

Sustainable Development Of The Agrarian Sector Depends On The Efficient Use Of Water Resources.



A.B.Kurbonov, Z.S.Shoxo'jaeva

Abstract: *The stability of the products produced in the country's agriculture, naturally, is related to the effectiveness of the use of existing water sources in this area and the expansion of these sources, as well as the reconstruction of existing ones. And also in this article, proposals and recommendations have been developed to address the water deficit problem by expanding existing water sources in the region.*

Key words: *agriculture, forestry and fisheries, transboundary rivers, limited water resources, water saving technologies, additional benefits and preferences, drip irrigation, water storage.*

I. INTRODUCTION

Entrance. It is obvious that today rational use of water resources is one of the key factors in the both our region's and our country's sustainable economic development. This problem because of water scarcity, quality deterioration; new economic, political, social and ecological condition is very actual.

The average annual water resources in the Amudarya and Syrdarya, which are the main water resources of the region, are 114,4 cubic kilometers; the average annual water consumption in our country is 51 cubic kilometers and more than of it flows from neighboring countries.

Water resources are reducing due to climate change in recent years and the countries which situated in high flow are using transboundary rivers with ignoring the rights of some countries which situated in middle and bottom flow and these are causing artificial and natural water scarcity. Every country should contribute to tackle the problems of transboundary rivers for the sustainable development of the region. For instance, Uzbekistan is pursuing institutional, legal, economic and social reforms for the efficient use of limited water resources. Indeed, it is well known deep reforms in our country, update processes, actions to ensure human interests, the attention of the international community is focused on the Aral tragedy. It is obvious that negative consequences in the result of disappearance of the Aral sea can be solved with international solidarity.

In the article 55 of the Constitution of the Republic of Uzbekistan was written "earth, underground resources, flora and fauna and other natural resources are national wealth, they should be rationally used and protected by the state. So rescue the aral sea, improving the ecological situation in the region is one of today's actual issues.

Indeed, the relationships between the use of water and water resources existing in our country are controlled with law about "water use" and other legal documents. Including, in the 35 and 50 articles of law about water use was written about efficient use from water objects, saving water, introduction water saving technologies and introduction of advanced irrigation technologies.

Basic part. According to Presidential Decree No.4947, dated 7 February 2017 named "Strategy for further development of Uzbekistan"; The State program on five priorities of Uzbekistan's development has been approved. In the part 3 "Modernization and rapid development of agriculture", point 161 "Optimization of agricultural lands for the rational use of land and water resources" of the program was written about reduction of cotton fields by 49 thousand hectares and crop fields by 10 thousand hectares; placement of other agricultural crops on reduced area, including, potatoes-8,1 thousand hectares, vegetables-27,2 thousand hectares, feed crops-10,9 thousand hectares, intensive gardens-5,9 thousand hectares, vineyards-2,9 thousand hectares and oilseed crops- 4 thousand hectares". As well "Implementation of measures to reduce adverse impacts of global climate change and disappearance of the Aral on the agricultural development and population lifestyle" was written also in the PD.

One of the ways to effectively fulfill these priorities is deep study of domestic capacity and eliminate the adverse effects caused by the loss of the sea. For doing these priorities the unification of the world community is important. In the international community, our country and Kashkadarya region organizational, economical and social tasks have been done for increasing the effectiveness of water resources use. In the following statistical data have been given for proving done tasks.

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II. RESULTS AND EXAMPLES.

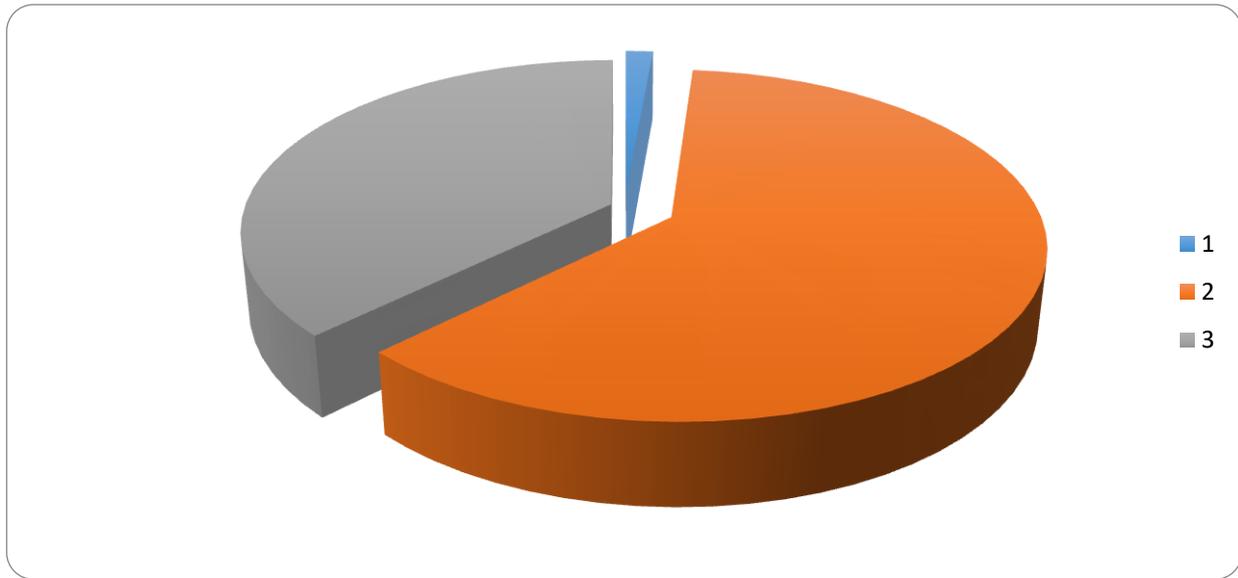
According to statistical data, in 2018 in Uzbekistan the aggregate volume of agricultural, forestry and fishery products was 199 537,4 billion soums or 100,3 percent compared to 2017, including agriculture and animal husbandry, hunting-193 703,3 billion soums, forestry-4 757,5 billion soums, fishery- 1 076,6 billion soums.

