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Equivalent of Locality of Ground Waters in Mirzachul

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ABSTRACT— *In this article observed profundity assay of contemporary agro-chemical and ameliorative stipulation of most important irrigated soils spreading in the area of, to determine the variability of productivity in the soil and to elaborate on scientific base for its enhancement. It serves as a basis for soil-moistening consider of soil agrophysics properties, soil moisture content, soil salinity and irrigation norms, irrigation procedures and land reclamation arrangements with the scientific basis for effective land use. This problem solves the geomorphological, lithological and hydrogeological conditions of soils, and their genesis and accumulation of salts in the soil layers is scientifically justified. Under the influence of anthropogenic factors, the process of evolutionary transformation of soils cover on irrigated soils, identification of the degree of fertility of irrigated soils and drawing up maps of soil quality, as well as the development of a lodge of measures to maintain and increase fertility. Inception of productivity models for irrigated soils using technologies of the geoformation scheme and maturation of solutions aimed at upkeep and enhancement of soil fertility.*

KEYWORDS--*Activities, agricultural produce, irrigation, ground waters, mirzachul, profundity, resources, soils.*

I. INTRODUCTION

Several research activities on a number of priority areas in the world of soil fertility, its parameters, soil quality and other factors of soil fertility are being carried out. At the same time special attention is being paid to the implementation of scientific research aimed at identifying soil properties, qualitative assessment of soil fertility, recovery, development and management of modern geo information systems.

At the present time, research activities on improving the agrochemical, agrophysical properties of soils and application of new technologies in the fight against degradation of soil are carried out for the conservation, restoration, enhancement and management of soil fertility in our country. The Strategy for the Development of the Republic of Uzbekistan for 2017-2021 includes the "... innovative ideas, developments in the agrarian sphere, to identify the main directions of innovative development of the Republic of Uzbekistan in support of technology, further strengthening of food security of the country, improvement of reclamation status of irrigated lands, expansion of production of ecologically clean products, considerable increase of export potential of the agrarian sector. In this regard, it is important to make effective use of land resources, to maintain soil fertility, rehabilitation, develop and manage crops.

The President of the Republic of Uzbekistan, dated from January 22, 2018. On the State Program on Implementation of the Strategy of Action in the Priorities of the Republic of Uzbekistan for 2017-2021 in the Year of Support of Active Entrepreneurship, Innovational Ideas and Technologies", Decree of the Cabinet of Ministers of the Republic of Uzbekistan dated from January 14, 2018 No. 25 of the Resolution of the Cabinet of

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Ministers of the Republic of Uzbekistan "On Measures for the Effective Use of Land Plots and Arrangements for additional income" and other normative and legal acts will serve in the following research paper to a certain degree when performing the tasks specified in the documents [1].

Nowadays scientific practical activities in the field of agriculture, including effective and rational use of land resources, is systematic and achieving certain results. In this regard, scientific research on the effective use of irrigated soils is aimed at determining the use of soil resources in practice, and theoretically the features of soil evolution have not been fully covered [2,3,4,5]. The strategy for the development of the Republic of Uzbekistan for 2017-2021 includes: “Continuous development of agricultural production, further strengthening of food security of the country, improvement of reclamation status of irrigated lands, expansion of production of ecologically clean products, significant increase of export potential of the agrarian sector.” as important strategic tasks of features of the evolution of soils are not completely covered. The strategy for the development of the Republic of Uzbekistan for 2017-2021 includes: “Continuous development of agricultural production, further strengthening of food security of the country, improvement of reclamation status of irrigated lands, expansion of production of ecologically clean products, significant increase of export potential of the agrarian sector.” has been identified as critical strategic tasks. Taking this into account, it is important for both scientifically and theoretically to determine the nature of soil evolution, the nature, soil processes and productivity related to soils.

