



## **Saline, brackish and non-conventional water resources potentials and capacities in Iran**

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The constraints on the availability of fresh water worldwide have caused many concerns for the present generation, but existence of so called saline and brackish water resources and the possibility of recycling of urban and industrial water, in conjunction with the development of technologies related to the economical utilization of marginal water resources are all considered as generating hopes for the mankind to be able to find suitable and economical approaches to get these water resources under command.

Iran as one of the Middle East countries is facing major problems in shortages of renewable water resources. Therefore one of the main economical and social strategies of the government of Islamic Republic of Iran is the optimize use of water resources in order to reach the sustainable development goals.

At national level, renewable resources of water is estimated to be nearly 130 billions cubic meter annually and renewable water per capita is nearly, 1840 cubic meter. Simultaneously, water usage in industrial sector is increasing and proportion of agricultural water in comparison to other sectors is in danger of decreasing, therefore the importance of saline, brackish and non-conventional water resources in Iran is obvious.

Volume of saline and brackish water resources in Iran is nearly 10-11 billion cubic meter in surface water resources and about 1.7 billion cubic meters in groundwater resources, this volume of water is nearly two times of water that could be taken from the biggest dam of the country (Karkheh). In addition the volume of agriculture waste water is nearly 29 billion cubic meters which is nearly 30 percent of water annually

used in Iran. It is obvious that using this volume of water is very effective to reduce shortages of water in the country. Furthermore the volume of urban wastewater is very salient, in such way that early estimates show that around 2.4 billion cubic meter of the wastewater which is near to the place of request (urban places) exists for proper usage in irrigation, recreation and environmental conservation could also reduce urban water demand for fresh water resources.

The objective of this study is to define the quantity as well as the quality of such water resources in Iran, from which a guideline for sustainable use of these water resources is to be illustrated.

This study would also focus on the socio-economical, hygienic and environmental issues related to the consumption of such water resources. And finally we aim to develop a plan to use saline, brackish and non-conventional water resources in different water basin of the country in compliance the policies of Islamic Republic of Iran. Finally, finding solutions for solving the limitations of such water use and improvement of organization structures and approaches for public awareness and partnership would be the ultimate goals of this study.