

CURRENT LIVESTOCK AND ENVIRONMENT INTERACTIONS IN KAZAKSTAN

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Kazakhstan has been historically considered a cattle breeding country with a livestock sector capable of making full utilization of the pasture resource: herd horse breeding, sheep breeding, meat cattle breeding, camel breeding.



The area of pasture of Kazakhstan accounts for 184 mln.ha. The annually renewed fodder stock on them accounts for 22 mln. ton of fodder units of eaten biological mass. Pastures cover 64% of the total Republic's territory and account for 70% of agricultural lands being the national wealth, the foundation for life of the local population in all historical periods. The current period is not an exception to that rule. Occupying vast areas, pastures need to be viewed not only as a source of cheap fodder, but also from the environmental point of view. That's why not only the economic, but environmental well-being of the country depend on them.

The main areas of pastures in Kazakhstan are located in arid lands with a low potential of yield and scarce water sources. These and other natural factors objectively conditioned nomadic and semi-nomadic life of the main bulk of residents in the past: the more often the Kazakh has been a nomad, the better the livestock was fed, the better the pasture were preserved, the more the culture of a nomad related to the environmental laws. The prototype of mobile use of pastures during the Soviet period was taking away the livestock to remote pastures.

During the previous 10 years radical changes have happened in the environment and the livestock production. The whole Republic's livestock is accumulated near open water sources, as a rule, located nearby villages. By the data of the former Ministry of Melioration of Water Resources, natural water sources can ensure 30-31 mln.ha of pastures or only 20% of the total pasture area. As engineering water lifting facilities (tubular wells, water pipes and water supply systems) on pastures don't operate and the water delivery doesn't justify itself due to being costly, livestock use water springs, rivers, lakes as source of water. Thus only 1/5 part of all pastures of Kazakhstan are utilized at the moment. The load that is not decreasing results in deterioration of relations between the livestock and pasture ecosystems. Besides the economic level of small agricultural producers in the hands of who 87% of all the livestock is accumulated, limits the possibility of an efficient use of pastures. By our data up to 75% of small agricultural producers graze their livestock walking and not leaving place for the distance longer than 5-7 km from the village and auls, up to 19% graze their livestock on horses for the distance of 5-7 km and only up to 6% of villagers take their livestock 30 and more km away and change pastures at least twice a year.

As a result, land plots around villages and auls bear the whole pressure of grazing. Lack of fodder results in overgrazing, the latter - to malfunction of pastures, land degradation, violation of environmental balance around places of residence and, remote pastures become underutilized resulting in pasture degradation. Eventually all this results in increased poverty of the rural population.



There are several indicators of the impact on environment from an inefficient use of pastures, illustrated here by two examples:

- The removal of fine soils in nearby village pastures already exceeds all possible limits and reaches 3,5-5,0 ton from 1 ha on light gray soils with a possible threshold of deflation 0,5-0,8 ton per ha during the pasture period. In other words potential outbreaks of dust storms already appear.
- The efficiency of pastures located close to auls, is progressively reducing and becoming lower and lower, even compared to an extremely dry 1974. The species composition of the pasture vegetation has also changed to the worse. The loss of biodiversity is being observed. The dominant of the vegetation cover - sagebrush - is disappearing. Instead pastures are covered by adraspan, istigek, ak-miya, brunets and other unedible and poisonous species.

In front of such situation the scientists of Kazakhstan are trying to find the solution to this problem. Kazak scientists and experts jointly with their colleagues from FAO will have to develop an efficient program of scientific-research and practical works to manage resolving a very complicated social-economic situation slowing down the development of livestock and the improvement of well-being of rural citizens. It has also two meanings for us as the President of Kazakhstan N.A.Nazarbaev announced the period of 2003-2005 - "years of aul" and suggested the task to the agrarian science to seek optimal decisions of development of the agricultural sector.

Regarding the regulatory framework for development of the pasture livestock and environment, there are promising articles in the "Draft Land Code of the Republic of Kazakhstan". Thus Chapter 4 (the right of the land use), article 36, point 1 reads "Land plots with the right of a temporary free use can be provided to citizens for remote pasturing (seasonal pastures)". This is a very promising point and should be undoubtedly preserved when the final Law is passed.

The main direction in improvement of environment on pastures will be the reduction of load on pastures located nearby villages and grant the access to remote pastures. The main hotspots of livestock and environment interactions in the Republic of Kazakhstan are: overgrazing and land degradation; reduction of biodiversity and; issues of poverty alleviation included in the development of the livestock sector and environment conservation. All these problems are relevant to the livestock regions of the South-East including Jambyl, Almaty and Semipalatensk regions of East-Kazakhstan oblast.
