

DROUGHT CONDITIONS AND MANAGEMENT STRATEGIES IN IRAN

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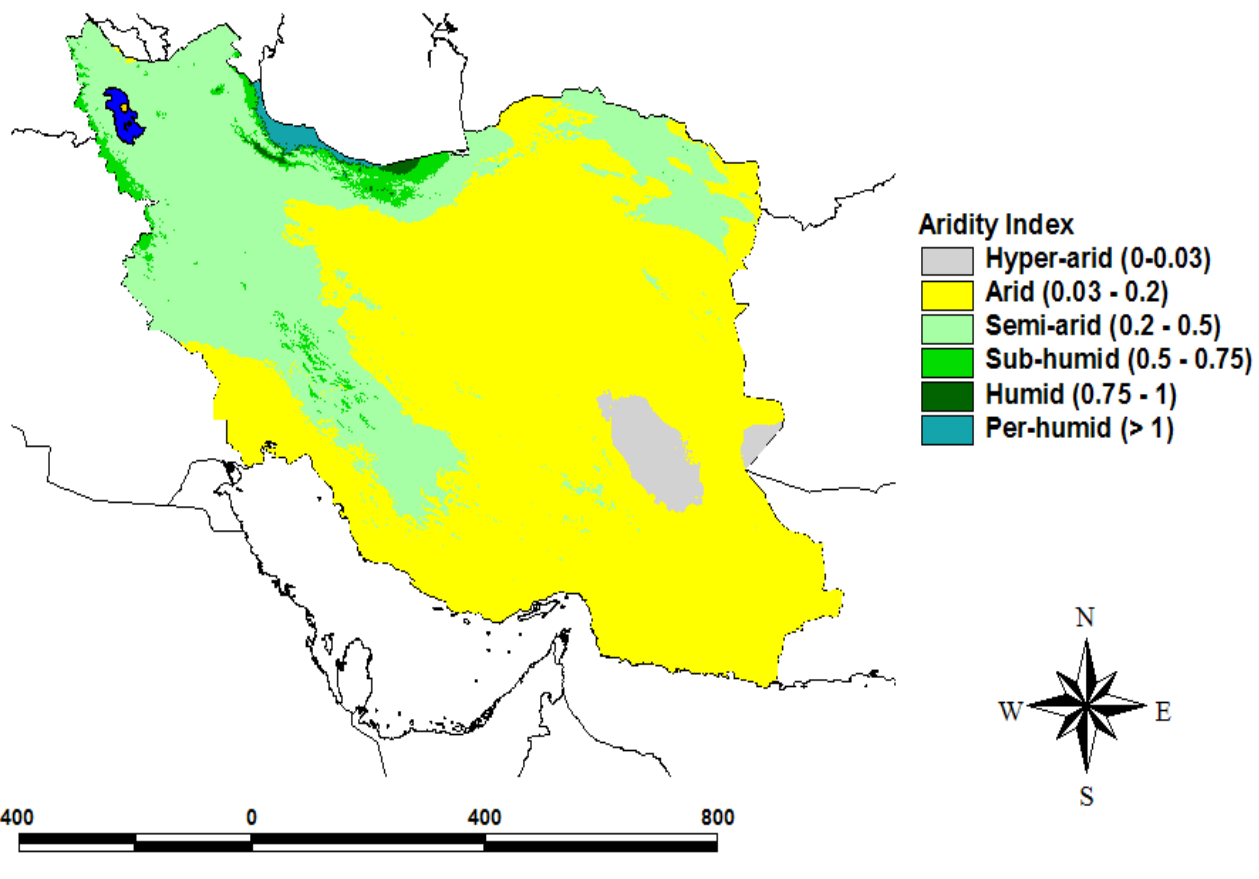
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IRAN DROUGHT STATUS

- ❖ **Iran, with an area of 164 million hectares is located in arid and semi-arid sphere in the world.**
- ❖ **Annual rainfall distribution indicates that 74% of the country (122.5 million hectares) benefits less than 200 mm rainfall**
- ❖ **Distribution is variable and non-uniform; while merely 10 percent of rainfalls occur during hot and dry seasons**
- ❖ **Considering that almost 70 percent of precipitation evaporates, any measure concerning natural resources in watersheds.**

IRAN DROUGHT STATUS

- ❖ **Now, out of 609 plains in the country, 353 are in crisis situation due to uncontrolled exploitation of underground water resources.**
- ❖ **In drought incident in 1999, Management and Planning Organization estimated the costs of such impacts to be (\$1.25 Billion) of which more than 80 percent constituted damages of crop, ranges and livestock. According to the latest estimate, total damages to national economy resulting from drought during 1998-2001 were over (\$7.5 billion).**

