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**GOVERNMENT OF THE REPUBLIC OF TAJIKISTAN**

**RESOLUTION**

**ABOUT THE WATER SECTOR REFORM PROGRAM OF THE REPUBLIC OF TAJIKISTAN FOR 2016-2025**

In accordance with Article 8 of the Law of the Republic of Tajikistan "On state prospects, concepts, strategies and programs for social and economic development of the Republic of Tajikistan" and in order to determine and assist in the implementation of the state policy of the Republic of Tajikistan in the field of rational use of water resources, the Government of the Republic of Tajikistan decides:

1. Approve the Water Sector Reform Program of the Republic of Tajikistan for 2016-2025 (attached).
2. The Ministry of Energy and Water Resources of the Republic of Tajikistan, the Ministry of Finance of the Republic of Tajikistan, the Ministry of Economic Development and Trade of the Republic of Tajikistan, the State Committee for Investments and State Property Management of the Republic of Tajikistan, the Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan, relevant ministries and departments in the prescribed manner within the limits of funds provided in the State budget and attracting foreign investment, take the necessary measures to implement this Program.

3. Designate the Ministry of Energy and Water Resources of the Republic of Tajikistan as the coordinator of the implementation of the Water Sector Reform Program of the Republic of Tajikistan for 2016-2025 and instruct it to take control of the progress of implementation of this Program and every six months to provide information on the progress of its implementation to the Government of the Republic of Tajikistan.

Chairman

Government of the Republic of Tajikistan Emomali Rahmon

d. Dushanbe,

dated December 30, 2015, No. 791

Approved

Government resolution

Republic of Tajikistan

dated December 30, 2015, No. 791

**TAJIKISTAN WATER SECTOR REFORM PROGRAM**

**FOR THE PERIOD 2016-2025**

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**INTRODUCTION**

The reform of the water sector began with the adoption of the Decree of the President of the Republic of Tajikistan dated March 15, 2006, No. 1713 “Strategy for reforming public administration systems” and provides for several stages. The “Agriculture Reform Program of the Republic of Tajikistan for 2012-2020” adopted by the Government of the Republic of Tajikistan on August 1, 2012 provides the main provisions for reforming the water sector, including the transition to Integrated Water Resources Management (hereinafter referred to as IWRM) in river basins. Water sector reform is recognized as an integral part of agricultural reform.

Decree of the President of the Republic of Tajikistan dated November 19, 2013 No. 12 “On improving the structure of executive bodies of state power of the Republic of Tajikistan” is the legal basis for the start of reforming the water sector. In accordance with this Decree, the Ministry of Land Reclamation and Water Resources of the Republic of Tajikistan was liquidated, political functions in the water sector were assigned to the Ministry of Energy and Water Resources of the Republic of Tajikistan, and responsibilities for irrigation and land reclamation were assigned to the newly created Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan.

The goal of the water sector reform is to create the basis for the decentralization of the management system and the assignment of part of the operational functions in the process of dividing responsibilities between ministries and departments and partly non-governmental organizations. The proposed reform is based on the general regulatory principles of IWRM and emphasizes social, economic and environmental issues through sustainable management and development of water resources.

The Water Sector Reform Program of the Republic of Tajikistan for 2016-2025 (hereinafter referred to as the Program) reflects issues of water sector reform in all subsectors related to water use. In subsequent sections, the water sector is referred to as a "sector" and various special uses of water, such as irrigation or hydropower, as a "sub-sector". The Program first presents the main problems of the water sector of the Republic of Tajikistan, and then proposes ways to solve them through reform.

# I. WATER RESOURCES

1. The Republic of Tajikistan is a mountainous country, where mountains occupy 93% of its territory. Average annual precipitation in Tajikistan is about 760 mm, varying from 100 mm in some individual regions of the south of the country to 2400 mm at Fedchenko Peak.
2. Glaciers. The total area of glaciers is 11,146 thousand km2 or 8% of the country's territory. The water resources contained in glaciers are about 845 km3.
3. Rivers. There are 947 rivers, permanent and seasonal watercourses (sai) in Tajikistan, renewable water flow of which averages 64 km3 per year, including 1.1 km3/year in the Syrdarya River basin and 62.9 km3/year in the Amudarya River basin. About 55% of the average annual water resources of the Aral Sea basin are formed in Tajikistan.

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4. From the hydrographic point of view, Tajikistan has the river basins Amu Darya, Syrdarya, Panja, Vakhsha, Zeravshana, Kafirnigana and sub-basins Karatag, Shirkenta, Kyzylsu-Yakhsu, Isfary, Khojabakirgana, Aksu and Asht-Samgar.
5. Lakes and reservoirs. There are 1,300 natural lakes in Tajikistan with a water area of 705 km2. The total volume of water resources in these lakes is 46.3 km3, of which 20 km3 are fresh. The total number of reservoirs in Tajikistan is 11 units with a total useful volume of about 7.5 km3.

6. Groundwater. Renewable groundwater resources in Tajikistan amount to 18.7 km3/year, of which 2.8 km3/year are used.
7. Return waste water. The relief of Tajikistan mainly consists of mountains, foothills and hills with large slopes and this contributes to the formation and discharge of large volumes of return water into rivers. The volume of return water is about 3.5 4.0 km3/year, of which 3.0 km3 is drainage return water from irrigated lands, 0.50 km3 is domestic and industrial wastewater.

# II. STATE OF THE WATER SECTOR

## 1. USE OF WATER RESOURCES IN VARIOUS INDUSTRIES

8. The main users of water in Tajikistan are drinking water supply and sanitation, hydropower, irrigated agriculture, industry, fisheries, recreation and the environment. Tajikistan actually uses only 17-20% of the water resources formed on its territory. On average, over the observation period (1985-2014), the annual volume of water resources used by various sectors of the country’s economy ranged from 8.0 to 14.5 km3/year.

9. Drinking water supply and sanitation. Drinking water supply and sanitation is the most important sub-sector of the water sector and its development is considered a top priority of the Government of the Republic of Tajikistan. The volume of water used by this subsector is about 400 million m3/year. Of this amount, 103-105 million m3 is used directly by the population. The needs of drinking water consumption and sanitation account for less than 5.0% of the total water consumption of the entire country.

10. Hydropower. Hydropower is one of the important areas of the water sector in Tajikistan, forming the basis of the country's energy potential. Of the country's 5,414 MW of available power generation capacity, 4,996 MW or 93% comes from hydropower. The share of hydropower in the annual electricity production is 98-99%. An important feature of hydropower is that, using the potential energy of water, it does not consume it irretrievably. This does not affect the natural quality of the water. Every year, water in a volume of 30-35 km3 passing through the country’s hydroelectric power stations generates a total of 16-17 billion kW. hours of electricity.

11. Agricultural irrigation. The irrigated agriculture sector is important in ensuring the country's food security. About 80% of agricultural production is provided by irrigated lands. The total volume of water taken from all sources for irrigation averages 8.0-

10.0 km3/year. More than 90% of the total volume of water intake from natural sources is used for the needs of irrigated agriculture.
12. Industry. Industrial production in the early years of independence
The country's income has decreased markedly, but has begun to recover rapidly in recent years. IN

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In 1990, industry used 607 million m3 of water; at this time, total water consumption reached 240-300 million m3, which is equal to 2-3% of total water consumption in the country. A significant portion of water for industry is taken from groundwater.