High growth rates in 2018 compared to 2017 were in Andijan region-105,7 %, Bukhara region-105,0 % and Navoi region-103,9 %. However, in Samarkand (94,4%), Kashkadarya (96,9%), Surkhandarya (96,9%), Syrdarya

(97,9%), Khorezm (98,9%) and Namangan(99,5%) low growth rates were observed.

According to the data of the Statistics office of Kashkadarya, in 2018 in Kashkadarya the aggregate volume of agricultural products was 5 590,3 billion soums or 96,9 percent compared to 2017, including agriculture and animal husbandry, hunting-5 657,0 billion soums, forestry-10,6 billion soums, fishery-22,7 billion soums. Also, the share of farms in the production of agricultural products is 37,3%, the share of dekhkan farms is 61,3% and the share of organizations carrying out agricultural activity is 1,4%.

(As percentage of total volume)



1-Enterprices which fulfil agriculture

2-Farming households

3-Husbandry households

Diagramma 2: allocation of agricultural by 2018 in Kashkadarya region by economic categories

Indeed, in 2018 the volume of agricultural products produced by the regional farmers was 2 083,9 billion soums or compared to 2017 -95%. The share of farms in agricultural production was 37,3%.

In the situation of growing population, developing of all sectors of economy and limited water resources for supplying all sectors with water resources in all sectors especially in agriculture water-saving technologies should be introduced.

Limited water resources, soil pollution and land degradation, biodiversity reduction, climate changes are result of disappearance of the Aral sea.

Our president Sh.Mirziyoyev in the 72nd Session of the UN General Assembly made a lecture about Central Asian countries and Uzbekistan, which directly affect the negative consequences of the Aral’s disappearance and to stabilize the situation in the region and, most importantly, improve the life of the population.

Between Uzbekistan and the UN agreed to establish a special Trust fund for the Aral sea and the Aral sea region, on February 10, 2017, the UN program “ Improving the living conditions of the affected the Aral sea region’

population by establishing a multi-partnerships humanitarian safety fund for the Aral Sea region“ was launched. This is a proof that the strategy of actions which esteemed by our president SH.Mirziyoyev is consistent with the goals of sustainable development.

Indeed, in our region water resources are limited, so farming and producing plenty of crops are hard and difficult. So introduction of water-saving technologies is being promoted, additional privileges and preferences are being given to businesses and organizations that initiate it. In the result of it, to about 240,000 hectares of land water-saving technologies have been introduced.

In the strategy of action improvement of reclamation situation of irrigated lands, development of irrigation and land reclamation facilities, ensuring their safe and stable action, rational and economical use of water resources were written for achieving sustainability of agricultural production. It is planned to do the following: construction and reconstruction of 734,9 kilometers of highways,

inter-district and inter-farm collectors, 348,3 kilometers of closed-to-drainage systems, 6 units of reclamation pumping stations, 79 meliorative steep wells, construction and reconstruction of hydraulic structures in 131 meliorative objects; repair and rehabilitation of 14537,2 kilometers of open collectors, 1330,5 kilometers of closed-to-drainage systems, 15 meliorative pumping stations, 791 meliorative steep wells, hydraulic structures in 2277 objects; construction and reconstruction of 500 kilometers of canals, 74 kilometers of irrigation lot systems, 106 hydroelectric structures, 10 kilometers pressure pipes, water reservoirs which their volume 625 million cubic meters and protecting 0,5 kilometers of coastal zone; purchase of 142 of reclamation machinery and equipment to specialized water management organizations on a lease base.

