

# IWRM Zayandeh Rud – Integrated Water Resource Management in the Zayandeh Rud Catchment Area – Implementation Phase

## Integrated Water Resource Management: From Research to Implementation (IWRM)

The Zayandeh Rud river is of vital importance for arid regions in Central Iran. It supplies drinking water to around 4.5 million people and is also the most important water supplier for industry, agriculture and sensitive ecosystems in the dry interior of Iran. Emerging conflicts in the Zayandeh Rud river basin between different water uses and users that are caused by decreasing water availability and quality stand exemplary for other arid and semi-arid regions in the world. In the IWRM Zayandeh Rud joint project, partners from Germany and Iran have been pooling their expertise since 2010 to establish sustainable water management in the catchment area. In the ongoing third project phase, jointly developed solutions are currently being implemented and checked for their transferability.

### Multiple Causes for Water Shortages

The Zayandeh Rud is the most important water body in Central Iran. Over a distance of around 400 kilometers it flows from the Zāgros mountains through wide flood-plains, the historic city of Isfahan and deserts up to the Gavkhuni wetland. Its catchment area is one of the most diverse regions in the country and forms a unique habitat for more than four million people and a multitude of animal and plant species. Agriculture accounts for by far the largest share of fresh water use in the Zayandeh Rud. But water-intensive sectors such as the steel, oil and cement industries have also settled along the river. In addition, a growing population needs to be supplied with drinking water.

Extreme climatic conditions and overuse by humans are leading to ever more water shortages for households, agriculture, industry and the environment in the Zayandeh Rud catchment area – as in many parts of Iran. The water scarcity which represents a major ecological and social threat, is also a consequence of wrong water policy decisions.

In order to address the manifold problems related to water supply in Central Iran, German and Iranian institutions, scientific bodies, organizations and companies have been working together in the IWRM Zayandeh Rud project since 2010. The joint initiative is now in its third phase with a focus on implementing the developed solutions. The strengthening of local human capacity and institutions plays a central role in this process.



Final conference of the II. project phase 2018 at the TU Isfahan

### Strengthening Local Structures for Sustainable Management

In the first two phases of the project, the researchers mainly collected data on the catchment area and developed a bundle of possible strategies, instruments and technologies for sustainable water resources management that were tested in pilot projects. In phase three, the aim is now to enable decision-makers and other relevant stakeholders to bring together the knowledge and experience gained with regard to sustainable water management, translate it into concrete management concepts and measures and institutionalize it. For example, a newly founded German-Iranian Training Center, is jointly developing practice-oriented training offers, in order to permanently meet the demand on skilled labor in the water sector. New training formats such as professional skills competitions are also employed: teams from water and wastewater companies

demonstrate their technical and professional skills in mutual competition. The exchange between German and Iranian trainers encompasses more than just on-site training, it also includes cooperation via modern digital media. In addition, various formats of international expert exchange will be examined, such as operator partnerships.

The sustainable management of the Zayandeh Rud catchment area will be supported by computer-aided models feeding into a decision support system. The project partners have already set the foundations for this in the second project phase. The decision support system is now to be further developed and put into practice.



Skills competition in January 2020 in Isfahan

### Improving the Resource Situation in the Long Term

The joint activities of the project partners are to go hand in hand and support the water policy in Iran in the long run. Thus, aspects of European water legislation will also be incorporated, such as the development of management plans for river basins. The responsible institutions should use the decision support system for water policy initiatives in the long term. In this way, the project participants want to promote the concept of integrated water resource management in and beyond the catchment area of the Zayandeh Rud throughout the country.

#### Funding Measure

Integrated Water Resource Management:  
From Research to Implementation (IWRM)

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German-Iranian Training Center for Water and Wastewater Management  
Iran Water Resources Management Company  
Isfahan Agricultural Organization  
Isfahan Regional Water Company  
Isfahan Water and Wastewater Company  
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