13. Fisheries are also considered an important sub-sector for water consumption.
Fishing ponds are built on wide river banks or near their floodplains, which reduces irretrievable water losses. On average, the volume of water used by fishery ponds is 90-100 million m3/year or 0.8-1.5% of the total water consumption in the country.

14. Recreation on the waters. The territory of the country has great recreational potential. In the republic, 162 natural landscape water monuments have been identified, more than 200 mineral springs, 18 mud and salt lakes have been registered. The volume of water used in the recreational areas of the republic is not determined, but it is known that the water used is partially returned to the sources after purification.

15. Environment. Using water to maintain the environment plays a huge role. Despite the fact that currently in the republic there is no specific data on the volume of water used for the environment, it is known that sufficient volumes of water are used for its sustainability and development. In order to protect the environment in Tajikistan, forests, lakes and wetlands are water users.

## 2. LEGAL AND INSTITUTIONAL FRAMEWORKS FOR WATER RESOURCES MANAGEMENT

16. The basis of the water legislation of Tajikistan is the Constitution of the Republic Tajikistan, Water Code, other laws and regulations of the Republic of Tajikistan, agreements, conventions and other international, regional and interstate legal acts recognized by the Republic of Tajikistan.

17. The process of managing water resources of Tajikistan involves the Majlisi Oli of the Republic of Tajikistan, the Government of the Republic of Tajikistan, the Coordination Council under the Government of the Republic of Tajikistan on water and energy issues, ministries, departments, local executive bodies of state power and public associations.

18. Ministries, committees, agencies and other institutions related to water resources management have executive powers to implement water policy in the interests of the national economy and water users.

19. Despite significant changes in the structure of the Government of the Republic Tajikistan and the creation of new bodies, the distribution of responsibilities and powers in the field of water management between various structures is still carried out on the basis of the Regulation on the division of powers of specially authorized state bodies for regulating the use and protection of water, approved by Decree of the Government of the Republic of Tajikistan dated February 4, 2002, No. 39.

20. State bodies for water resources management in the Republic of Tajikistan are:

- Ministry of Energy and Water Resources;

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- Ministry of Agriculture;

- Ministry of Health and Social Protection of the Population;

- Committee for Environmental Protection;

- Committee for Emergency Situations and Civil Defense;

- Main Department of Geology;

- Service for state supervision of safe work in industry and mining supervision;

- Agency for Land Reclamation and Irrigation;

- State Unitary Enterprise "Khochagii Manziliyu Communal";

- Open joint-stock holding company "Barki Tojik".

21. In cooperation with government institutions in the field of water management public associations carry out their activities with resources. Water User Associations (hereinafter referred to as WUAs) and WUA Federations in Tajikistan are specialized public associations that have the right to maintain and manage on-farm irrigation and collector-drainage systems.

# III. PROBLEMS OF THE WATER SECTOR

## 1. GENERAL INFORMATION

22. In recent years, due to the impact of various factors, including the transition to market relations, an increase in demands for water resources due to population growth, a decrease in water resources under the influence of climate change, an increase in the frequency of emergency hydrometeorological events, the financial crisis, urbanization , desertification, etc., there is an increase in problems in the water sector.

### 1.1. TRANSITION PERIOD IN THE ECONOMY

23. Tajikistan is undergoing a process of transition to a market economy and all political and economic changes also generally have an impact on the activities of the water sector, water use, including the adaptation of water management to new economic conditions.

24. The specified adaptation includes the following tasks: (1) improvement of the situation related to covering operating and maintenance costs; (2) increasing the efficiency of government structures responsible for water management; (3) ensuring the regulatory distribution of water between consumers in accordance with concluded agreements.

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25. Decree of the Government of the Republic of Tajikistan dated June 25, 1996 No. 281 a fee was introduced for water supply services in the field of irrigation of agricultural lands. Until this time, the provision of land irrigation services was fully financed from the state budget. Payment for water supply services, although adapted to some extent to the current situation, is still not fully complied with by all dehkan farms.

## 1.2. POPULATION GROWTH

26. Population growth is one of the important factors affecting water supply. Annual population growth in Tajikistan, amounting to approximately 2.5 percent, leads to increased needs for water, electricity, food, and housing.

27. As of 1991, per capita in Tajikistan there were 11,963 m3 natural water resources and 0.13 hectares of irrigated land, and in 2015 these figures respectively decreased to 7711 m3 and 0.09 hectares.

28. Growing population and demands for water resources require urgent measures to be taken for optimal regulation and equitable distribution of water resources, water demand management, IWRM, coordination of the activities of various water users, efficient use of water, introduction of water-saving technologies into production and other activities.

## 1.3. CLIMATE VARIABILITY AND CHANGE

29. Climatic variability and change have a major impact on water resources in Tajikistan. According to available information, in the last decade the average air temperature in Tajikistan has increased by 0.7-1.9 ° C, about a thousand small glaciers have already melted. Due to the fact that glaciers are the main source of rivers, in the medium and long term this will lead to a decrease in their water content.

30. In addition to this, there are impacts of climate change on hydrological vulnerability, which may result in negative impacts on the management and use of water resources, especially in the field of agricultural irrigation.

31. Climate variability and change require urgent action to ensure resilience and adaptation to these changes, including improved forecasting, increased attention to reducing damage from floods, landslides, mudflows, and improved management of upper basins.

## 1.4. WATER NATURAL AND MAN-MADE DISASTER

32. The mountainous territory of the Republic of Tajikistan and the relatively heavy rainfall in the country, as well as the unsatisfactory use of water, are the causes of various natural and man-made disasters related to water. Main types

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Natural disasters caused by the impact of water are floods, erosion of river banks and coastal lands, rising water levels in rivers, landslides and mudflows, while land salinization, erosion of irrigated lands, waterlogging and desertification are man-made disasters.

33. According to available information in Tajikistan, depending on the intensity precipitation, from 40 to 230 mudflows, small and large floods are recorded, which on average cause damage to the country's economy from hundreds of thousands to tens of millions of US dollars. Unfortunately, in some cases this leads to death.

34. Reducing the risk of water-related disasters includes the implementation of effective mechanisms for preventing and preparing for emergency situations, including the definition of functions in the field of flood protection and bank protection works, the creation of a reliable forecasting and preparation system at the republican, basin and local levels, development of technical and organizational capacity combined with reliable financial mechanisms.

## 1.5. ENVIRONMENT

35. Population growth and economic activity are high production level leads to increased impacts on land and water resources. This in turn leads to a reduction in natural areas, pollution, degradation of the land and erosion of its huge masses, mudflows, increased water consumption, a decrease in the level of groundwater of drinking quality, salinization and waterlogging as a result of rising groundwater levels on irrigated lands.

36. Solving these problems is possible through effective prevention pollution of water resources, rehabilitation and modernization of sewer and drainage networks, proper monitoring of water quality and effective and timely collection, analysis and exchange of water information. Also, determining the limit of surface and underground water intake without causing harm to the environment is a task of hydrological and hydrogeological forecasting and should be included in river basin plans.

