

Ecological Problems Created by the Nature of Water Loss

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Opinion

Volume 2 Issue 6

Received Date: December 10, 2018

Published Date: December 18, 2018

DOI: 10.23880/jenr-16000152

Opinion

There is a widespread use of water loss in the irrigated lands of Azerbaijan, especially in the Kur-Araz lowland. Environmental protection means, first of all, that environmental requirements should be met during the use of natural resources. The agricultural products of our republic are grown mostly under irrigation conditions. It should be noted that the Republic of Azerbaijan is one of the most mountainous countries in the world, because 60% of the territory of the country lies in the mountain zones. Nevertheless, in the mountains, mainly under the conditions of irrigation, agricultural products are grown, which is up to 20% of the total production. For the use of fresh water in the Republic of Azerbaijan as drinking water in the national economy, 70% of irrigated lands for irrigation of agricultural land are transited through the country's transit waters, 30% of the domestic freshwater resources.

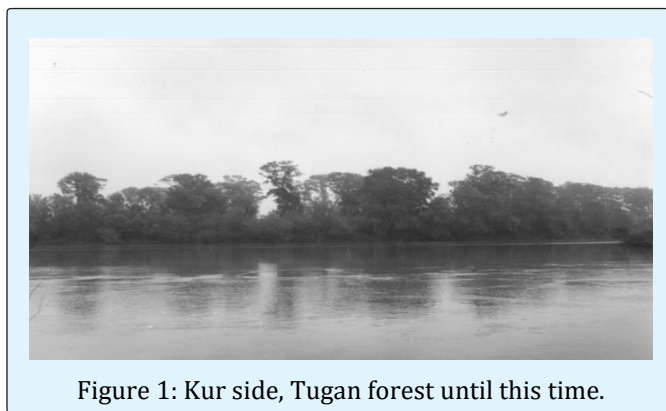


Figure 1: Kur side, Tugan forest until this time.

Our country's presence in the Arid zone of the South Caucasus affirms the need for greater agricultural land

reclamation measures. Our Republic, which possesses larger agricultural land in the South Caucasus, is the least developed country in the South Caucasus. Therefore, it is more important to prevent water losses in the Kur-Araz lowland.

The transit waters of the Republic are mainly Kur, Araz, Samur and other small rivers that carry out melioration and water works. These rivers are accumulated in reservoirs and lakes and are used effectively. From the water reservoirs where the above-mentioned rivers are dumped, channels for the sowing areas and local water networks are undesirable. At this time, the levels of irrigated land in rural areas, particularly in the immediate vicinity of groundwater, are gradually rising. Such cases, in particular, are the Garabagh and upper Shirvan canals taken from the Mingachevir reservoir. Also, irrigation canals derived from the Araz River cause unwanted water loss in the Mil-Mugan zone. In some areas these canals have been reinforced, however, after a while, this unusual situation is observed around irrigation networks. Particularly terrestrial waters include Yevlakh, Barda, Agjabedi, Agdash, Beylagan, Goychay, Zardab, Kurdamir, Ujar, Imishli, Sabirabad, Saatli, Salyan, Neftchala and others. There is a loss of water around irrigation canals in their territories. It is noteworthy that there is a loss of fresh water not only in these areas, but also on the collector drainage channels. In Yevlakh region, the waste water flowing through the collector drainage channels is sometimes lost due to geodetic conditions in the Barda region. The hard water drainage channels in the Barda region are going to lose some in the territory of Agjabadi district. As a result, an unusual environmental situation such as re-salinity of soils and elevation of groundwater

levels in these regions becomes apparent. Generally, either irrigation networks or hard water flowed drainage collectors that have lost fresh water are undesirable.



Figure 2: There was Tugay forest in the past.

Therefore, in addition to the routine cleaning of the cascade channels flowing into the Caspian Sea, some areas should be avoided by the use of modern techniques in the flow of hard water in places where geodesic altitudes and slopes are observed. Otherwise, water loss in these areas is even greater.

