hectare forestland leased for forest management brought in 2008 - 345 (536.6: 1.55), in 2009 - 542.3 (891.8: 1.64), and in 2010 - 587.0 (969, 5:1, 65) tenge (Figure 6).

A significant increase for income for 2009 and 2010 occurred in connection with the spreading of payment principle for timber on logging, amount of which is over 80% of the annual logging, but prior to 2008, not all forest owners (PG and EPNA) were charged. This regulation has been modified by the new Tax Codex of the Republic of Kazakhstan (since

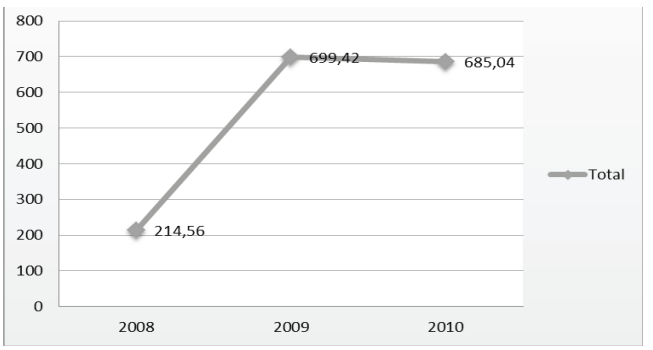

Fig. 5. Amounts forest income the republic in 2008-2010

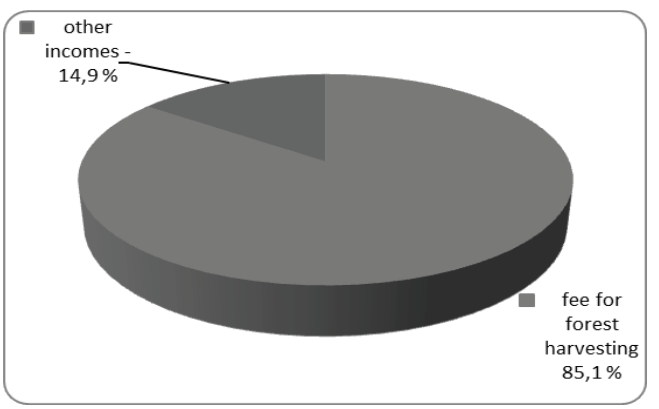

Fig. 6. Structure of forest income by category in the country in 2010

2009), to which with our insistent suggestions the Committee of Forestry and Hunting of the Ministry of Agriculture has made the introduction of charges for the entire timber logging regardless of the type of cutting and diverse ownership relations to forests.

We ascertain the significant growth of forest management for a number of types, and that the total amount of income received from them is positive, still we do not approve them for further increase due to logging, which currently provides more than 85% of total revenues. This is associated with a number of solid reasons.

First, the logging became a major source of income. Not interests of people and tenants as well as all the State Forest institutions and Especially Protected Natural Areas, to logging diminished even for a single day. Moreover, it is dangerous in terms of the preservation of forests in a sparsely forested country like Kazakhstan;

Secondly, timber processing in the country is underdeveloped, and therefore all timber harvested are just cut into logs and sold as sawn timber in which accumulate large amounts of unused wood pulp;

Thirdly, structure of wood harvesting shifted to clear sanitary and other cuttings. At this expense, 82.4% of total volume was cut down in the given period, and this indicates that over the last 20 years all types of thinning operations were basically removed from systems of management activities, but all these thinning operations should be reset as the annual means that ought to be carried out;

Fourthly, the forests in the Republic, in the absence of systemic thinning operations become thickened and very flammable, attack pests and diseases, and thus lose the general bioecological sustainability.

Therefore, we must take appropriate means that ensure a sharp decline in the scale of clear sanitary and other cuttings, and the revival of thinning operations, and these operations should first obtain allocation of funds from the national and regional budgets, material and monetary evaluation, and performance of each of operation should be in right measure. These requirements, for example, are written in the Forest Codex of the Republic of Kazakhstan (p. 8, st. 110), but were ignored so far by national and local financial and economic authorities.

At the same time, studies have shown that all government agencies, Especially Protected Natural Areas and forestland tenants are not very interested in increasing the total amount of forest income from forest management. This is confirmed by the fact that its growth rate and size is much lower than the State and EPNAs' capitals, which is received by their cash office.