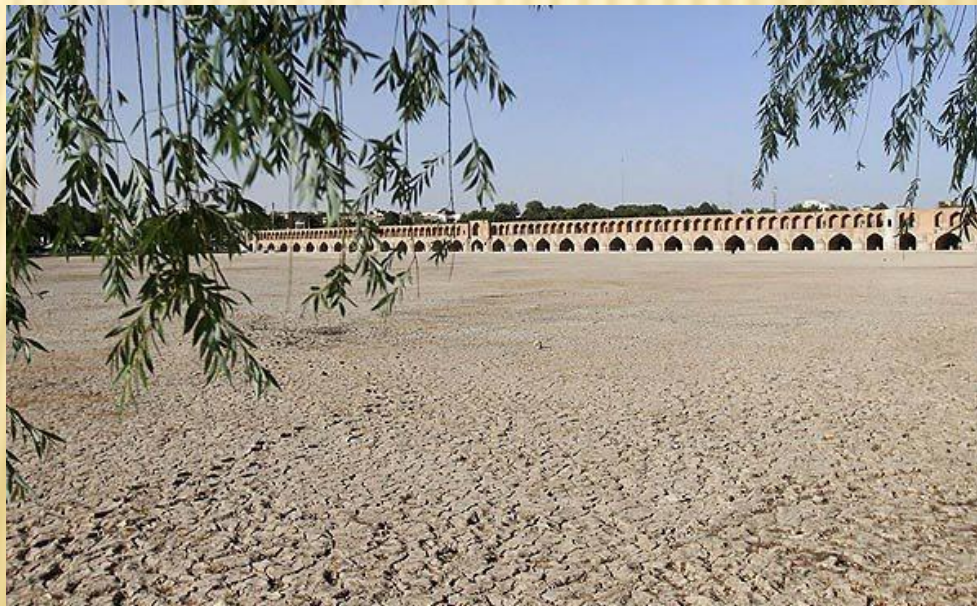


Aridity classes in Iran

rainfall volume bm ³	evaporation bm ³	renewable water resources bm ³	Accessibl surface waters bm ³	aquifers' feeding bm ³
413	283	13	92	38

Aaverage water balance of Iran(30 years)