While the saline waters, which are exhausted from some landfills and canals, are dumped into the Shor lake by the collector canals, some wastes because of the presence of toxic substances and mineral fertilizers, must be discharged not directly to the Caspian Sea, only to lakes where salt water collected.

As the drainage channels and seasonal rivers in the Kura-Araz lowland are regularly polluted, their flow and leakage to the Kur and Araz rivers, including irrigation networks, should be routinely prevented.

It is important that irrigation coastline strips should be laid in the Kur-Araz lowland with all existing irrigation canals and drainage collector networks in compliance with the cleaning by environmental requirements, thus maintaining proper service distance on the right and left banks of the canals. So, forest irrigation measures of trees and bush species that have the ability to end land should be implemented. For this purpose, the saddle-sleeves, willow, crab apricots, wild apricots, hives, wild boars and etc. is more desirable to plan a number of more sidewalks in the vicinity of the channel, because the vertical roots of the sloping bushes are 30m deep in the high-density soil, and the side roots grow around 50m.



Figure 3: Kur side in the Tuqay forest fund in the spring of 1982, the cultivation of Eldar Damascus (Barda region).

This is a natural method to prevent the leakage and flow of hard waters into the land of the land by tightening the coastal drainage and drainage canals. Sowing materials of slippery bushes are located in the territory of Tuqay forests, especially in the territory of Yevlakh, Agdash and Barda forest areas. For example, near the city of Yevlakh, on the left bank of Kur (close to the bridge), hundreds of thousands of naturally occurring sowing materials are currently available. It is particularly important to plant them as coastline strips along the collector drainage canals, especially where hard water streams flow. The irrigation forest restoration measures should be considered an irrevocable measure to prevent the recycling of land in the Kur-Araz lowland of about 800,000 hectares. Otherwise, geographical areas of saline soils can be expanded. It is important that water loss coefficient should not be allowed in networks that are either hard water or fresh water. Thus, it is essential that the coastal water holding irrigation forest strips should be laid around large and small volumes of freshwater flowing constantly. Therefore, on the Kur-Araz lowland, the Melorization and Water Economy Joint-Stock Company should create a fertile farm for cultivation of sustainable tree and bush seedlings in regional volumes, and should focus on existing farms in enhanced working conditions. In the saline soils, the sowing of waterfowl on the sowing pits is carried out around 5 years to the permanent plantings; these plantings will perform the coastal natural functioning of that area without endless maintenance.

Coastal fasteners should be protected in full compliance with ecological requirements for the protection of these crops from scrap and spillage and fires. Tugay forests in the Kur-Araz lowland, starting since mid-20th century until now getting decreased, have remained in the administrative territories of Barda,

Agdash and Yevlakh regions. Until Neftchala region, part of the genetic fund of these forests remained partly. The main cause of the environmental degradation of the Tugay forests in the Kur-Araz lowland was the reason for the Mingachevir reservoir construction in connection with the construction of the Mingachevir hydroelectric power plant in the mid 20th century. Thus, Kur River, which was originally from the mountains of Turkey until 1950, was transformed not to natural flow into a special water regime after the Mingachevir reservoir was created. For centuries, every year Kur river overflows in spring, however it slows in the middle of spring, the humidity have been remaining until the middle of august about 1-2 km distance in the side coasts. In August, the demand for the Tugay forests was naturally carried out by autumn rainfall. The construction of a hydroelectric power station has turned the Tugay forests as a result of which the river has stopped its natural water regime and has lost its vegetation. Although the cultural restoration measures were undertaken in the Tugay forest fund of the Kur river side, it was impossible to restore the previous forest ecosystem. The main reason for this was the allocation of funds for irrigation and agro technical services for 5 years.