# 2. PROBLEMS IN WATER USER INDUSTRIES

37. In the water sector of the republic there are a number of problems inherent in all sectors water use, in particular:

- limited funding opportunities, both from the republican budget and through the assistance of development partners;

- aging and deterioration of the existing infrastructure;

- lack of a modern regulatory framework;

- high level of water losses;

- discrepancy between service tariffs and production costs and low level of collection of payment for services

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## 2.1. DRINKING WATER SUPPLY AND SANITATION

38. The drinking water supply and sanitation subsector, as a result of the stagnation of the country's economy and the transition of a planned economy to a market economy, has faced many problems, the main ones being the following:

- only 51.4% of the population of Tajikistan, including 86.9% of the urban population, 61.5% of settlements and 43.4% of the rural population, are provided with drinking water and, respectively, 79.8%, 18.2% and 0.2% population with sewerage systems and good sanitary conditions;

- in cities and towns, only 68% of the existing infrastructure is in working order, 7% works partially and 25% does not work at all. In rural areas, only 40% of the existing infrastructure is in working order, 44% is partially functioning and 16% is not working at all;

- water losses in systems supplying large cities are more than 60%, in medium-sized cities and towns - 20%;

- organizations and departments financed from the budget do not pay for the services provided in accordance with real needs or established standards;

- current tariffs for the provision of services do not cover the costs of the divisions of the State Unitary Enterprise "Khochagii Manziliyu Communal";

- collection of funds for water supply services is at an insufficient level.

39. In this regard, reconstruction and modernization of existing structures of drinking water supply and sanitation systems, improvement of the tariff policy for water supply and sanitation services in order to increase their potential, as well as improve the quality of water supplied to the population, improve payment for services by water users for supplied water are part of the effective economic mechanism and in general, the primary tasks.

## 2.2. IRRIGATION AND DRAINAGE

40. The agricultural irrigation subsector plays a huge role in ensuring population with food and creating jobs in rural areas. This subsector is faced with a number of problems, including the deterioration of the existing irrigation and reclamation infrastructure, an increase in the area of land with unsatisfactory reclamation conditions, withdrawal of irrigated arable land from agricultural use, erosion of irrigated land, breakdown of pumping stations, shortage of machinery and mechanisms, lack of normal water accounting and other problems.

41. As of January 1, 2015, the republic had about 33.5 thousand hectares, including including 16.8 thousand hectares of irrigated arable land that had withdrawn from agricultural use, as well as 31 thousand hectares of waste land that had been taken out of agricultural use, 49 thousand hectares of irrigated land were in unsatisfactory reclamation

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condition. The efficiency of the republic's irrigation systems is often only 40-50%.

42. These problems, by limiting farmers' access to the necessary volumes of water, have a negative impact on agricultural productivity.

43. One way to solve these problems is to reconstruct the infrastructure and carry out economic and institutional reform of the irrigation and reclamation subsector.

## 2.3. HYDROPOWER AND ENERGY SUPPLY

44. Hydropower plays an important role in the efficient functioning of all sectors of the economy, including the water sector. This subsector also faced many challenges, including shortages of electricity during winter (due to low river flows during this period and insufficient capacity of available reservoirs), balancing electricity production with irrigation needs, financing the maintenance of reservoirs and performing bank protection works on them, low payments for electricity, high levels of losses and other problems. The solution to these problems is provided within the framework of the reform of the republican energy sector.

## 2.4. WATER SUPPLY FOR INDUSTRY

45. In recent years, water supply to industry has been developing taking into account the processes its development. But this industry also has many problems.

46. The water supply infrastructure for industrial enterprises, which has been in operation for the last 30-50 years, has worn out. Only new industrial facilities (cotton processing, canning factories, etc.) are equipped with relatively modern systems.

47. The main problems of water supply to industrial enterprises are the need to ensure: effective disinfection of industrial wastewater; reducing water losses; implementation of a water recycling system; effective monitoring of the quality and quantity of waste water in accordance with norms and standards.

# 3. ECONOMIC AND FINANCIAL ASPECTS

48. The basis for the sustainable functioning of any system, including the water sector, is its economic model. Improving the economic and financial model in such a transition period is a difficult task, but the experience of developed and developing countries shows that this is a solvable task.

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49. Therefore, improving the economic and financial aspects of the water sector will require the adoption and implementation of the following activities:

- introduction of the “user pays” and “polluter pays” principles;

- continuous system repair, periodic and complete renewal, improvement and reconstruction of the water sector infrastructure;

- ensuring effective regulation of economic relations between organizations providing services and water users, as well as transparency in the provision of services through an appropriate pricing system capable of covering the costs of the industry and ensuring its development.

## 4. IMPROVING THE LEGAL FRAMEWORK

50. From 2000 to the present, production mechanisms, ownership of land and economic relations between producers, suppliers and direct consumers have changed radically. After land reform, agricultural production is carried out by private companies and their products are sold based on free market principles. But irrigation and drainage services are still far from market principles; to organize such a system, it is necessary to improve the current legislation.

51. The current legislation in the water sector, including the Water Code of the Republic of Tajikistan, requires radical improvement in connection with the transition to a market economy and the reform of the water sector, including the transition to IWRM principles.

52. Other relevant laws, especially the laws of the Republic of Tajikistan “On Water Users Association” and “On Drinking Water and Drinking Water Supply”, also require amendments and additions, adaptation to IWRM principles and market conditions.

53. For the transition to basin management and the creation of new institutions at the basin level, the development of charters and other legal documents regulating their relations with existing bodies is required.

## 5. IMPROVING INSTITUTIONAL MECHANISMS

54. In connection with the ongoing reform, especially with the creation of new bodies and division of functions between them in accordance with Decree of the President of the Republic of Tajikistan dated November 19, 2013 No. 12, it is necessary to develop and implement additional measures to specify the relationships between policy, regulation, management, operation and maintenance in all subsectors of the water sector, taking into account the complexities of its institutional construction.

55. Despite the fact that some elements of IWRM have already been introduced into the water resources management system of the Republic of Tajikistan, the existing structures and mechanisms for covering costs do not fully correspond to the effective implementation of IWRM.

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56. In the existing system of management, use and protection of water resources
There is parallelism in the performance of functions by some bodies. To create a perfect system and ensure sustainable management and use of water resources, these inconsistencies must be adjusted through water sector reform.

57. Institutional development in the field of water resources management requires
implementation of the following:

- transition from administrative-territorial management to management within hydrological or hydrographic units, such as river basins, sub-basins, headwater basins and irrigation systems;

- effective and consistent coordination of various subsectors within the framework of the activities of the leading structure;

- creation of an effective organizational structure of organizations capable of implementing IWRM, including WUAs at the grassroots (local) level within hydrological and hydrographic boundaries;

- improving relationships between organizations providing services and users, reducing the influence of local authorities in matters of water resources management and service provision.

# IV. WATER SECTOR REFORM

## 1. GOALS AND OBJECTIVES

58. The above analysis of the water sector clearly confirms the need
comprehensive reform to improve water management efficiency, improve governance to improve service delivery and meet industry costs. Due to the fact that irrigated agriculture

is the country's major water user, water sector reform was announced as part of a comprehensive agrarian reform launched in 2009.

59. The purpose of this reform is “planning, development and effective
management of the water sector in accordance with sound policies, analysis and joint management of the volume and quality of ground and surface waters, balanced use of water by various subsectors through the basin approach and hydrographic systems as management zones in the interests of high economic development of the Republic of Tajikistan, on the basis of justice, equity and non-injury damage to environmental sustainability."

60. Achieving the above goals will require the implementation of the following measures:

- transition from administrative-territorial management of water resources to management within hydrological and hydrographic zones;

- creation of a republican structure operating in accordance with IWRM, providing policies and regulations, effectively coordinating interested structures and groups at various levels, from local to international;

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- creation of transparent management and reporting structures with separation of functions related to policy and strategic orientation on the one hand and execution on the other hand, in compliance with modern principles of effective management and

execution.

