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Nature and Science

MARSLAND PRESS
Multidisciplinary Academic Journal Publisher

Hydrological Assessment Of The Meliorative Condition Of Collector Drink Water In Bukhara Region

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Abstract: The article provides for the control, study and improvement of the reclamation of irrigated lands in the region and increase the productivity of irrigated lands. Regularly monitors the reclamation status of irrigated lands, assesses changes in the reclamation situation on the basis of observations and predicts the expected changes, based on which measures are developed to increase the productivity of agricultural products by improving the reclamation status of irrigated lands.

[Hayitov Yozil Kasimovich. **Hydrological Assessment Of The Meliorative Condition Of Collector Drink Water In Bukhara Region.** *Nat Sci* 2020;18(4):99-101]. ISSN 1545-0740 (print); ISSN 2375-7167 (online). http://www.sciencepub.net/nature. 14. doi:10.7537/marsnsj180420.14.

Keywords: Irrigated areas, drainage, collectors, land reclamation, groundwater, salinity, solid residual algae, mineral water.

In the conditions of Bukhara region, it is necessary to improve the reclamation of lands, or to keep it in moderation, at least 40-45% of the water supplied to irrigated areas through drainage. Otherwise, it will lead to a violation of the water-salt balance in the region. Last year, 2669.61 million m3 of groundwater was extracted from irrigated lands in Bukhara region through collectors. Of this, 2,626.75 million m^3 was extracted through collectors and 82.18 million m^3 through vertical drainage wells.

The salinity of the wastewater in the existing collectors in the region varies from year to year. The main reason for this is the warm weather, as well as the high salinity of the water supplied to irrigation and the composition of the soil. In Bukhara region, the salinity of groundwater from irrigated lands in Karakul and Alat districts is very high, averaging 4,970 g / liter.

Groundwater from this area is passed through the collectors "Bosh Karakul", "Dengizkul". Groundwater from irrigated lands in Bukhara, Kagan, Jondor districts flows through the collectors "Parallel", "Central Bukhara" and "Western Romitan". The Western Romitan and Central Bukhara collectors discharge their water into the Shurkul (Zamon Bobo) discharge, which has a salinity of 3,981 g / liter.

Irrigation of irrigated lands and the infiltration of rain and snow from the atmosphere into the soil, as a result of which the movement of groundwater is extremely low, leads to a disturbance of the water-salt balance.

In Bukhara region, the direction of groundwater flow is to the west, northwest and southwest, and due to the small slope does not extend beyond the irrigated areas. To drain these waters, artificial drainage networks have been constructed to ensure that the groundwater table is at the required depth.

4785.41 million m^3 of water was received in Bukhara region within the irrigated areas. The amount of water discharged from the territory of irrigated lands by collectors amounted to 2669.61 million m^3.

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The mineral content of the water obtained for irrigation, ie 1,319 grams of solid residue per 1 liter of water obtained, of which chloride ions amounted to 0.139 grams. The mineral content of collector waters is characterized by salinity. This figure is not constantly the same, but varies to a certain extent depending on the amount and quality of water received for irrigation throughout the year, as well as the presence of precipitation.

In Karavulbozor and Alat districts of the region, each liter of water discharged through the collectors contains up to 5,243 grams of various salts, while in other districts, especially in Gijduvan district, this figure is 2,768 grams. During the year, 98.7 million m^3 of collector water is used for irrigation in the region.

Groundwater from the lower reaches of Bukhara and Kagan districts, as well as some collectors of Jondor district are discharged into the Dengizkul and Bosh Suv Tashlama via the Parallel highway and discharged into the Amudarya via the Parsankul

discharge. The water discharged from the "Parallel" highway is 603.74 million m^3 and its mineral content is 5,990 g / l.

Groundwater from Vobkent, Romitan districts and Bukhara and Jondor districts is discharged into the Shurkul (Zamonbobo) lake via the Central-Bukhara highway.