The secret of this inequality is in the differences of assigned sums. The first of these is the sum paid for sold grow-

Table 5
Areas of forest land, provided for a range of forest management in the State Forest Reserves, by the regions of Kazakhstan, 01.01.2010

Regions	Leased for long term rentals	Used for the year under review		
		Total	Including	
			By tenants	Other forest users
1. Harvesting and collection of wild fruits and other forest products				
East Kazakhstan	0	156	0	156
Almaty	0	572.9	0	572.9
Total		728.9	0	728.9
2. Deer breeding				
East Kazakhstan	5226	8083	6799	1284
Almaty	0	450	0	450
Total	5226	8533	6799	1734
3. Beekeeping				
North Kazakhstan	0	15	0	15
South Kazakhstan	0	22	0	22
Kostanay	0	454	0	454
East Kazakhstan	9	114.8	13.8	101
Almaty	0	13.6	0.5	13.1
Kyzylorda	0	120	0	120
Total	9	762.4	14.3	748.1
4. Cultural and health. recreational and touristic. sport purposes.				
Akmola	9079.9	9079.9	9079.9	0

Table 6
Amount of forest income into budgets of regions and other investments from tenants of forest management in the republic for 2008-2010

Indicators	Years		
	2008	2009	2010
Forest management fee	155	601.3	582.5
Expense on restoring the forest	23.65	31.72	44.28
Purchasing firefighting equipment	28.08	56.26	56.26
Construction of the mineralized strips, and taking care of them	7.83	10.14	2
Total	214.56	699.42	685.04

Table 7
Total payments and funds received from the use of state forest sites, services, and the limited economic activities of EPNAs in the republic for 2007-2010

Years	Forest income	Includes		EPNAs' own funds		Total
		Payment for standing timber	Other incomes	Charged services	Organizing economic activities	
2007	154	85.4	68.6	93.8	654.4	902.2
2008	155	86.3	68.7	94.1	287.5	536.6
2009	601.3	537	64.3	106.2	187.3	891.8
2010	582.4	495.7	86.7	136.9	250.2	969.5

ing timber, and other income for all other types of forest management. Moreover, all of them are fully transferred into the regional budgets, where the Especially Protected Natural Areas and State Forest Institutions are located.

Their own sums have entirely assigned differently. They accumulate income and usually spend it on developing and expanding their own business. Consequently, the EPNAs and State Institutions are doing everything in order to increase their income volumes.

This implies that the activities in forest management generate three financial interest groups against each other: the state - business (consumer) - institutional. Therefore, the prospects of its development depend on the settlement of interrelations among these interest groups, because so far, sometimes the private business, and sometimes the institutional interest groups became winners in this game, but in all cases, the state interest fell by the wayside, and in fact, this occurred because of incorrect distribution of income.

Therefore, first, all types of forest managements have to be organized with a focus on equilibrium of interests and benefits of the players involved: the private sector, state as the owner of forestlands and the institutions established by state. Secondly, unification of all types of incomes from forest management should be realized immediately to ensure that their total amount could be redistributed between the two sides without compromising the interest of each of them.

There is also the possibility of organizing tenders and auctions publicly with good advertising on radio and television. This may contribute to a significant increase not only in the volume of rentals but also higher rates of payment for forest management. Then there would be the difference between the minimum rate of payment and the actual payment received because of the contest, which will be sent to specific state institutions, thus creating conditions to stimulate the activities of their teams for the development of forest management.

In addition, growing timber is still being sold at knockdown prices in our country. Their average value for per cubic meter does not exceed 500 tenge, and this share in the cost of 1 m^3 of ready timber is 3.5%, while in Europe it is as high as 40 to 60%.

This very low rate, of course, is beneficial to forestland tenants, but not for the state. Tenants can quickly get rich by reselling cheap wood at high prices in the market. This is the case in practice today, but it does not contribute to the preservation let alone reforestation.

The project of new methods for forming elevated rates of payment for growing timber of the main tree species, which eliminates these drawbacks, have been handed to the Committee of Forestry and Hunting of the Ministry of Agriculture some time ago by us. However, the committee has not implemented it into practice. Their practical application would have increased the amount of forest income in several times without expanding the harvest amount.

In our opinion, it is not very reasonable to go with the present regulation by which a whole forest district, area of which is even more than 100 hectares, was leased for long-term management. When these areas are leased to one forest user, instead of the state monopoly represented by a forester, we cannot help but create another monopoly represented by a tenant who does not allow small consumers of timber from the local population to approach willingly, and if they allow, it will only happen when they sell wood more expensive and on a regulated way.

Perplexing that in a long-term management, the payment does not correspond with the object leased. Indeed, forest is leased for use by contract in this case, and tenants are not charged for this area, and not even for the forest reserve on this leased area, but only for the actual timber harvested. If forest users were charged for each hectare of forestland leased, the loggers would not have taken so much forestland for rent.

This is the whole situation, for example, this sort of long-term management is common in the East Kazakhstan region. For all 21-forest lands, there are 21 tenants and each of them is the actual owner of the huge forest area. The maximum area, which is leased for long-term management for one tenant now in East Kazakhstan Region, is 143.2 hectares and the minimum area, is of 3.8 hectares. On average, each of the forest user rents a forestland of 51.7 hectares for 49 years.

A Large scale of increase in the efficiency of forest harvesting is also connected with the development of residues of timber harvesting and wood processing. However, among the 476 forest users, there is not a single tenant who has decided to organize processing the resourceful forest waste.