61. It is important that, at all levels and stages of institutional reform, all stakeholders participated in the planning, decision-making and execution processes so that they felt responsible for the processes taking place and took into account the priorities and opinions of society.

# 2. GUIDING PRINCIPLES

62. The reform of the water sector in Tajikistan will be carried out in accordance with a number of guiding principles, including the transition to IWRM, including basin management and the separation of political and management (regulatory) functions from production and economic responsibilities, including in the operation and maintenance of infrastructure , provision of water services, play an important role.

# 2.1. INTEGRATED WATER RESOURCE MANAGEMENT

63. Introduction of IWRM into practice is one of the main conditions for successful implementation of water sector reform. There are different ideas about IWRM, but in practice they all use the same principle. This document uses the view set out in the Water Code of the Republic of Tajikistan dated April 2012 and adapted to the local conditions of the country. In accordance with this concept, “IWRM is a management system based on accounting and mutual influence of water resources (surface, groundwater and return water) and land resources, as well as other associated natural resources within specific hydrographic boundaries, harmonizes the interests of subsectors at various levels water use and natural resources and involves them in decision-making, planning, financing in the interests of sustainable development of society and environmental protection."

64. IWRM is an interconnected and practical management interaction water resources. This Program recognizes that the water sector in the Republic of Tajikistan is of great importance and, where necessary, is mainly regulated at the central level through the harmonization of specific objectives with local needs.

*Figure 1. IWRM framework proposed by the Global Water Partnership, 2002.

65. IWRM is based on the following principles:

- establishing dynamic, coordinated, consistent and multi-sectoral relationships on the use of water resources, including the identification and protection of potential sources of clean water;

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- planning for sustainable and reasonable use, rational use of water resources, taking into account the needs and priorities of society, implementation of political and economic programs for the development of the country;

- development, implementation and consideration of low-cost socially relevant projects and programs, developed on the basis of diverse strategies, and providing for broad public participation, including women, youth, local residents in policy formation and solving problems and conflicts;

- improvement and/or development of the necessary organizational, legal and financial mechanisms to ensure the unbiased implementation of IWRM in order to accelerate sustainable social progress and economic development.

66. In the modern conditions of the Republic of Tajikistan, it is necessary to introduce only the basic elements of IWRM, which are necessary and possible from technical, economic, social, environmental and political points of view.

67. Features of integrated water resources management in the Republic of Tajikistan are:

- the importance of hydropower;
- the importance of paying for water services;
- preventing groundwater depletion;
- the importance of access to irrigation water;
- transition to the principles of basin management;
- the need for public participation;
- paying special attention to the vulnerability of mountain regions and strengthening flood protection.

68. In this regard, the following recommendations on IWRM for the Republic are offered Tajikistan: “IWRM is the mutual cooperation of various subsectors in order to provide the population with full access to high-quality water services and sanitation, ensuring access to water for irrigation, hydropower, the environment and other water users within the river basin and respecting established hydrographic boundaries. IWRM promoting protection water resources from overuse and pollution, ensures the protection of vulnerable mountain environments, riverbanks and coastal areas from flooding and degradation, provides assistance by ensuring public participation in decision-making processes, planning, financing and development of water resources for sustainable economic and social development and environmental conservation."

## 2.2. POOL MANAGEMENT

69. Planning for comprehensive water distribution and development of water resources can only be achieved within the natural water basin, since all activities carried out in the upper reaches have a direct impact on access and

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downstream water quality. Therefore, such a natural unit, or river basin, is the best indicator of water resource management. A basin can be described as follows: a drainage area in which a flow of water is formed, interconnected with other water sources in the upper and lower reaches (sea or lake) and bordering them. Ideally, the hydrological boundaries of a catchment area correspond to the boundaries of the basins, but this may not be the case in all cases.

70. In this regard, the introduction of basin water resources management, which is an integral part of IWRM, is recognized as one of the main principles of water sector reform.

## 2.3. SEPARATION OF POLITICAL AND MANAGEMENT FUNCTIONS FROM PRODUCTION AND ECONOMIC TASKS

71. In the effective solution of all problems related to IWRM, the separation of political and legislative functions (policy formation, legislation), organization (planning, management and regulation) and functions related to use (water supply, provision of services for the maintenance and repair of the system) is important. which are also one of the guiding principles of water sector reform.

# 2.4. ADDITIONAL BASIN GUIDELINES

72. Taking into account priorities, the following principles must be observed:

- the environment must be recognized by the water consumer and its water needs must be taken into account, since if it is degraded or damaged, it cannot be easily restored and can be completely lost;

- when determining priorities for water use, it is necessary to balance the needs of all subsectors so that water use in one subsector does not impact another subsector;

- In emergency situations, the vital importance of drinking water supply must be a priority.

73. Since the announced institutional reform requires shared responsibility, particularly sensitive actions are required. In most cases, an incomplete reform leads to a dysfunctional system, and this can cause damage to specific structures instead of benefit. It is therefore very important to adhere to the basic principles whenever possible.

## V. IWRM AND TRANSITION TO BASIN MANAGEMENT

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74. As part of the reform of the water sector in Tajikistan, a transition to IWRM and basin management will be carried out.

75. The boundaries of a river basin constitute geographic zones of institutional, regulatory regulation and management of water use, including, in addition to the water flow of the river, groundwater, springs, lakes, glaciers and other types of water resources. When determining the hydrological boundaries of basins or subbasins as a water management unit, the following natural and economic conditions are taken into account:

- geographical boundaries of river basins;

- accessibility to all parts of the pool;

- dependence of the integral functioning of water infrastructure on economic relations;

- the level of economic development and the potential of local organizations and making independent decisions on the main goals of sustainable water resources management.

# 1. RIVER BASIN

76. Taking into account the hydrological boundaries and the above conditions, the river systems of the Republic of Tajikistan are divided into four river basins as managed units (Figure 2).

77. The Tajik part of the Syrdarya River basin consists of the Syrdarya River and its tributaries within the borders of the Republic of Tajikistan. The Syrdarya River basin, as a management unit, includes the Zarafshan River basin in the form of a sub-basin on the territory of Tajikistan. Both rivers are of interstate importance, and the management of water resources of the Syrdarya River is accordingly regulated by decisions of the Interstate Coordination Water Commission of the Countries of Central Asia (hereinafter referred to as ICWC).

78. The Kafirnigan River basin consists of the Kafirnigan River system and its tributaries - Ilyak, Sorbo and Varzob; the lower part of the basin boundary is formed by the tributaries of the Kafirnigan. The upper part of the Kafirnigan River basin includes the sub-basin of the Karatag River, transboundary between the republics of Tajikistan and Uzbekistan and included in the upper reaches of the Surkhandarya River basin.

79. The Vakhsh River basin consists of the Vakhsh River and all its tributaries, except the upper one part of the basin located in the Kyrgyz Republic.

80. The Tajik part of the Pyanj River basin includes the Pyanj River zone and its tributaries located in the Republic of Tajikistan. In the north and west, the basin borders on the Vakhsh River basin, and in the south along the bed of the Pyanj River, marking the border with Afghanistan.

81. As part of the water sector reform in each basin, and if necessary in In sub-basins, corresponding basin organizations will be created, such as River Basin Organizations and River Basin Councils.