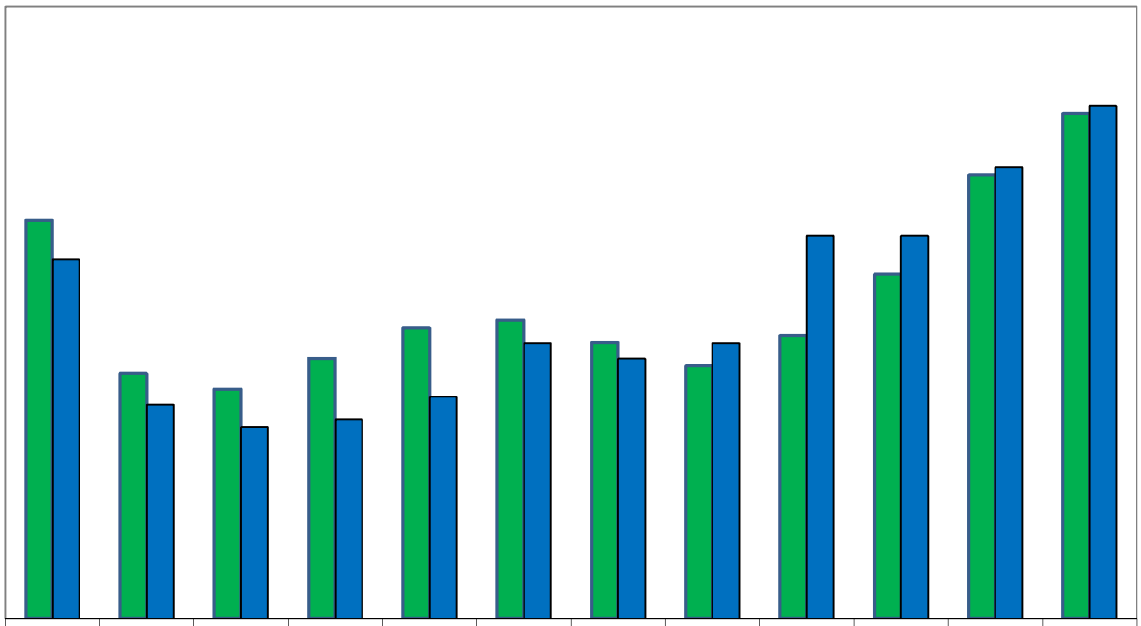
During the year, 5.65 million tons of various harmful salts entered the irrigated lands of the region, while 9.07 million tons of harmful salts from these areas are released through collectors.

The amount of salts released is 3.42 million tons more than the amount of salt that comes with water, and it can be seen that the salinity level in the active layer of irrigated lands has been reduced.

One of the main factors in creating a rich harvest of agricultural crops on irrigated lands in the region is the stabilization of the balance of irrigated lands.

Maintaining the water-salt balance of irrigated areas in the region is carried out mainly through artificial drainage networks. For these purposes, the total length of the region is 8599.5 km, including 747.03 km of highways, 2439.68 km of inter-farm, 5412.79 km of internal collectors accounted for by water consumers' associations, including 995.03 km of closed-horizontal drainage. networks. For these purposes, using the existing 617 vertical drainage wells, with the help of which the reclamation condition of 42.82 thousand hectares is maintained.

Dynamics of groundwater level in irrigated areas in 2018-2019.



	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	XII
2018	2,62	2,42	2,4	2,44	2,48	2,49	2,46	2,43	2,47	2,55	2,68	2,76
2019	2,57	2,38	2,35	2,36	2,39	2,46	2,44	2,46	2,6	2,6	2,69	2,77

In conclusion, it is necessary to carry out the following work to improve the reclamation of irrigated lands in the region.

- In recent years, the growth of algae in the main, inter-district and inter-farm collectors in the spring and summer months has led to a sharp rise in water levels in the collectors. Therefore, to improve the reclamation of lands by introducing the elimination of plants growing in the reservoir, obstructing the flow of water through the development of biological (plant-eating creatures of this species), chemical (various drugs and preparations) methods or special techniques and devices it is expedient if applied in practice;

- Improving the reclamation of lands in Bukhara region is the most important and necessary area, increasing the efficiency of reclamation facilities;

- In order to save water, improve land reclamation and reduce salinity, we consider the widespread use of modern methods of irrigation (sprinkler, inter-soil, drip and aerosol (finely dispersed sprinkler) irrigation).

References

1. Rubinova F.E., Doronina S.I., Khasanov O.Z. Water balance of the river basin Zeravshan (zone of influence of the Amu-Bukhara canal) // Transactions of SANIGMI.- Iss. 127 (208). -M.: Gidrometeoizdat, 1988.P. 78-88.
2. "National Report" on the state of environmental protection and use of natural resources in the Republic of Uzbekistan "Tashkent: CHINOR ENK 2006. -296 p.
3. "National Report" on the state of the environment and use of natural resources in the Republic of Uzbekistan (2008-2011), - Tashkent: CHINOR ENK 2013. -258 p.
4. Irrigation in Uzbekistan. Volume III.-Tashkent: Izd-vo «Fan», 1979–356 C.
5. Rashidov N.R., Khaitov Y.K., Buriev S.B. The use of aquatic plants for the treatment of sewage and sewage // Reports of the Academy of Sciences of the Republic of Uzbekistan, 1998. p. 40-42.

3/30/2020