

RELIEF STRUCTURE AND RECLAMATION MEASURES OF THE CURRENT AMUDARYA DELTA

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Abstract: *The article describes the practical application of the method of relief plasticity in the study of the spatial order of the delta, the founders of the basin concept, the sequence of studies, the periods of study of scientists who contributed to the basin concept, the relief structure of the current Amudarya and land reclamation.*

Key words: *tree, structure, delta, branching, elongation, landscape, component, reclamation, ecology.*

The practical application of the relief plastic method can create certain conditions for studying the spatial arrangement of the delta surface. The spatial arrangement of the delta requires several criteria, that is, the small deltas are part of the large delta (the Amudarya), which forms a certain whole. If we consider any small delta as a geosystem, it has its starting point, middle and lower parts. " forms a single whole with the shape. The starting point of the Amudarya river delta is located near the city of Tachyotosh, and the lower part of the delta ends at the shores of the Aral Sea. The starting point of the Erkindarya small delta is located around the village of Parlitau, and the middle part is located between the mountains of Kuskanatau and Itkir. The only parts of the system differ from each other in their internal structure, that is, in the angles between the two currents located at the point of divergence.

When studying the integrity or integrity of the delta, it is very important to study its structure, that is, its internal structure. By structure, we understand the interrelationship and relationship of elements in the system, that is, the concept of element plays a key role here. Academician B.B. Polinov understood that the elements of the landscape mean that one type of soil is found in a certain place, that is, in a certain elemental landscape group. In other words, the soil type is directly related to the relief element. [4,6]

Determining the structure, in turn, requires knowledge of geometric laws. This process is clear to all of us. What is meant is that any scientific knowledge moves from the concrete, from what exists to the general, the abstract. For example, from landscape shell (actually existing) to landscape space (abstract concept). A geographer can study primarily the structure of the landscape space (simplified model), that is, he does not study all the complexity of the landscape

shell. That is why the geographer gives up so many parameters, that is, they leave the most desirable parameters. A special role is played in the study of the landscape shell by geometrical forms, i.e., the representation of the natural forms of elementary landscapes in the form of straight lines or triangles. A deep study of such forms requires the application of mathematical methods to geography. This learning process leads the geographer to a more scientific, geometric way of thinking. Based on these basic rules, our geographers first describe the geometric structure of landscapes on maps, and then determine the material composition of soils, sediments and groundwater in these structures [1]. At the first stage of knowledge, without paying attention to the material composition of landscapes, only their geometrical forms are described, and then the relationship of these forms to each other, in other words, their structure, is studied.

V.M. Friedland, I.N. Stepanov, the concept of the landscape structure is very close to the concept of the structure of elements in mathematics. From this point of view, we can consider the current Amudarya delta as a geosystem covering small deltas, and this system has the following characteristics:

- 1) Amudarya delta as a geosystem consists of elements, that is, small deltas;
- 2) Small deltas in this geosystem also form their own "tree-like" structure, but on a smaller scale;
- 3) Each small delta has a starting point, dividing points, middle and lower parts;
- 4) There is a similarity between the changes in the material composition of the Amudarya delta and the changes in its parts, Kazogdarya, Shortonbay and other small deltas.

If we pay attention to the relief plastic map of the Amudarya delta, we can distinguish several small deltas (Erkindarya, Kazakdarya, etc.). Lower parts of surface water streams with different directions serve as borders of small deltas. Small deltas, in turn, have a starting point of formation and an internal structure. From the initial part of the small deltas to the final part, the natural-ameliorative conditions change based on a certain law, that is, the mechanical composition of the soil becomes heavier, the level of mineralization of groundwater and soil salinity increases, etc. Therefore, showing small deltas on the maps in the form of a "branch" and depicting their internal structure in a natural state gives a clear idea of the directions of the surface water flow and the changes in the structure of soil and groundwater. [7]

Inter-river depressions and junctions of inland surface water streams with different directions are sharply distinguished by their natural and meliorative conditions. Due to the confluence of liquid and solid streams in such lands, the soils are highly saline. The "tree-like" structure of deltas plays a major role in determining the geometric forms of the soil cover. Based on this method, one of the most important criteria is geometric similarities, that is, the similarity of "tree-like" shapes in objects. Therefore, it is important to study land cover patterns, which in turn requires examining the relative similarity of land cover systems.

If the geometric forms of two objects are similar, their content, that is, the mechanical composition of soil, groundwater, plants, and nanos, will also be similar. If we study well from these objects and plant various crops as a result of its development in agriculture, then it is natural that specific geographical processes will take place in this massif. After several years, if we acquire the second facility, we can take into account the negative and positive results that occurred as a result of the acquisition of the first facility, and this in turn can lead to huge savings and great achievements. The exact similarity between these two objects is that they are geometrically "tree-shaped".[12]

Small deltas of the current Amudarya delta, Shortonboy, Kizketken-Chimboy, differ from each other in their internal structures. The Shortonboy delta is characterized by a structure with an "extensive" structure. The Kizketken-Chimboy delta is characterized by an "extended" structure. It is important that deltas have such forms

is related to the stage of development and forces of currents. In the formation of the Shortonboy delta, the currents were strong and powerful, but in the second delta, the speed and power of the currents were not enough to create an "stretchy" structure. We can know this from the angles between the two streams located at the "branching" points: the angle is equal to 200-250 in the Shu'rtonboy delta, and 40⁰-45⁰ in the Kizketken-Chimboy delta.

The variety of angles also affects the land reclamation in these deltas. Due to the good slope of the terrain in the Shortonboy delta, the flow of ditch water is also good. As a result of studying the melioration conditions of these small deltas, we can determine that there is a difference between the soil and gunt water in these deltas. Salt balances in the Shortonboy delta are positive, that is, the soils are mostly non-saline and low salinity, while in the Kizketken-Chimboy delta, the salt balances are negative, they are mostly moderately and strongly saline.[5]

In each small delta, the change of natural-ameliorative conditions based on a certain law is primarily related to surface water flows. In the initial parts of deltas, soils with light mechanical composition dominate, while in the lower parts, on the contrary, soils with heavy composition prevail. Thus, the study of the internal structure of pedosystems through geometric shapes can be the basis for predicting the most basic properties of soils. That is why it is necessary to pay great attention to the description of the structure of the earth's surface on relief plastic cards, to show their "idealized" forms, and to study them in the work of investigating the natural-reclamation conditions.

It should be noted that the two elements of the relief shown on the basis of the relief plastic method, which are elevations and depressions, are called the main contours. Some experts are opposed to calling these contours basic, they are mainly reclamationists. They try to prove their point as follows, that while the reserve is taking over the land, the relief is flattened and loses its characteristics. But the thematic maps compiled during our research show that the mesoforms of the earth's surface are preserved while flattening the land. For example, there are heights located along the riverbeds of Erkindaryo, Shortonboy and others. Before

creating the thematic maps, drawing up the relief plasticity and taking this map as a basis can serve as a basis for studying the relationship between the relief and landscape components on the one hand, and on the other hand, it serves as a basic map for reclamation workers.

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