*Figure 2: Agreed basin management zones for rivers and their tributaries.

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## 2. MAIN TASKS OF BASIN ORGANIZATIONS

82. River basin organization (hereinafter referred to as BOR). The main tasks of basin river organizations are:

- drawing up annual basin plans for water use and protection;

- development of medium-term and long-term plans for the development and protection of water resources;

- monitoring the distribution of water and its quality and presenting mandatory measures in unplanned cases;

- drawing up plans to reduce the consequences of drought, floods and monitoring their implementation;

- assessment of the state of river bank protection and other works related to flood protection and identification of necessary repair work at specific basin and sub-basin levels.

83. River Basin Council (hereinafter - BSR). The main tasks of the Basin Council rivers are:

- consideration and recommendation of seasonal plans for the distribution of water between various users, medium-term and long-term plans for the development of water resources in the basin;

- discussion with PB and other interested parties about the actual implementation of these plans;

- presentation of ideas and views on various issues related to the management, distribution, use, protection and quality of water;

- providing assistance and resolving disputes between stakeholders and water users, associations and their federations.

# VI. INSTITUTIONAL DEVELOPMENT OF WATER SECTOR REFORM

84. Institutional reform, including the separation of political, regulatory (management) functions from production and economic functions is an integral part of the water sector reform. Without implementing these changes in the existing institutional structure, effective reform of the water sector is not possible.

## 1. INSTITUTIONAL REFORM IN THE WATER SECTOR

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85. Institutional reform in the water sector (with a special focus on irrigation) mainly began with the adoption of the Decree of the President of the Republic of Tajikistan dated November 19, 2013, No. 12, according to which political and management functions in the water sector were separated from production and economic functions .

86. In accordance with this Decree, the Ministry of Energy and Industry was transformed into the Ministry of Energy and Water Resources of the Republic of Tajikistan and was assigned responsibilities for conducting political and management (regulation) functions in the water sector, and at the same time the Agency for Land Reclamation and Irrigation under the Government of the Republic was formed Tajikistan with the authority to carry out responsibilities for land reclamation and irrigation.

87. At the same time, in connection with this Decree, by resolution of the Government of the Republic Tajikistan dated March 3, 2014 No. 149 The open joint-stock holding company (hereinafter referred to as OAHC) "Barki Tojik", responsible for the operation and maintenance of structures in the hydropower subsector, was withdrawn from the MEWR.

88. Thus, production and economic responsibilities, including the operation and maintenance of water facilities, were completely separated from the responsibilities of the Ministry of Energy and Water Resources. The Ministry became responsible only for policy and management, which is in line with one of the guiding principles of water sector reform.

89. Before the adoption of the above-mentioned Decree of the President of the Republic of Tajikistan, an important step towards institutional change was also taken. In accordance with the Decree of the Government of the Republic of Tajikistan dated May 18, 2012 No. 247, the State Institution “State Institution Tajikobdehot”, which operated under the former Ministry of Land Reclamation and Water Resources, was transferred to the State Unitary Enterprise “Khochagii Manziliu Kommunali”. Thus, throughout the republic, issues of urban and rural drinking water supply and sanitation have been concentrated under the control of one organization providing services, which also corresponds to the principles of reforming the water sector.

# 2. INSTITUTIONAL REFORM OF THE WATER SECTOR

90. Institutional reform of the water sector involves introducing changes and additions to existing water sector organizations and creating new organizations at the national, basin and sub-basin levels.

## 2.1. IWRM STRUCTURES AT THE REPUBLICAN LEVEL

### 2.1.1. POLITICAL, REGULATORY AND LEGISLATIVE STRUCTURES

#### 2.1.1.1. National Water Board

91. The reform of the water sector provides for the creation of the National Water Council, which is the highest consultative and advisory body under the Government

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of the Republic of Tajikistan, which will coordinate the activities of ministries, departments and other authorized government bodies on planning, management, use and protection of water resources. The creation of the National Water Council is provided for by amendments made to the Water Code of the Republic of Tajikistan in April 2012.

92. In accordance with the goals and basic principles of water sector reform, the goals and objectives of the National Water Council should be the following:

- adoption and development of state policy and legislation in the field of IWRM and the effective use and protection of water resources;

- formation or request for the preparation of a policy on water resources management and environmental protection;

- formation of policies to control the rational use of water resources;

- recommendations for limiting water use by consumers in necessary cases;

- expanding the policy of investment in the development, use and protection of water;

- drafting and management of international agreements in the field of use and protection of water resources;

- formation of policies for the implementation of measures related to the use and protection of water resources, taking into account the impacts of climate change.

93. Currently, the country has a Coordination Council under the Government of the Republic of Tajikistan on water and energy issues, partially performing these functions. The Council is headed by the Prime Minister of the Republic of Tajikistan, the members of the Council are the heads of relevant ministries and departments. It is advisable to also include in its composition the heads of some organizations providing services, including the State Unitary Enterprise "Khochagii Manziliya Kommunali", OJSC "Barki Tojik", the Land Reclamation and Irrigation Agency and the Sanitary and Epidemiological Service.

* Figure 3: Recommended IWRM option at national and basin level.

94. Taking this into account, as part of the reform of the water sector, it is necessary to transform the Coordination Council under the Government of the Republic of Tajikistan on water and energy issues into the National Water Council with the powers set out above or expand its powers with the functions of the envisaged National Water Council with the intensification of its activities. In this regard, it is also necessary to include in its composition all heads of republican-level organizations whose activities are related to water.

### 2.1.1.2. Ministry of Energy and Water Resources of the Republic of Tajikistan

95. The Ministry of Energy and Water Resources of the Republic of Tajikistan (hereinafter - MEWR RT) will be the main leading body in reforming the water sector and introducing IWRM. In this regard, the role and main tasks of the MEWR of the Republic of Tajikistan will be as follows:

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- coordination of general policy in the water sector of the republic and implementation of the IWRM strategy based on management at the river basin level;

- determination of goals and national objectives for the development of water resources, their protection and conservation for future generations;

- development and implementation of advanced legislative frameworks and regulatory mechanisms (rules, norms and standards) for sustainable management of water resources, including transboundary waters;

- determination of volumes of water intake by water users in accordance with established standards;

- organization of river basin management through the establishment of special organizations within the boundaries of basins and sub-basins.

### 2.1.1.3. Committee for Environmental Protection under the Government of the Republic of Tajikistan (hereinafter - CEP PRT)

96. The CEP of the GoRT is responsible for issuing permits for special water use and wastewater discharge, carries out state supervision in the field of environmental protection, including the protection of water resources. In this regard, the main role and tasks of the CEP under the Government of the Republic of Tajikistan will be the following:

- formation of environmental policy and strategy with a main focus on the protection of water resources from an environmental point of view;

- development of specific environmental norms and standards related to planning, design, construction and their application in all water infrastructure;

- studying the state of glaciers and water resources, trends in climate change, monitoring surface water pollution, forecasting natural hydrometeorological phenomena and drawing up national measures for adaptation and resilience to climate change, including in the water sector;

- ensuring the implementation of existing laws and participation in the development of new legislation on the supervision of water pollution and water quality from an environmental point of view;

- drawing up rules, regulations and standards for environmental pollution related to water, for example the impact of water discharges;

- standardization and issuance of permits for special water use to economic entities;

- issuing permits for wastewater discharge standards into water bodies.