In Kashkadarya region irrigated lands are 532,8 thousand hectares, 153,6 thousand hectares of cotton and 255,8 thousand hectares of grain are planted. It is obvious that there are limited water resources in Kashkadarya region, the main sources of water resources are 13 reservoirs, their total water volume is 2154,1 million cubic meters. At least 5,0-5,5 billion cubic meters of water is needed to irrigate the area. However, existing irrigation facilities are obsolete and the network is ineffective, so there are difficulties in irrigating several thousand hectares of land.

The table below summarizes the problems of irrigation in the region's districts in 2018, in all districts except Kitab, Shahrisabz and Yakkabag grain areas are watered with pumps. Uninterrupted power supply of irrigated areas which watered with pumps, cleaning waterways are causing some problems.

Table:Information about irrigation problematic grain areas in Kashkadarya region's districts in 2018

τ/p	The names of the districts	Total grain area, hectares	Water shortage grain area, hectares	Reasons for water shortage
1	Guzar	9000	1400	Situated at the end of irrigation networks, waterways should be cleaned
2	Karshi	14500	1370	Situated at the end of irrigation networks, connected to the pump
3	Koson	18500	1224	Situated at the end of irrigation networks, connected to the pump
4	Kamashi	10500	1103	Situated at the end of irrigation networks, waterways should be cleaned
5	Kitab	3500	-	
6	Mirishkor	22500	2640	Situated at the end of irrigation networks, waterways should be cleaned
7	Mubarak	9500	2003	Situated at the end of irrigation networks, waterways should be cleaned
8	Nishan	18550	634	Situated at the end of irrigation networks, waterways should be cleaned
9	Kasbi	14500	1067	Situated at the end of irrigation networks, waterways should be cleaned
10	Chirakchi	8800	860	Situated at the end of irrigation networks, waterways should be cleaned
11	Shahrisabz	6350	-	
12	Yakkabag	3000	-	
	Total	144200	12302	

In Kashkadarya 182,5 thousand hectares of the area are weak saline land, improving land reclamation of these lands, 5,3 thousand kilometers of SCW collectors and drainage systems need to be cleared step by step.

Currently, in many regions of the country new technologies of crop irrigation are being used. According to the Republic of Uzbekistan's government program "Improvement of reclamation status of irrigated lands for 2013-2017 and rational use of water resources" in 2013-2017, modern irrigation methods were planned to use on a total area of 104600 hectares. Until now drip irrigation on

47356 hectares, irrigation with politelyin on 19214 hectares and irrigation through portable flexible pipes on 18418 hectares have been introduced.

Indeed, we have to do a lot in our country for the rational use of land and water resources. We consider it necessary to pay special attention to the expansion of the water reservoir network.

III. CONCLUSION AND RECOMMENDATIONS.

A state program has been set up to implement five priorities of Uzbekistan's development in 2017-2021, on the basis of this program strengthening the focus on the work being done, raising the responsibility of state and economic authorities, organizations and businesses, dekhkan and farmers were planned for agricultural development.

It is desirable to introduction of modern technologies, to supply crops with water in water shortage condition and to increase productivity. As well, creating government program "Improvement of reclamation status of irrigated lands for 2018-2022 and rational use of water resources" based on a critical study of the work done on the government program "Improvement of reclamation status of irrigated lands for 2013-2017 and rational use of water resources" is important.

One of the Aral Sea's issues is raising the moral and ethical culture of the mankind to nature and new government program "The Aral Sea development" should be developed.

We would like to make the following suggestions for the districts in the region which water being very shortage, in Guzar, Chirakchi, Yakkabag, Kitab and Shahrizabz rehabilitation of 83 irrigation wells, protection of crop areas and people's houses from flood in Yakkabag and Kamashi districts, (repeating 5-7 times) the acquisition of 3,0 thousand hectares of new land by collecting flood waters and construction of "Guldara" flood water reservoir in Yakkabag district to provide 7,0 thousand hectares of irrigated land with water; in winter and spring 340 million cubic meters of inefficient flow and flood water flows from the Kashkadarya river and in winter 90 million cubic meters water which being given for the Talimarjan hydroelectric power plant from the Karshi main canal flows inefficiently, this water damages the Bukhara region. In order to obtain this in Koson district "Qorabayir" reservoir (water volume-115,0 million cubic meters) should be constructed and in Chirakhchi district water volume of "Qalqama" flood water reservoir should be increased from 10,0 million cubic meters to 40,0 million cubic meters. As a result of construction and increasing water volume of reservoirs firstly, 54,0 thousand hectares of land from Karshi desert will be irrigated; secondly, water supply of 35,0 thousand hectares of land in Mubarak district will be improved; thirdly, water supply of 10,0 thousand hectares of land in Chirakhchi and Kamashi districts will be improved and new 2000 hectares of land will be provided with water.

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