ASSESSMENT OF THE DYNAMIC STATE OF GLACIERS LOCATED IN THE AMUDARYA BASIN IN TERMS OF AGRICULTURAL USE

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Annotation: Studying the dynamics of glaciers in the Amudarya Basin, to meet our republic's water needs in full blood and to solve the water shortage circulation that may occur in the future, to monitor the change in the dynamic state of glaciers in the climate change process and calculate how much the water reserve in the glaciers can reach if it continues

Key words: Orolqum, Basin, Glaciers, Wakhan, Kukcha, Sukhrab

Amudarya is the most turbulent river in Central Asia. It flows through the territories of Tajikistan, Turkmenistan, Uzbekistan and partly along the border of Afghanistan. It is formed by the confluence of the Panj and Vakhsh rivers and is 2,540 km long, with a basin area of 309,000 km 2 (without the basins of the Zarafshan and Kashkadarya rivers, whose flow almost does not enter the Amudarya). The catchment area in the part where the water flows is 227 thousand km 2. It begins in Afghanistan's Hindu Kush, where it is called the Vahandarya, and after joining the Pamir River is called the Panj, and the Wakhsh joins the Amudarya below. The flow is formed mainly in the Pamir-Olay mountain countries (75% of the river basin is located in Tajikistan). On reaching the plain west of the Kohitang range, it crossed the Karakum and Kyzylkum deserts and flowed into the Aral Sea, but due to the fact that not a single drop of water has been given to the Aral for recent years, the Aral dried up and became a large salt marsh instead, Aralqum has appeared.

The Amudarya flow is formed mainly by the flow of the Panj and Vakhsh rivers, which are rivers that are saturated with glacier and snow water (the area of the glacier in their upper reaches is 7.5 thousand km 2). The share of glacial flow is about 15%. As a result of the melting of snow and ice, the increase of water consumption mainly begins in March-April.

The Amudarya basin, including the territory of Afghanistan, is divided into 3 small sub-basins: Vakhan, Kokcha and Sukhrob. Mainly the mountain glaciers in these areas are between 34.58° and 38.35°N latitude and 67.63° and 74.88°E

longitude, in addition, most of the Wakhan sub-basin is located between 36.45° and 38.35°N latitude and 70.65° and 74.88°E longitude. .

There are 3,277 glaciers with a total area of 2,566 sq km in the Amudarya basin. Of these, 2,047 belong to the Vakhan sub-basin, 913 to the Kokcha sub-basin, and 317 to the Sukhrob sub-basin. The fixed reserve of these glaciers is 163 km. is a cube.

The Wakhan sub-basin is the third largest watershed of the Amudarya in Afghanistan, covering 76% of the total area of the glacier-covered area. Glaciers are qualitatively clean and distinguished by the most frozen mountain massifs, and also by the size of the ice reserve (82%).