In this regard, the state institutions in the East Kazakhstan (534.2 m^3), North Kazakhstan (442.6 m^3), Kostanay (96.7 m^3) regions as well as the reserves" Semey ormany «and «Ertis ormany» where significant amounts of leafy, small and non-standard timber accumulate, should take appropriate steps to organize processing of these resources for wood chips used in the production of panels, as well as briquettes and pellets as biofuel. Simultaneously, the local people should be taught the use these new types of fuel instead of wood as they are much cleaner, ready to use and convenient for heating houses.

Naturally, their production requires a set of equipment, which is not available to all entrepreneurs in the forest areas. For this, they need the conditions and opportunities in the form of preferential credits, leasing equipment and mechanisms, tax holidays, and other supporting measures.

A number of other types of ongoing forest management enterprises also need such measures. For example, three years

ago three entrepreneurs for the first time risked to rent land on long-term basis for cultivation of planting stock (13.8 ha) and one for creating plantations (30 ha). Nevertheless, these initiatives were not supported by other businesses in the upcoming periods because they did not have sufficient capital for organizing the business.

Conclusion

Besides, to increase the use of growing state forests, it needs significant improvement in the infrastructure and forest roads, examination of non-timber forest resources, establishment of their dynamic characteristics and relationship with growing conditions and climatic terrain features, development of rules and regulations for their harvest (logging) , conservation and protection from exhaustion, as well as creation and implement of the scientific rate and price differentiated by zones and regions.

To integrate the enormous potential of resources and properties of growing forest into the economy, we must also boldly promote private enterprise to go into ongoing forest management as an important measure in increasing the overall efficiency of forest industry and a new kind of business, aiming to create additional types of industries and jobs, to increase the employment and living standards of forest regions, to further diversify the production structure in the rural areas.

Particular attention should be paid to such promising forest management such as deer breeding and fur farming, to which mountains of Almaty and East Kazakhstan regions and Kazakh hills will be favorable.

Tourist organization of cultural and recreational activities should be developed taking into account its diversity: extreme sports, film and photo-tourism, water, mining and other forms, in the interests of certain groups. It will be successful if developed around cities and other large settlements, and based on beautiful mountain forest landscapes of the above regions.

In the forest reserves of the country there are also all the conditions not only for hives and apiaries, but also for the development of beekeeping in general. Almost all forestlands in Kazakhstan are suitable for this purpose.

Nevertheless, leasing lands in the sizes of 0.025, 0.049, or 0.1 hectares for beekeeping should be stopped. This was the case in the previous practice. Indeed, the bees, for example, fly an area with a radius of 2-3 km when collecting nectar, and therefore the minimum size for a single apiary with 80-120 hives is 22-25 hectares of forest land, and not a piece of land, where the apiary only can be placed.

Forestlands, except the areas of natural reserves and SPNAs can serve as a basis for organizing hunting leases, but only on the terms of payment. Wherever there is a free land consolidated for private hunting, it should be immediately canceled. This contradicts the basic principles of the market economy and ultimately leads to the inevitable destruction of wildlife.

Sufficiently careful attention is also required in developing of such fields as harvesting and gathering wild berries and mushrooms, medicinal plants and technical plants, fruits and nuts, tree sap, secondary wood resources, reeds and Shih, providing long-term lease of forestland for the cultivation of the plantation, and seedlings. To some extent, this should also be extended to melon cultivation.

Along these measures, in our opinion, we should significantly enhance the controlling and inspecting activities on forest management and enforcement of environmental regulations, giving additional powers to the corresponding services to give them a real support in the fight against poaching. It is especially necessary in these types of forest as harvesting and collection of medicinal plants and other forest products, the actual collection amount of which are underestimated and are not credible. It is also necessary in hunting amount of wild animals and others.

A certain categories of forestland rentals should be regularized in forest leasing terms. For example, for many tenants, it is convenient to rent lands for long-term use for hayfields, pastures and other side usages, whereas the Forest Codex of the RK carries out these kinds of forest management out only on the short-term lease for 1 year.

In the category of forest management, it is also appropriate to introduce by contracts, as in Russia, geological exploration, the identification of locations of minerals, construction, restoration and maintenance of reservoirs, artificial water bodies, hydraulic structures, specialized ports, power and communication lines, roads, pipelines and other linear facilities in the forest lands with the establishment of the corresponding charging system for them.

We believe that all these combined methods will further enhance forest-based entrepreneurship and improve the overall efficiency of forest management.

Some recommendations outlined in this article are already being implemented in the grass-root structures of forestry and EPNAs. For example, in the reserve “Semey ormany” the following activities are being organized:

- Production of wood chips from the remains of burnt wood and other waste (created 6 jobs);
- Cylindering wood for the construction of wooden houses, baths and pavilions (created 3 jobs);
- Melon cultivation (created 2 jobs);

In the reserve “Ertis ormany” the followings are being planned:

- Sawing logs into lumber (this will provide with 4 working positions).

- Cylindering wood for the same purpose as in the reserve "Semey ormany" (this will create 3 jobs).

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