

## **ASSESSMENT OF MIRZACHOL NATURE AND ITS LANDSCAPES**

***Abduvoitov Lochinbek***

*4th year student of Jizzakh State Pedagogical University*

**Abstract:** This article focuses on the current reclamation situation of the Mirzachol natural area and their assessment.

**Key words:** oasis, ameliorative geography, landscape-ameliorative measures, groundwater mineralization, relief types

Elucidating the issues of natural land reclamation assessment for the purposes of irrigation and land reclamation of Mirzachol oasis is considered important today. The Mirzachol region includes a wide mountainous flat proluvial-alluvial and eluvial plain with an almost imperceptible (0.009-0.006) slope towards the northwest. The low horizontal and vertical fragmentation of the plain relief, soil-climatic and other natural conditions create a convenient opportunity to use a large part (over 800 thousand ha) of the Mirzachol region for the cultivation of cotton, grain and other agricultural crops. However, not all regions of Mirzachol are equally suitable for irrigated agriculture, or they differ in terms of lithological-geomorphological, or hydrological-meliorative and soil conditions.

Natural conditions Mirzachol landscapes were formed as a result of the development of the main aspects of the natural environment of the region. Stable paleogeographical trends of the development of the natural environment were clearly expressed during the Cenozoic era, since the Mirzachol highland plain has been formed in its unchanged form since the beginning of the Upper Paleozoic. If short-term epeirogenic uplifts are not taken into account, signs of negative movement were preserved in the development of the depression, which created conditions that ensured the accumulation of large-scale terrigenous sediments. The deposits were accumulated along the depression in arid climatic conditions that remained until the end of the Upper Paleozoic, creating favorable conditions for their salinization and gypsification. This was made possible by the leaching of salts from the surrounding mountains. On the other hand, the process of salinization of porous rocks affects the chemical composition of underground and ground water, making it difficult for them to flow, and mineralization from the peripheral parts of Mirzachol (0.3-3.0 g/l) increases towards its interior (more than 30 g/l).

Focusing on this unique natural condition of Mirzachol, A. Rafikov (1974) assessed its natural reclamation conditions for irrigation and reclamation. First of all, in order to create a natural-ameliorative assessment map of the lands of Mirzachol, which have been turned into an oasis used for agriculture, this researcher made a landscape map of the area on a large scale (1: 50000) and carefully studied it, including complex facies and simple urochishkas, lithological-geomorphological, hydrogeological and soil conditions are indicated. In addition, A. Rafikov

studied water-physical properties of soil (filtration coefficient, water permeability, capillarity, etc.), water-salt balance of some massifs, possibilities of using different types of drains, etc.

In order to determine the reclamation complexity of the territories, the criteria (indicators) of the complexity of the leading natural components have been defined and the scale of the complexity level has been developed.

Relief. a) common slopes that determine irrigation techniques and methods, the direction of irrigation and drainage networks, the possibility of irrigation erosion; b) horizontal and vertical fragmentation of the relief, which greatly affects irrigation techniques and methods; the availability of drainage of the area, the size and configuration of irrigated plots, the planning of field areas.

Soil soils: a) mechanical composition determining the drainage of the soil, the possibility of severe irrigation erosion during irrigation, parameters of horizontal water collection, the possibility of using vertical drainage; b) it depends on the salinity of the ground soil, the need to install and choose the type of drainage, wash the soil, plan the field area; c) irrigation methods (watering, flooding, sprinkler and irrigation), rational use of water and continuous irrigation, etc.

Groundwater: a) the depth and mineralization of water, the need to determine drainage networks and their parameters; b) natural drainage of soils, which determines the general melioration conditions of the irrigated massif. The appearance of preventive measures (drainage, soil washing, etc.) depends on the dimensions of groundwater leakage [5].