It should be noted that any tree and shrub species in Kur-Araz lowland, constantly irrigated irrespective of age and sex, cannot tolerate the soil and climatic conditions of the area. Thus, the effectiveness of cultivated forest seedlings has not yielded results, and the natural reproduction of the river has not allowed the flow of special regime. In the territory of Yevlakh, Agdash and Barda, the remains of the ancient Tugay forest were partially preserved to the point where the Khachin River from the Caucasus reached the Kur. From this site to the Caspian Sea in Neftchala region, until the Kur River lost its coastal Tugay forests, currently, the river leads to a loss of water. This is the case when the mineral salts in the main rocks are brought to the surface of the earth. Also, the loss of irrigation networks and collector drainage channels in rural areas, as well as the fact that the annual rainfall is excessive, as well as poor compliance with the water regime in the sowing areas, the water loss coefficient has regularly formulated lands that have been exposed to salinization in its geographical areas. While some mineral salts are not visible in the eye, white colored calcium salt compounds show that soil is more gruff than the norm. It even reminds the appearance of snow in the summer around the highway from Baku to Ganja. In order to re-establish such saline and degraded terraces, melorativ washings should be carried out. In December 1949, the Council of Ministers of the former Soviet Union decided to establish a scientific research forestry and agro-melting institute in the Republic of Azerbaijan.

This institute began its scientific activity in the 50s, with the beginning of scientific and research works on the establishment of field and plantation protective strips in the agricultural lands of Azerbaijan, especially in the Kur-Araz lowland, taking into account the shortage of freshwater. Almost in all the districts of the Kur-Araz lowland, it is envisaged to plant grass-covered forest lanes. The experiments and observations by researchers have confirmed that irrigation irrigation can be doubled irrigated by the end of the plantation in the non-protective forest strip for irrigation of plants per year (cotton, grain, etc.) in other agricultural land not protected strips in the areas with tarpaulin forest strips is required. Experience has shown that irrigation works have been performed twice a year during the vegetation period, in contaminated forest strip areas, where there is no protective forest strip. So, forest melioration measures have shown positive results, such as the low cost of the product due to reduced agro technical services in the land. This has resulted in increased productivity and lower cost per capita. Therefore, it is desirable to build wood-bearing forest strips of various trees and shrubs in accordance with the soil and climatic conditions surrounding the lands of the agricultural land in the Kur-Araz lowland today. These studies also fully meet the environmental requirements. Taking into account the aforesaid, it is more appropriate to conduct agro-melting activities in the Tugay Forest Fund lands on the right and left banks of the rivers that meet international environmental requirements. Since the Kur River cannot be reverted to the historical water regime, it is important that agro-processing measures be carried out with special land preparation works on the right and left coast of the Kur river, using the modern facilities of science and technology.



Figure 4: Tree and shrub species in Kur-Araz lowland.

It should be borne in mind those soils, water purifier, climatic regulator and so on. The forests with great

ecological significance constitute a minority in the geographical areas of Azerbaijan. Thus, only 8.6 million hectares of Azerbaijani lands are only 1,18,000 hectares, which, according to demand, are the forests of countries with less than 20% of forestry are included in Group I of the world forests. In such countries, forest fossils of industrial importance are not allowed. So, in the country with a low forest, ie 11.8% of the forest, implementation of agro-processing activities in the Kur-Araz lowland is extremely topical. To restore the green nature of the forest lands on the right and left coasts of the Kur river, it is necessary to lay down the forest strips of trees and shrubs that are suitable for the old ginefon around gardens and plantations in accordance with economic and ecological requirements, which means that the agro-melioration measures is considered. In our country, according to the decisions and instructions on the development of the non-oil sector, there are various types of smoked grains, plantation of wild pomegranates, establishment of processing plants, and bringing

significant revenues to the state budget, with the establishment of plantations, quince, grape, cherry, apricot, hips and other industrial can be. It also provides economic assistance to direct funds to these jobs for irrigation and cultivation of garden and plantation protective strips. At this time, the ecological role of forests, gardens and greenery in semi-desert zones is high. This will be a response to international environmental requirements for agro-melioration measures. It will also be one of the key areas for non-oil sector development.

Summary

Methods of economic and environmental assessment of the implementation of agro-melioration and irrigation measures in the periphery of Azerbaijan in preventing salinization of soils in the reduction of water loss coefficient.

