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CLIMATE ADAPTATION IN WATER MANAGEMENT

Adaptation Measures

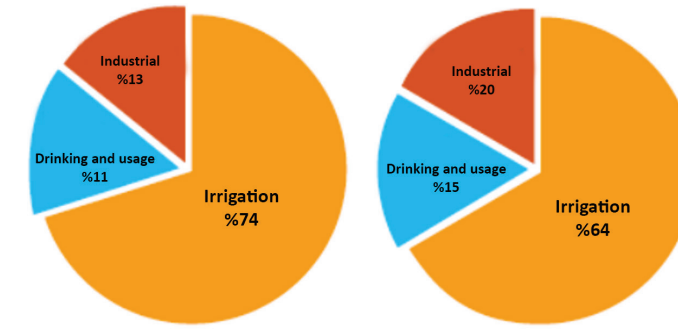
- **Mitigation of Loss/Leakage Rates:** It is possible to reduce this rate with appropriate infrastructure studies, pressure control and active leakage controls.
- **Rainwater Harvesting:** Areas for harvested rainwater usage include activities such as irrigation of green areas, use of water in the toilet, and laundry. Recycling of Domestic Wastewater: Green field irrigation and other urban uses, agricultural use of treated wastewater
- **Reuse of Grey Water:** Examples of usage areas of recycled grey water include toilet reservoirs, garden irrigation, car washing, fire equipment feeding, laundry, ornamental pools, general cleaning and cooling tower feeding.
- **Efficient Irrigation Techniques:** Drip irrigation method, Sprinkler irrigation method

WATER MANAGEMENT POLICIES



Impacts of climate change in Turkey, such as increase in summer temperatures, decrease in winter precipitation, loss of surface waters, more frequent droughts, soil degradation, erosion on the coasts, floods and inundations, directly threaten the existence of water resources. Water management includes water quality and quantity management and hydromorphology. Freshwater management of rivers, lakes and groundwater are also crucial elements for floodplains, ecosystems, drinking water supply, wastewater management, agriculture and many economic processes. Climate change affects water management through a variety of ways, including changes in seasonal and annual patterns in floods, water availability or dilution capacity, and impacts on our health, economy (including hydropower capacity and cooling water availability), and ecosystems that depend on freshwater. Climate change is exacerbating existing pressures on water resources arising from overuse and population growth. Studies have scientifically predicted that the most important impact of climate change will be on the water cycle and that in Turkey, climate change will cause a decrease in water resources in the future. It is stated that there is a tendency for a decrease in precipitation and a significant increase in temperatures, and accordingly a decrease in flows in some basins.

Current Situation and Expected Impacts



Source: Ministry of Forestry and Water, 11th Development Plan SC Report (2019-2023), Water Resources Management and Security, 2017

Sectoral Water Consumption in Turkey

Our country is in the category of countries with water restrictions, with 1500 m³ of usable water per capita. Turkey's current sustainable water potential is 112 billion m³, of which 94 billion m³ is surface water and 18 billion m³ is groundwater.

- Currently, approximately 50% of this potential is being used in Turkey. Total water consumption, which was 54 billion m³ in 2016, corresponds to 48% of Turkey's net water potential. Total usage is met by 39 billion m³ of surface water and 15 billion m³ of groundwater.
- While the water used in agricultural irrigation has the highest share with 74%; 13% is for domestic use and 13% is used in industry.
- In 2016, 40 billion m³ of water was used for irrigation, 7 billion m³ of water for domestic use and 7 billion m³ of water for industry.
- It is predicted that the total water consumption in Turkey will increase approximately three times from 2004 to 2030.
- It is estimated that all of the existing water of 112 billion m³ in Turkey will be used in 2023.
- It is predicted that the water consumption amounts for 2023 will be 112 billion m³ in total; 72 billion m³ for irrigation, 18 billion m³ for drinking and utility water, and 22 billion m³ for industry.
- It is estimated that 50% of the surface waters in the Gediz and Büyük Menderes Basins may disappear within this century, thus causing extreme water scarcity for water users in agriculture, households and industry.

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