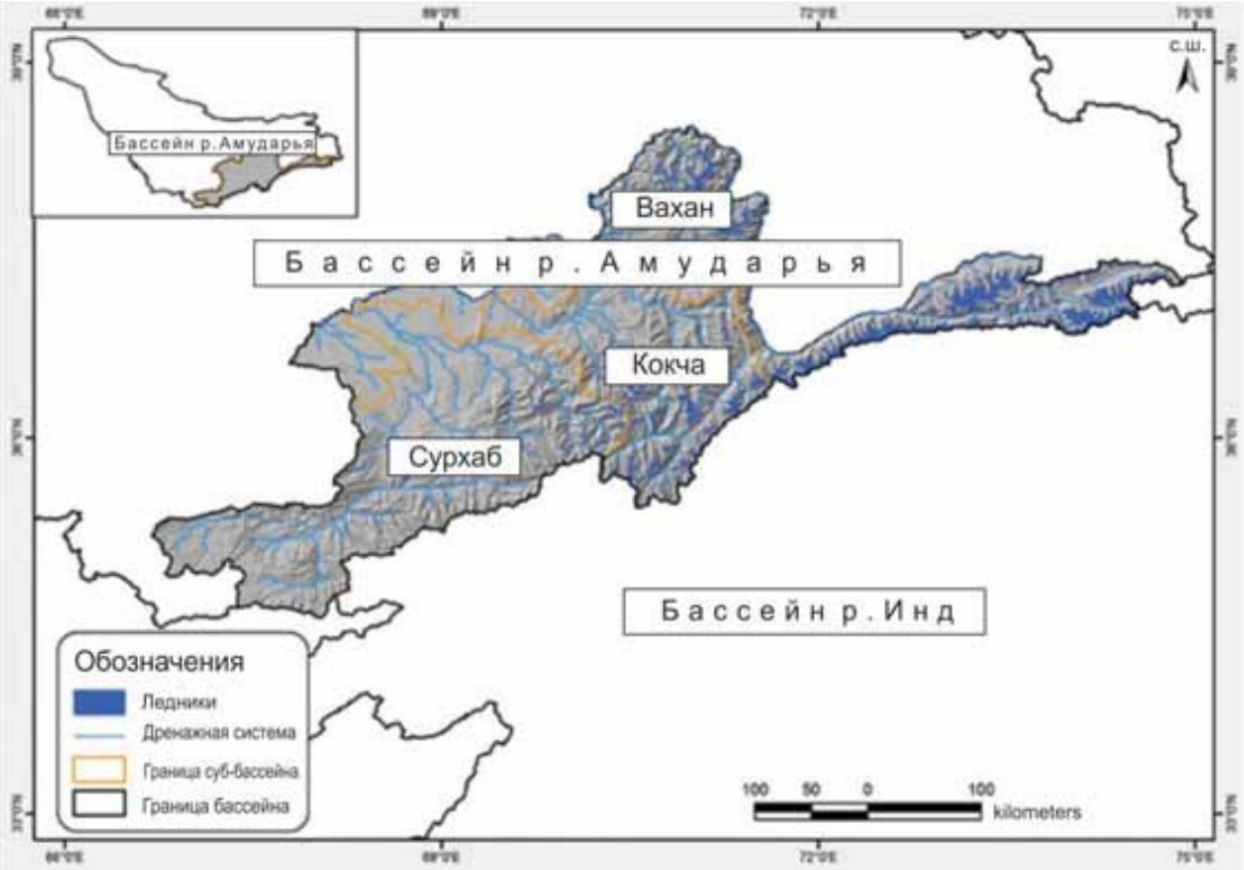

Figure 1. Distribution of glaciers on the territory of the Amudarya basin.

The height of the territory of Afghanistan above sea level is from 7485 meters at the top of Mount Noshak to 258 meters in the valley of the Amudarya River. The highest point (7213 meters) and the lowest point (3131 meters) are both located in the Wakhan sub-basin. Such a wide distribution of elevations in the Wakhan watershed indicates the presence of valley-type glaciers. Fresh ice glaciers from 7213 to 3415 m.m.m. and covered glaciers from 5466 to 3131

m.m.m. located at heights up to A narrower range of elevations for direct shed glaciers indicates the presence of basin-type glaciers.

Figure 2 below shows the percentage of glaciers with different exposure and average angle values. Almost 21% of glaciers have eastern exposure, about 16% southeast, 13-14% northeast, south, southwest or west, 8% northwest and a very small part of glaciers (all Ko 'kcha and Surkhab sub-basins) has a northern exposure.

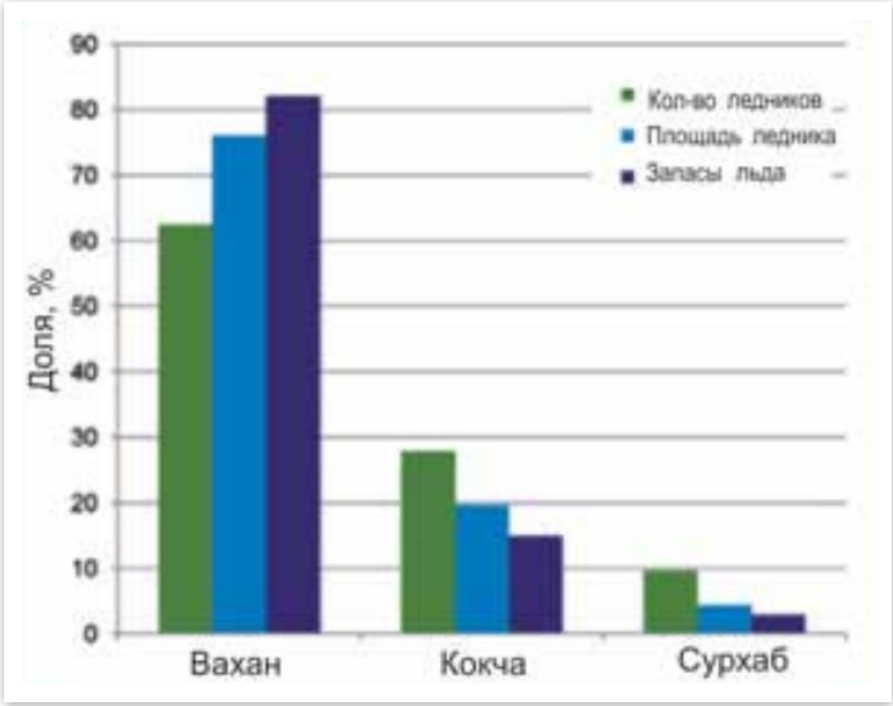

Figure 2. Amount, area and estimated reserve of glaciers in the Amudarya sub-basins.

We are sure that the largest sub-basin, Wakhan, contains almost 82% of the reserve glacier and 76% of the ice area. Kokcha and Sukhrob sub-basins contained 16% and 8% of reserve glaciers, respectively.

We can talk about the economic importance of glaciers and the importance of their use in agriculture in many ways, and this alone proves how much Amudarya water is needed in agriculture. Climate also has a great influence on the dynamic state of glaciers. Precipitation falls in mountainous areas more than in the plains, most of it falls in the form of snow and also affects the growth of glaciers. If the glacier at the source is large and rich in water volume, the amount of water

coming from it will be proportional to it, and the importance of water in agriculture is very important.

To conclude from the above, the existing 3277 mountain glaciers are divided into 3 sub-basin areas and water sources are also formed from different glaciers. Studying the dynamic state of each glacier provides the necessary knowledge about its undiscovered information. Glaciers and snows, which are the water base of Amudarya, are decreasing day by day. In order to propose many solutions to this issue in the conditions of climate change, it is considered one of the urgent tasks to study the dynamic state of existing glaciers. In the next aspect, it helps to evaluate the harmful and beneficial sides for agriculture and economic aspects. Now that everyone has a good understanding of the value of water, I think that we should show them the reserve of glaciers, which is our source of water, so that they can become more mature in the economy of using it sparingly.

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