II. METHODS OF RESEARCH

especially, rational and efficient use of land resources, is one of the most urgent issues in the systematic farming system. The irrigated soils in the Mirzachul region of the Republic of Uzbekistan have a great potential. In this context, one of the most important issues that we are facing today is to create a system of measures to protect and preserve them, improve productivity and harvest, and improve their reclamation status. In this regard, it is important to conduct research in this area, especially considering the fact that the irrigation networks in this area are not at required level, the fertility of the soil is declining, the need for quality and quantity of agricultural produce is decreasing.

As it is known, soil formation in Jizzakh desert area, which is very diverse in nature and geographical conditions, is a very complex process [6,7,8,9,10]. This process is directly related to the relationship between lithosphere, atmospheric and living things, matter and energy exchange, human activity, cultures and systems in this matter. Soils extending in the steppes of Jizzakh are deeply affected by human activity. As a result, some types of cultivated soils are formed. However, the natural territorial differences in these soils are still maintained. The extent to which cultivated soil in the region is directly linked to agricultural production. Depending on soil climatic conditions, reclamation, ecological condition, relief, socioeconomic conditions of the region, and so on, the use of Jizzakh desert land will allow us to increase or develop soil fertility from year to year in accordance with designing of land.

The main factors contributing to the increase of soil fertility are the increase of organic matter content, optimization of agro-physiological and agro-ameliorative properties, and ensuring the availability of nutrients.

From this point of view, irrigated lands have little scientific data on Mirzachul's soil coating, salinity and erosion levels, nutrients, their quantity and dynamics, and some regions have not been studied yet. Therefore, the

study of the causes of salt accumulation in the main irrigated soils of this region and the elaboration of measures to overcome it are currently the most pressing issue.

Ground waters have a great impact on the formation of water and the formation of soil salinity. Therefore, it is important to overcome the soil salinity process by changing its balance so that it is important for its water-salt regime and ground water, which is why it is important to drag the water from the surface of the soil.

ground waters are source of salts on the one hand and, on the other hand, are the key to the spread of salts across the field.

Groundwater soil and other waters are the only chain of salts in the land. Therefore, in addressing issues of land reclamation, one must take them into account. The role of water in the process of soil formation and its salt regime depends primarily on the depth of the placement of the water. The closer they are to the surface of the soil, the higher the impact on the soil.

The hydrological conditions of the irrigated soils we have studied are extremely complicated, mainly due to their geographical location, lithological-geomorphological structure of the area and the economic activity of people associated with irrigation. Due to long-term irrigation, the area of landfill has risen sharply and secondary salinization processes have been rising due to natural and artificial drainage. In this regard, preliminary research on secondary salinity of irrigated soils in the area was studied by M. M. Bushuev in 1910-1915, who is the author of the concept of “critical depth” of water, then O.A. Grabovskaya and V.A. Kovdas concept of “critical mineralization”.

The main source of water resources is the infiltration of irrigation systems and irrigated areas, which are mainly consumed by combustion and transpiration. Ground waters of the Turkestan and Nurota mountain ranges play a key role in the collecting of the region's waters. Atmospheric precipitation is less important here.

Irrigation at higher norms on natural and artificial drainage sites in individual farms in the area leads to rapid irrigation and, eventually, a sharp rise in their levels. This, in turn, will result in severe salt intake in the area and the overall negative ameliorative condition of irrigated areas. Most of the old irrigated areas are currently seasonal flowing water, and in spring their surface is at the highest peak - 0.5-1.5 m and the lowest 2.5-3.0 m in autumn. Their annual seasonal vibration ranges from 1-1.5 m.

The results of just a few hundred years of soil salinization and unsalinization processes indicate that the major factor in these processes is the saturation of the groundwater and their mineralization. If you have water, it is located 1-2 m above sea level and in the case of deep or very weak mineralization (up to 3 g/l), good conditions are created for the formation of high-fertile grassland soils. The soil-forming biological processes are so effective that it ensures the highest possible yields of agricultural products grown as a result of the agro technical measures taken at the appropriate level. This resulted from the creation of an acceptable water regime in the soil, which provides the highest level of the physiological requirements for cultivated crops to soil moisture.