### 2.1.1.4. Main Department of Geology under the Government of the Republic of Tajikistan (hereinafter - GUG PRT)

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97. The Main Department of Geology under the Government of the Republic of Tajikistan works in close cooperation with the CEP of the GoRT in the field of use of groundwater resources and their conservation. In this regard, the role and main tasks of the GUG PRT will be the following:

- development of strategies and mechanisms to protect the quality and volume of groundwater;

- participation in the development of methods for determining costs and tariffs for pumping groundwater, measuring water quality and introducing such meters;

- participation in the drafting and implementation of the Water Code and relevant laws with a special perspective on groundwater;

- implementation of rules, national standards for the use and development of groundwater resources.

### 2.1.1.5. State Supervision Service for Safe Work in Industry and Mining Supervision under the Government of the Republic of Tajikistan

98. The State Supervision Service for Safe Work in Industry and Mining Supervision under the Government of the Republic of Tajikistan (hereinafter referred to as SGBVRPG PRT) will continue its activities in the following areas:

- coordination of draft permits for the use of natural mineral, medicinal and thermal waters;

- control over the discharge of waste and industrial waters into the voids of the earth's layers;

- compliance with safety rules in industrial production;

- monitoring of industrial wastewater discharges and other tasks in accordance with established authorities.

## 2.1.2. EXECUTIVE STRUCTURES, WATER SECTOR ORGANIZATIONS PROVIDING SERVICES

99. Tasks related to the use of water will be carried out in various ways organizations providing services depending on the types of water use. In accordance with the already established tasks, the Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan is responsible for the provision of services in the irrigation and land reclamation subsector, respectively, the State Unitary Enterprise "Khochagii Manziliyu Kommunali" in the drinking water supply and sanitation subsector (sewerage), OJSC "Barki Tojik" in the hydropower subsector.

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2.1.2.1. Agency for Land Reclamation and Irrigation under the Government of the Republic of Tajikistan (hereinafter referred to as AMI PRT)

100. AMI GoT, in accordance with the basic principles of reforming the water sector, being responsible for the provision of services in irrigation and land reclamation, will implement policies and programs at the subsector level for the efficient use of irrigation water, preventing excess use and water shortages through the introduction of water-saving technologies and reduction water losses, operation and maintenance of irrigation and drainage infrastructure.

Irrigation and drainage services will be provided by the AMI of the GoRT at the 101. administrative-territorial level, and, if necessary, at the level of basins, sub-basins and irrigation systems in cooperation with WUAs and WUA Federations.

102. AMI GoT can, in the context of water sector reform, transition to IWRM and basin management, carry out reform of the irrigation and land reclamation subsector. This reform can introduce management of irrigation systems at the level of basins, sub-basins and irrigation systems themselves, which will be consistent with the main principles of water sector reform.

103. Taking into account the implementation of water sector reform in the land reclamation subsector Lands and Irrigation, AMI PRT can perform the following roles and tasks:

- formation of goals, objectives and strategies of the subsector for the efficient use of irrigation water, prevention of excess use and water shortages;

- drawing up strategies and mechanisms for protecting the quality and volume of irrigation water;

- drawing up target programs taking into account the social and economic importance of irrigation water, with the introduction of a system for covering the costs of irrigation and drainage services;

- ensuring environmental sustainability in the regulation, design, construction and use of irrigation infrastructure development projects;

- implementation of the requirements of the Basin IWRM Plan within the command zones of irrigation systems in coordination with interested organizations;

- carrying out research and testing and innovative work, as well as design in the field of land reclamation and irrigation;

- participation and contribution to the development and implementation of the Water Code and other relevant laws, especially those related to the irrigation subsector.

2.1.2.2. State Unitary Enterprise "Khochagii Manziliyu Communali" (hereinafter referred to as State Unitary Enterprise "KhMK")

104. State Unitary Enterprise "Khochagii Manziliu Kommunali" in accordance with the basic principles Water Sector Reform is an organization of the subsector providing drinking water supply and sanitation services through its subsidiaries at the city and village level. In relatively large cities, water supply and sanitation services are provided by Water Sewerage Departments under local executive bodies of state power (for example, State Unitary Enterprise Dushanbevodokanal, State Unitary Enterprise Khujandvodokanal).

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105. As part of the reform of this enterprise, it is planned to create structure of the State Unitary Enterprise "Khochagii Manziliyu Kommunali" of local water companies, covering all centers of small towns, urban-type settlements and villages of the country. Companies that carry out practical work will be created to supply water to large and small cities, and the implementation of large-scale and complex work will be supported by regional companies, and therefore the corresponding resources will be saved. The specific tasks of regional companies will be determined during the reform process. When creating and developing mechanisms for fully covering costs, the independence and self-financing of these regional companies is provided for.

## 2.1.2.3. JSC "Barki Tochik"

106. OJSC "Barki Tojik" in accordance with the basic principles of reform The water sector will continue to operate as an organization providing services in the hydropower subsector for the operational management, operation and maintenance of hydraulic structures.

107. Tajikistan's hydropower subsector will in the future retain its strong profitability potential not only at the national but also at the regional level. To fully link the hydropower subsector with the IWRM process, the following measures are recommended:

- implementation of measures provided for in various programs (national and regional) similar to the Water and Energy Development Program in Central Asia;

- improving coordination of hydropower and water resource use in other subsectors within the National Water Council;

- introduction of accounting for the operating mode of hydroelectric power plants in annual basin plans;

- implementation of technically and economically feasible projects for the construction of medium and large reservoirs in all river basins;

- consideration of measures to improve energy supply in the winter months to regions provided with energy from small hydroelectric power plants, similar to the use of energy-saving technologies and additional supply of electricity to such places from large hydroelectric power stations through a common electrical network.

## 2.1.2.4. Other organizations providing services

108. Industrial enterprises are supplied with water mainly through use of own internal resources or specialized water supply organizations.

The fish farming subsector for water supply mainly cooperates with AMI 109. The Government of Tajikistan, MEWR of the Republic of Tajikistan and the costs associated with this are carried out at its own expense.

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110. Water supply for environmental protection measures will be carried out CEP of the GoT in cooperation with ministries, government and non-governmental organizations, as well as non-governmental organizations associated with civil society.

111. The use of water in recreational institutions will be carried out at the expense of their own funds by the relevant tourism authorities, including travel companies and/or tourism representative offices in cooperation with state water supply and/or institutions regulating the use and protection of water.

112. Water supply organizations, acting in accordance with modern consumer-oriented principles, will, where appropriate, undertake full cost recovery on a consumer-polluter-pays basis.

## 2.2. IWRM STRUCTURES AT THE LEVEL OF BASINS AND SUB-BASINS

### 2.2.1. RIVER BASIN ORGANIZATIONS (hereinafter referred to as BOR)

113. River basin organizations are created under the Ministry of Water Resources of the Republic of Tajikistan for each specific basin and, if necessary, in sub-basins. They will be responsible for planning issues, monitoring water management and implementing the basin plan.

114. In this regard, four river basin organizations will be created under the MEWR of the Republic of Tajikistan, including the Syrdarya BOR, Kafirnigan BOR, Vakhsh BOR, and Pyanj BOR.

115. Taking into account the geographical location and ensuring operational management of water resources, after the creation of the above-mentioned budgetary resources, it is envisaged to establish sub-basin organizations within the Upper Pyanj, Upper Vakhsh and Lower Kafirnigan sub-basins and in the Zeravshan River basin.

