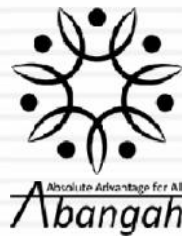
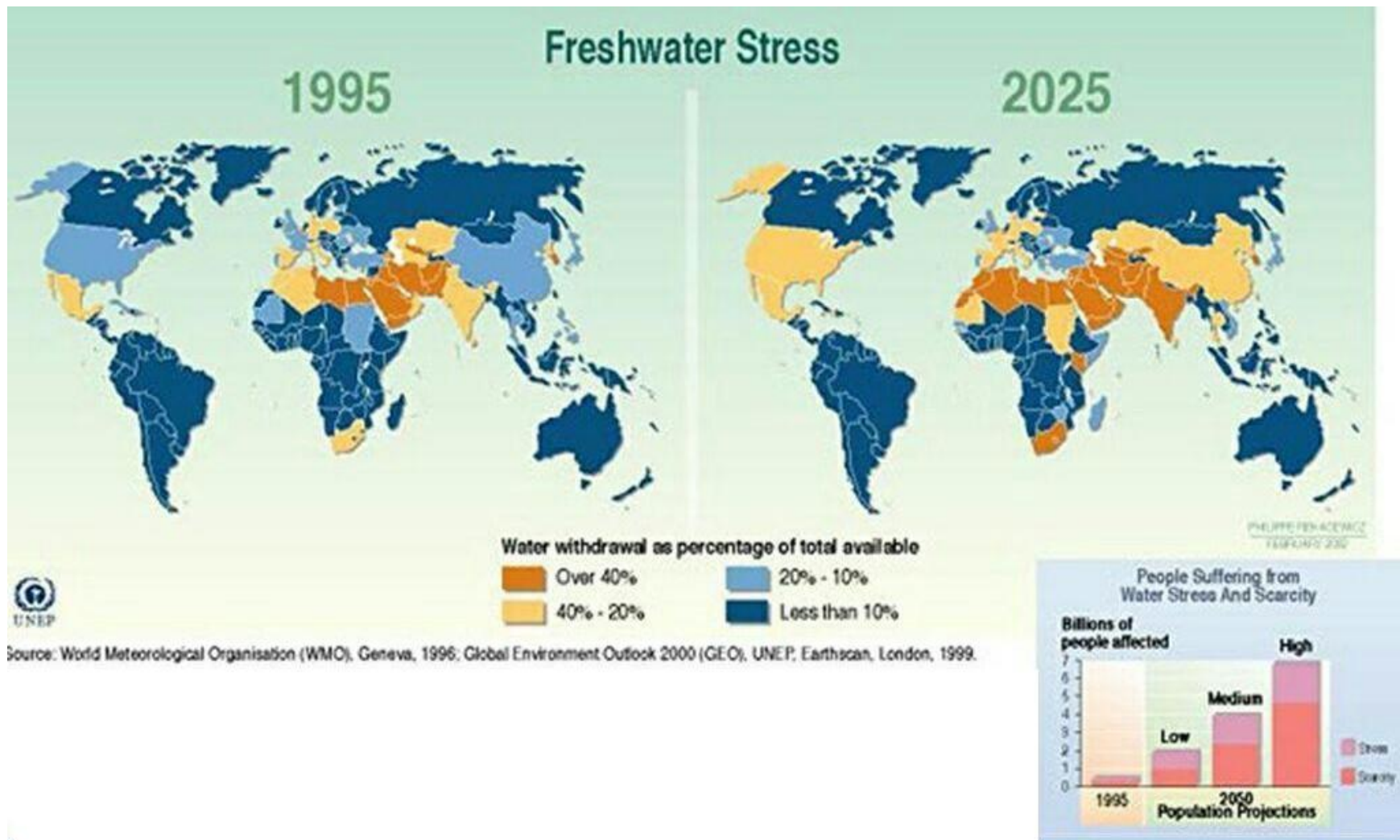