Experts' studies show that the minimum width of the protected areas to be developed should be 150-200 m, and the length should be 600-650 m; and the maximum size is 250-300 and 700-750 m, respectively. Excluding these expressions, it can be noted that the relief of neighboring lowlands (flowless basins) or agricultural land with an interval of more than 0.4 km in height is favorable for development. The area divided by a distance of more than 1.0 km is suitable for stratified plowing and irrigation of crops. Therefore, the undivided area of more than 100 hectares allows to divide the massif into sections for the purpose of optimal placement of agricultural crops in rotation.

In the Mirzachol oasis, the slope of the relief surface mainly affects the use of surface irrigation and the selection of irrigation channels and drainage networks. Irrigation erosion in slope irrigation begins at a slope of 0.008, and at a slope of more than 0.01, intensive deepening of slopes occurs, with a depth of 0.2 m and more in some places. A slope of 0.008-0.002 is convenient for self-flowing irrigation. Low slope creates conditions for re-irrigation in egypt. Depending on this, it is necessary to pay attention to the planning of massifs, the natural slope and water permeability of the soil when organizing field irrigation [6].

Soil salinity is also characterized quantitatively. Soils containing less than 0.01% chlorine ions and density up to 0.3% are considered non-saline and are most suitable for growing cotton, alfalfa and other crops. The productivity of raw cotton in such soils is 35 s/ha.

### **Dependence of cotton development and yield on soil salinity of Mirzachol natural region**

Soil salinity level	Dense residue, %	Chlorine, %	The state of cotton	Cotton raw material yield, s/ha
Unsalted	less than 0.3	less than 0.01	Short stature and development	More than 35
Weak	0.3-1.0, less than 0.3	less than 0.1 0.01-0.04	It is less likely to die, the leaf will fall	20 - 30
Average	1.0-2.0 0.3-1.0	0.01-0.04 0.04-0.1	Indestructibility is moderate and strong	less than 20
Strong	2.0-3.0 1.0-2.0	0.04-0.1 0.1-0.3	A single bush grows	No
Shorkoks	More than 3.0	More than 0.3	There are no conditions for growth	

Analysis of the dependence of natural components that determine land reclamation properties leads to the classification of regions according to their natural reclamation properties.

- Mountainous slope deluvial-proluvial small stony-sandy-sandy with intensive drainage, typical gray soil and a plain with very weakly mineralized hydrocarbonate ground water lying stably in the deep.
- Plains with old irrigated upland weak sloping proluvial small stony-sandy-sandy with intensive drainage and typical gray soil and deep-lying stable weakly mineralized hydrocarbonate ground water.
- Slope deluvial-proluvial clayey-sandy cone-spreading plains with weakly drained saline light-gray soils and moderately to strongly mineralized sulfated groundwater located on the stable surface.
- Plains with weak and medium salinity sulfate groundwater located on an unstable surface, with undulating proluvial supes-salary, often with weak drainage.
- Plains with newly irrigated flat alluvial-proluvial susp-slucious drainage (with intensive artificial drainage) with saline pale gray soil and strongly mineralized groundwater with sulfate-chloride located on the stable surface.

#### References

1. Rafikov A.A. Natural reclamation assessment of agricultural lands of the Golodnaya Steppe. Scientific collection. Geographical basis for the development of deserts and mountains of Uzbekistan. T.: Fan. Pages 20-42.
  
2. Toshboyev ZM, Yarashev KS Formulation and Development of Mirzachul Landscapes. Nature and Science. Volume 18, Number 2. February 25, 2020. Marsland Press. Multidisciplinary Academic Journal Publisher.
  
3. Toshboev Z.M. Reclamation-technogenic elements in the structure of oasis landscapes of Mirzachul. Scientific conference Ufa, Bashkortostan. Russia. 2020. pp.143-145.
  
4. Toshboev ZM, Kholmiraev JE Mirzachol the role of irrigation in the formation of oasis landscapes. //Nauka i education v sovremennom mire. ВЫЗОВЫ XXI century.Mejdunar. scientific-practice. jurnal Nur-Sultan, Kazakstan. 2020.