116. PB activities in the initial 2-3 years are envisaged in the form of working groups as part of the River Basin Dialogue with the support of development partners, and then their activities will be carried out with funding from the republican budget (MEWR RT).

117. The main objectives of PB are:

- drawing up seasonal, medium-term and long-term plans for the use and protection of water resources and river basin development programs;

- supervision over the distribution and quality of water, proposing measures to prevent violations of the terms of the adopted plans;

- monitoring and control over the quality of service provision in the implementation of water allocation, drainage and sewerage;

- registration and storage of a list of permits for the use and discharge of water, dissemination of information about water allocation to interested organizations;

- coordination of organizations and water users in the basin and settlement of disputes between them

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## 2.2.2. RIVER BASIN BOARDS (hereinafter referred to as BRB)

and, River basin councils, created in all four basins 118. (Syr Darya, Kafirnigan, Vakhsh, Pyanj) if necessary, at the sub-basin level, constitute a representative platform for various partners.

119. BSRs, having the right of access to information, will participate in decision-making processes on water resources management. BSRs promote the interests of all water users and other interested parties and will include representatives of civil society interested in water management.

120. The most important tasks of the BSR are to present acceptable proposals for the use, protection and development of water sources, and to effectively control their use and protection. Other tasks of the BSR are:

- collecting information from organizations on the distribution, supply of water and their quality within the framework of annual plans and submitting proposals for their improvement;

- collection of views of stakeholders on: (1) management and regulation of water resources; (2) water distribution (3) water quality; (4) the quality of services and the provision of them by BOR;

- support in resolving disputes between water users or their groups and presenting proposals for resolving disputes.

121. The personal composition of the BSR can be determined in the process of its creation and it may consist of representatives of various categories of water users and civil society.

122. The activities of the BSR are carried out on the basis of the Charter, approved by the Council. The BSR can function as a platform for policy dialogue on IWRM since the transition to IWRM is a long-term process.

## 2.2.3. WATER USERS ASSOCIATIONS AND WUA FEDERATIONS

123. In accordance with the current legislation of the Association Water users (WUAs) have the right to operate and maintain irrigation and drainage networks at the on-farm and in some cases at the inter-farm level. It is very important that the service areas of water user associations and their Federations coincide with the hydrographic boundaries of the elements of irrigation systems and, if necessary, are accordingly within the boundaries of sub-basins.

# VII. IMPROVING LEGISLATION WITHIN THE FRAMEWORK OF WATER SECTOR REFORM

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new Reforming the water sector requires a transition to new forms of management, 124. creation of institutions and radical improvement of existing legislation. Without the creation of a sustainable legal framework, the implementation of such changes and the effective implementation of water sector reform is impossible. Changes must be coordinated with relevant ministries and departments.

125. Improvement of current legislation will be carried out through amendments and additions to existing laws and regulations, as well as the development of new laws and regulations.

# 1. CHANGES AND ADDITIONS TO THE APPLICABLE LEGISLATION

126. To successfully implement water sector reform, it is necessary to make amendments and additions to the following laws:

- Water Code of the Republic of Tajikistan, changes and additions regarding the implementation of IWRM in river basins and for the purpose of internal step-by-step implementation of economic instruments for the provision of water services, specific definition of the types of activities of government organizations involved in the management and protection of water resources, expansion of activities to protect the quality and quantities of water resources, especially groundwater and other waters, on other similar issues;

- Law of the Republic of Tajikistan “On Water User Associations”, changes and additions regarding the streamlining of relationships on the creation of federations of WUAs, payment of taxes, property rights, the procedure for determining and the process of collecting funds for water supply services, specific definitions of the rights of WUAs themselves, regulating issues of interconnection of rights of economic activity WUAs with other legislation of the Republic of Tajikistan and other similar issues;

- Law of the Republic of Tajikistan “On drinking water and drinking water supply”, changes and additions in terms of resolving issues of taxation, property rights, participation of the private sector in the management of water supply systems, legal regulation of tariffs for the provision of services, legal regulation of norms and standards, procedure for regulating quality assurance water supplied to consumers, specification of regulation of water users' rights and other issues requiring legal regulation;

- if necessary, introducing changes and additions to the relevant laws to facilitate the application of water legislation.

When improving water legislation, it is necessary to take into account 127. best international experience, adapting it, if necessary, to the specific social, economic conditions and infrastructure of Tajikistan.

128. It is also necessary to make changes and additions to some regulatory legal acts, some of which are given below:

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- Regulations on the powers of specially authorized state bodies to regulate the use and protection of water, approved by Decree of the Government of the Republic of Tajikistan dated February 4, 2002, No. 39. In connection with the changes that have occurred, especially taking into account the need to transition to IWRM, there is a need to develop a new Regulation that will facilitate the implementation of water sector reform;

- Consideration and improvement of regulations on the Ministry of Energy and Water Resources of the Republic of Tajikistan, AMI PRT and KVD "KhMK" in terms of eliminating parallelism of functions and their adaptation to the principles of water sector reform.

## 2. DEVELOPMENT OF NEW LAWS AND REGULATIVE ACTS

129. Development of new laws and other regulatory legal acts is necessary for the successful implementation of water sector reform.

130. AMI PRT has developed a draft Law of the Republic of Tajikistan "On land reclamation Lands and Irrigation", regulating relations in the irrigation and land reclamation subsector. The adoption of this law will undoubtedly play an important role in the development of this subsector.

131. Preliminary analysis of current water legislation (the need for reform of the water sector, transition to IWRM and introduction of management in river basins) shows the need to develop a draft of a new Water Code of the Republic of Tajikistan.

132. The creation of new institutions at the level of basins and sub-basins causes the need to develop and approve regulations (charters) of river basin organizations (RBOs), river basin councils, as well as other acts regulating the relationships of these organizations with water users and other interested parties.

133. If the issue of liquidation of the existing Coordination Council under the Government of the Republic of Tajikistan on water and energy issues is agreed upon, there will be a need to develop and approve the Regulations (Charter) of the National Water Council.

# VIII. TOOLS TO SUPPORT IMPLEMENTATION OF WATER SECTOR REFORM

## 1. GENERAL INFORMATION

134. Although improving the management system and transition to IWRM within river basins for the future development of the national economy and improving the living standards of the people are the main goals of the water sector reform, without the implementation of additional support measures it will be difficult to ensure the success of the reform in the water sector. Reform support tools cover various aspects of water resources management and for the purposes of this reform the following measures need to be implemented:

- strengthening the capacity of responsible organizations and water users;

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- creation of a database and information system for IWRM;

- international cooperation in the field of water resources;

- participation of water users and civil society in the process of use and protection of water resources;

- participation of development partners and donors in the implementation of the reform program.

135. The implementation of the above support means requires high qualifications of participants in the implementation of planned measures, modern office and control equipment. Therefore, most of these measures must be implemented with the support of development partners and in collaboration with highly qualified international experts.

## 2. STRENGTHENING THE CAPACITY OF ORGANIZATIONS RESPONSIBLE FOR WATER RESOURCES MANAGEMENT AND WATER USERS

136. To strengthen the capacity of organizations responsible for water resources management and water users within the framework of water sector reform, it is necessary to implement various training measures from the lower, field level to employees and management of responsible organizations at the upper level, organize on-site training programs to familiarize themselves with international best practices in the field of use and protection of water resources, equip responsible organizations and provide water users with modern office and measuring equipment, communications equipment, computer models for data analysis and hydrological calculations, water distribution, and calculation of hydraulic structures. Many other similar measures must be implemented as part of the reform.