DROUGHT



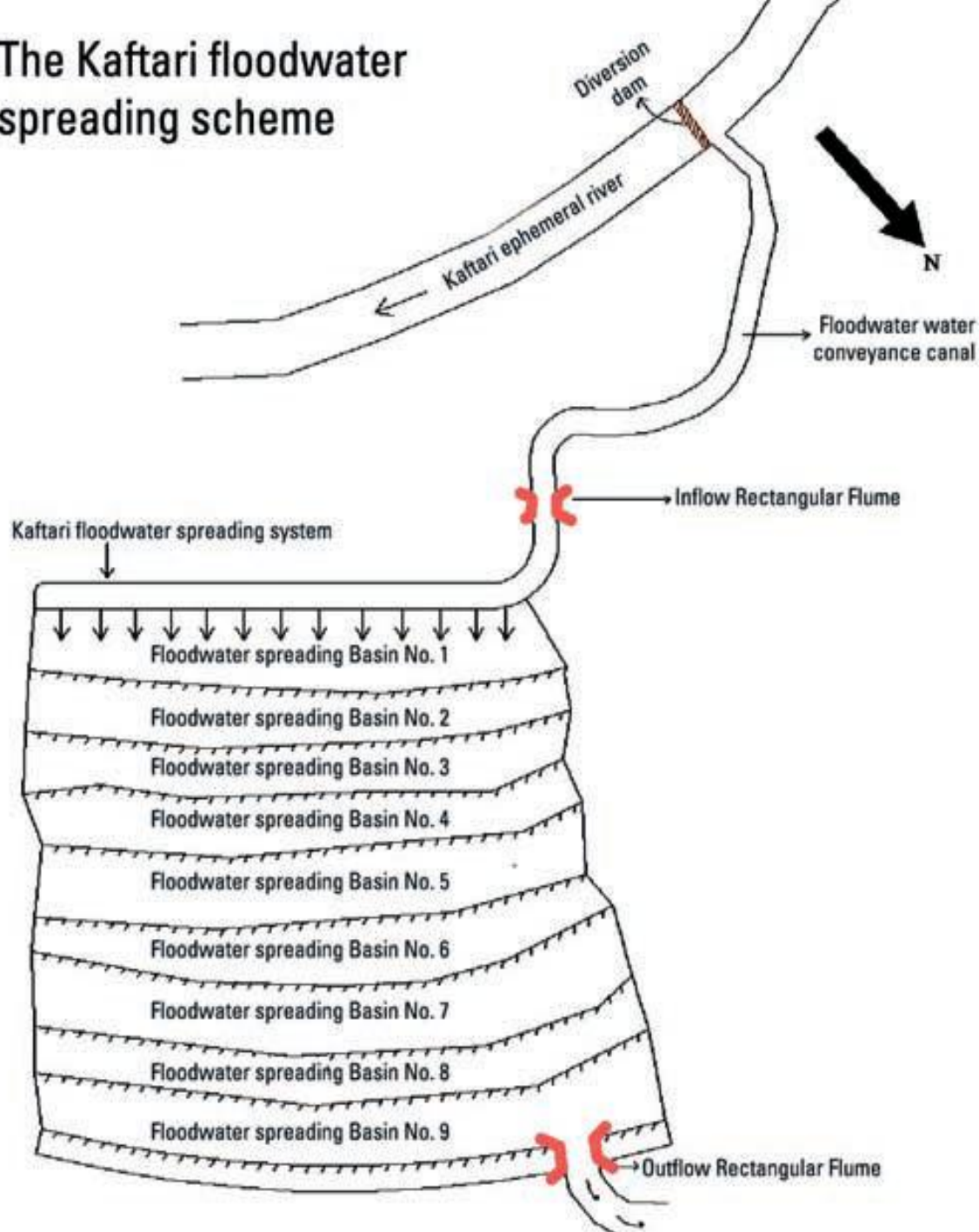
THE MAIN MANAGEMENT PROCEDURES

- ❖ Establishing of National Drought Warning and Monitoring Center (NDWMC) in light of control, monitoring and combating adverse impacts of drought. there are 7 main ministries involve in the center.
- ❖ Due to repeated drought, the government implemented aid and rescue program in 2003.
- ❖ Aid and Rescue Program in 2003 was approved as part of the third five year development plan. Natural Disaster Task Force was established in 1996
- ❖ The government provided in-water pumps and water purification and supplied food and forage. Water Police was appointed to supervise water consumption and prevent loss of rare resources.
- ❖ The most important issue in drought risk management is Agricultural Product Insurance Fund. Product insurance started in 2005.
- ❖ providing long term loan and subsidies to farmers for increasing adaptation and control the risk .

THE MAIN MANAGEMENT PROCEDURES

- ❖ For effective operation management, drought combat activities the knowledge regarding integrated watershed management shall develop and there should be coordination at national and provincial levels among relevant organizations in different levels.
- ❖ Empowerments of farmers and the beneficiaries so that they can adopt proper technology to follow sustainable agriculture principles. There is need for proper technologies, management measures and technical expertise within national strategy framework of drought preparedness.
- ❖ Agricultural Research and Training Organization has 24 research centers and capable of active involvement in implementation of long term research programs for drought management.
- ❖ Improving traditional knowleg like qanat water network system ,under ground dam, resycling the use water and etc .Are a proper methods to access underground water resources for irrigation and supply of potable water.

The Kaftari floodwater spreading scheme



PRACTICES IN IRAN

Larestan site,
Inflow water: 886000 m³
Outflow water: 146000 m³
Infiltration rate: % 83.5

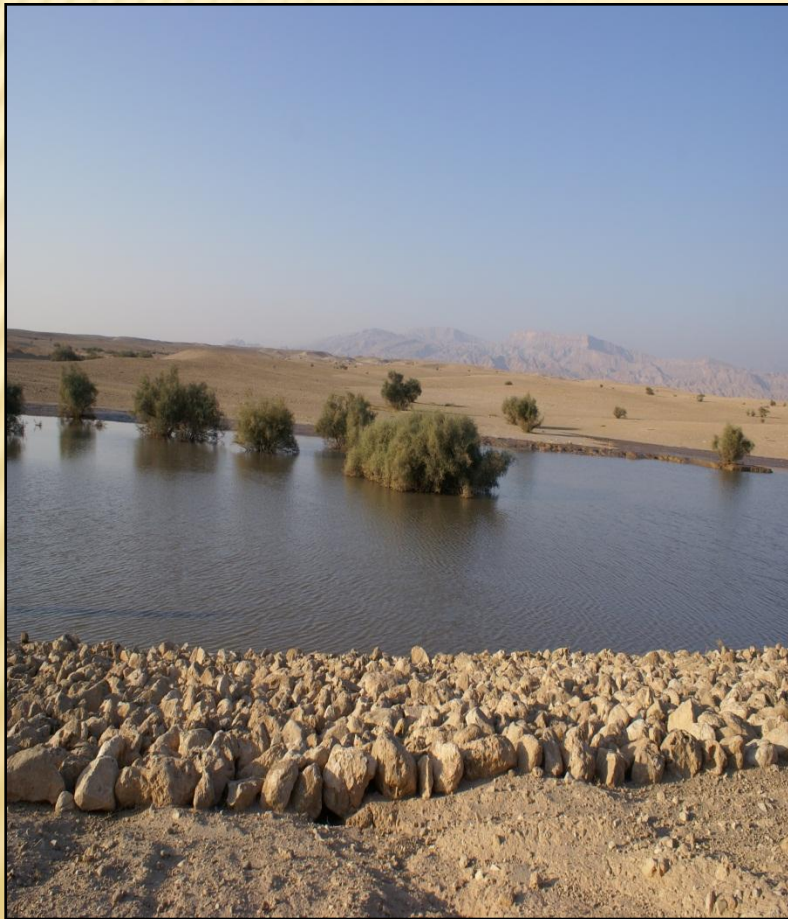
Strategies for Managed Aquifer Recharge (MAR) in semi-arid areas

UNESCO's International Hydrological Programme (IHP2005))

PRACTICES IN IRAN



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Thanks for your attention