Groundwater levels below or high of the same level may result in a number of adverse conditions in the soil, such as the formation of a 0-1 m depth of waterlogging, resulting in the oxidation of iron, manganese and other elements in the soil, resulting in poisonous toxicity to the plant, which has deteriorated to its effective productivity This results in a the surface water level is less than 2.5-3.0 m, the water velocity of the soil will

deteriorate, resulting in the drying of the soil root layer and subsequent loss of plant nutrients in the period of irrigation.

Table 1: Vibration interval and average arithmetic indicator of location of ground waters, 2019

Farmers' association	**Vibration interval**		**Average indicator**		
	Spring	**Autumn**	**Spring**	Autumn	Average
Syrdarya region					
Gulistan	95-135	160-245	112	202	157
Bobur	110-165	180-270	138	225	182
Average	**105-150**	**170-260**	**128**	**215**	**172**
Jizzakh region					
Kazakhstan	120-255	175-300	182	238	210
Zafarabad	130-280	190-315	205	253	229
Average	**120-267**	**182-307**	**193**	**245**	**219**

If groundwater level is in the optimally positive position that we have mentioned, and it is strongly mineralized, it is a great disaster that destroys all of the nutrients from the soil and this process increases the mineralization of the groundwater and the soils salinization that gets worse with its rise.

It is noteworthy that the above-mentioned data play a key role in determining the level of soil fertility and productivity, as well as the level of groundwater in the area and its mineralization.

The data on the depth of field surveys show that the majority of irrigated land in the research area is located at the aforementioned optimum depth, with information on Table 1 and Fig. 1.

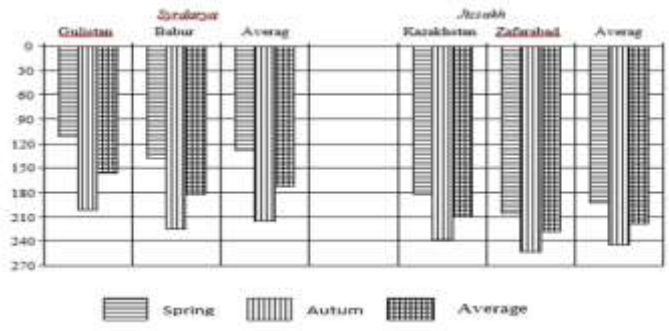

Figure 1: Average arithmetic indicator on groundwater depth in studied objects 2019

As it is seen from this table and the figure, the area of groundwater in the main part of the research area is much higher than the critical depth (> 3.0 m), which actively participates in the formation of soil. At the same time, the depth of water supply in Syrdarya region is about 128 cm, while in Jizzakh region it is 193 cm.

Similarly, their autumn seasons are proportional to 215 and 245 cm. The average depth of groundwater is 172 cm in Syrdarya region and 219 cm in Jizzakh region.

III. RESULT

Therefore, at the same time lower groundwater level in Jizzakh region's farms relative to Syrdarya region can be considered as a good source of geomorphological conditions and relief flows.

Generally speaking, the surface of the area of the research area is very close to the surface of the soil, the main reason of which is the low efficiency of the steep and dumps, and most of them are already out of work.

IV. CONCLUSION

Consequently, saturated surface area is the main determinant of groundwater and salt regime of the soil. Therefore, in order to ensure the required water and salt regime of the soil, it is necessary to take a general view of the depth of irrigation and drainage parameters.

It should be noted that the high level of salinity of the soil in the farms, if the soil is not deep enough (1.0-1.5 m) in the soil surface, complicates the field work, delaying the soil release and extending cotton cultivation and growing time, and secondary salinization processes.

The optimum depth of 2.5-3.0 m in the vegetation period is distinguished by the less waste of saline and irrigation water at the level of 1.5-2.0 m, which is the optimal indicator for saline soil salinization.

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