137. Organizing and conducting research and development work currently necessary for the development of the water sector is one of the priority industry tasks. During the implementation of the reform, it is necessary to pay great attention to industry research institutions, to significantly increase funding for industry-important research work to improve the design of bank protection structures, introduce water-saving technologies, improve the reclamation condition of lands, and introduce effective methods of planning and water resources management.

## 3. IWRM DATABASE AND INFORMATION SYSTEM

138. Database is the basic requirement for managing various types of infrastructure and diverse water users. The use of water resources, management and efficient maintenance of infrastructure are important strategic and complex issues.

139. Information about water resources, the technical condition of water infrastructure, its cost is available in a variety of forms in various

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ministries and departments. Some types of information are available only in specific projects and, as a rule, they are completely lost when projects are completed. The format of information is also varied, ranging from printed to digital.

140. Therefore, the creation of a unified information system suitable for effective use will be a necessary support for the implementation of water sector reform.

141. A database and information system should be created with an interdepartmental portal with different levels of access for different users. Publicly available data and information should be posted on special Internet sites. The creation of a database and information system for IWRM will unite and interconnect all databases of various implemented and future projects related to the water sector.

## 4. INTERNATIONAL COOPERATION IN THE WATER SECTOR

142. Improving the use of water resources of transboundary rivers requires close cooperation between neighboring countries. Therefore, cooperation and integration between neighboring riparian countries will play an important role in ensuring sustainable water management for future generations.

143. The Republic of Tajikistan is the main initiator of the International Year of Freshwater (2003) and the International Decade for Action “Water for Life” (2005-2015), as well as the International Year of Water Cooperation (2013). Accordingly, the country is very interested in the timely implementation of the UN water program and related practical measures to quickly overcome the many problems associated with water resources management.

144. The Republic of Tajikistan is one of the founders and an active member of the International Fund for Saving the Aral Sea (hereinafter - IFAS), the Interstate Commission on Sustainable Development (hereinafter - ICSD) and the Interstate Coordination Water Commission of Central Asia (hereinafter - ICWC). Based on this, the Republic of Tajikistan must rationally use the water resources at its disposal, taking into account the interests of riparian countries.

## 5. PARTICIPATION OF USERS AND CIVIL COMMUNITY IN THE USE AND PROTECTION OF WATER RESOURCES

145. Future water management system in the Republic of Tajikistan will be based on the active participation of organizations, water users and the private sector in the formation of policies, strategies, program development and implementation, as well as the decision-making process. The participation of the private sector in the development of the water sector, carried out in accordance with the legislation of the Republic of Tajikistan on public-private partnership, plays an important role in its economic and financial sustainability.

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of The active participation of the civil community, as 146. representatives of the public in the formation industrial policy and legislation, as well as the contribution of water users in the regulation, rational and sustainable use of water resources, maintenance of water infrastructure, planning and meeting people's needs for water resources in accordance with established standards is important. . Therefore, there is a great need for the creation and development of water user organizations (WUAs) with state and non-state support.

147. To ensure the active participation of stakeholders, government organizations use three stages of interaction. At the first stage, the Coordination Council under the Government of the Republic of Tajikistan on water and energy issues plays the role of a platform for the participation of government organizations at the national level. In the process of implementing the water sector reform, it is envisaged that the current tasks of this Council will be transferred to the National Water Council. In the current conditions, the National Dialogue on Water Policy in the field of IWRM (hereinafter referred to as the IWRM NAP) plays the role of a platform for dialogue between interested national and foreign partners.

148. The implementation of the water sector reform strategy also involves the creation of basin councils in river basins, so that there, too, industry partners and interested civil communities have equal participation and closely cooperate in the process of planning and implementing programs for the regulation, distribution and use of water, monitoring the progress of programs, and resolving disputes between water users.

149. At the grassroots levels, service delivery organizations (water supply, irrigation and others) ensure the participation of water users in the planning and distribution of water, taking into account the needs of the population and the availability of water resources.

150. In modern conditions in Tajikistan, the importance of gender issues in various sectors of the economy, especially in irrigated agriculture, has increased. In this regard, in the reform process it is necessary and correspondingly to expand the representation of women in water resources management through their participation at various levels of production and management of organizations.

## 6. PARTICIPATION OF DEVELOPMENT PARTNERS AND DONORS IN THE IMPLEMENTATION OF THE REFORM PROGRAM

151. The implementation of the Water Sector Reform Program, in addition to the support of the Government of the Republic of Tajikistan, also requires the support of development partners, domestic and international investors. Technical assistance is needed to attract qualified national and international specialists to formulate policies, programs and strategies, improve water legislation, improve the structure of water management organizations, increase the capacity of their workers and water users, contributing to increased efficiency in the use of water resources.

152. It is also planned to attract funds for rehabilitation and development water infrastructure, including for the most urgent needs for water reform. When drawing up the Water Sector Reform Program, the potential of development partners was used and there is confidence that they will continue their active participation in the implementation of water sector reform.

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# IX. FINANCING WATER SECTOR REFORM

Funding for water sector reform will primarily come from 153. two sources: (1) from the centralized budget of relevant ministries and departments, and (2) funding from development partners.

154. Water sector reform will mainly be supported by international organizations and has important policy implications for development partners. In justifying water-related projects, they cite water sector reform as one of the positive factors of financing. The main development partners of Tajikistan at present, among others, are the following organizations: the World Bank (WB), the Asian Development Bank (ADB), the Swiss Organization for Development and Cooperation (SDC), the European Bank for Reconstruction and Development (EBRD), the European Union ( EU), Donor Coordination Council for the Development of Tajikistan (DCC), United Nations Development Program (UNDP). In 2015, Development Partners are implementing specific projects that provide financing for the restoration and reconstruction of infrastructure, development of the management system, including reform of the water sector. It should be noted that approximately 99% of funding for water sector reform will be carried out within the framework of specific project budgets.

155. In the Water Sector Reform Financing Plan for the period 2016-2025, given in the appendix, it is also planned to finance the reform from the centralized republican budget. Such financing will be carried out within the framework of certain annual budgets of the relevant ministries and departments, including the annual budget of the MEVR.

156. Newly established river basin and sub-basin organizations in the first phase (2016-2018) of water sector reforms will be supported by projects of Development Partners in the form of working groups. Starting from 2019, to finance the activities of 4 river basin organizations and 4 sub-basin river organizations (8 organizations in total), from the centralized republican budget it will be necessary to add an additional 1.681 million somoni to the annually approved budgets of MEWR.

157. Based on the analysis of government funding, it was determined that in In recent years, more than 200 million somoni will be financed in the management of water resources, improvement of land reclamation and irrigation, drinking water supply at the expense of the centralized republican budget in 2016-2025 only within the annual budgets of the relevant ministries and departments. Also, in the period 2016-2025, funding for work in the amount of more than 1.64 billion somoni is expected in the water sector within the framework of projects of development partners.

Development partners are expected to continue to provide 158. additional funding during the 2020-2025 period. In the period 2019-2025, additional funding for the newly created PB from the centralized republican budget will amount to about 11.78 million somoni, which compares to only less than 0.65% of the total funding. The remaining funding will be provided by development partners.