Sustainable Groundwater Management “Challenges and Solutions”

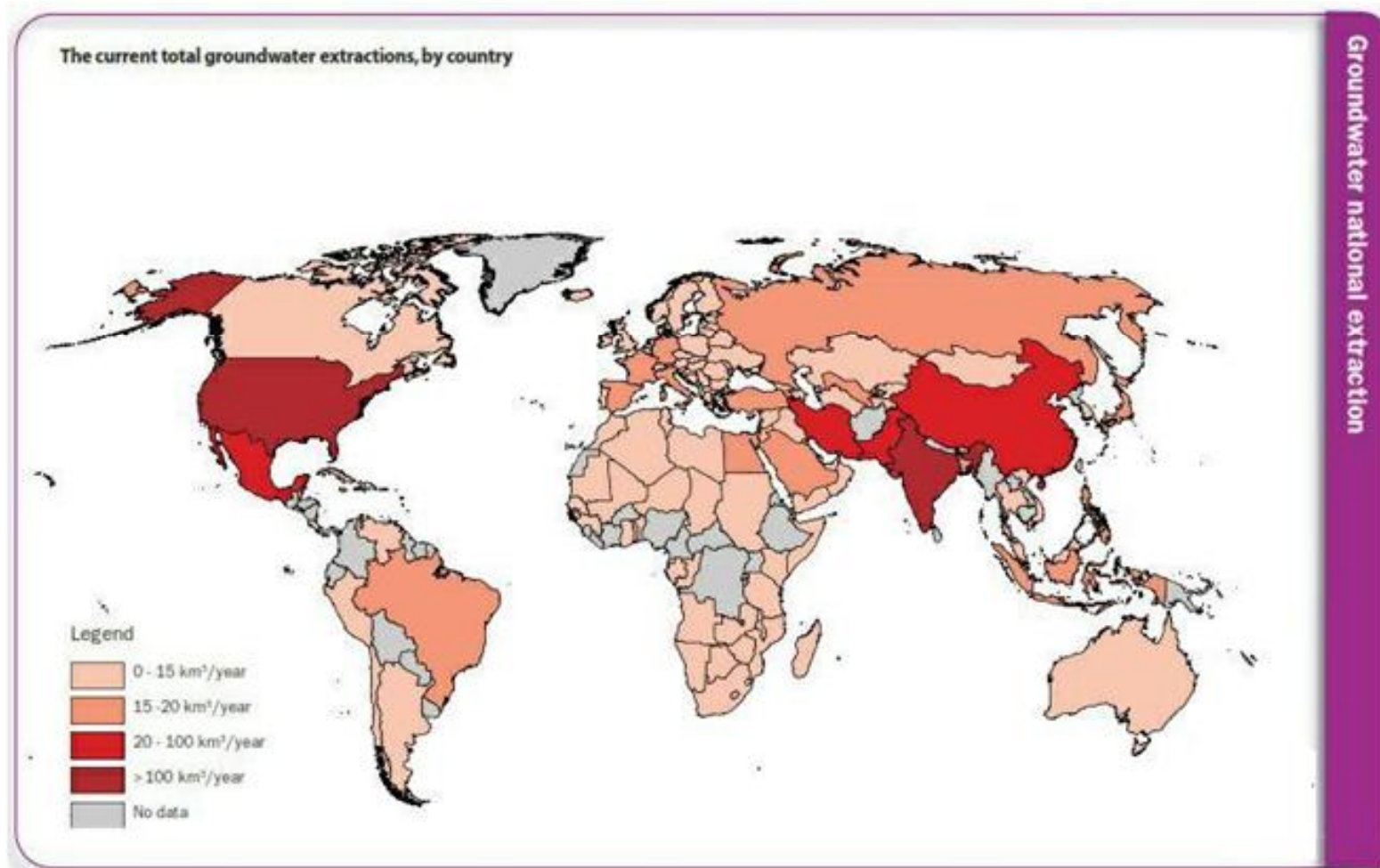


Mohammad Behnam Rassouli

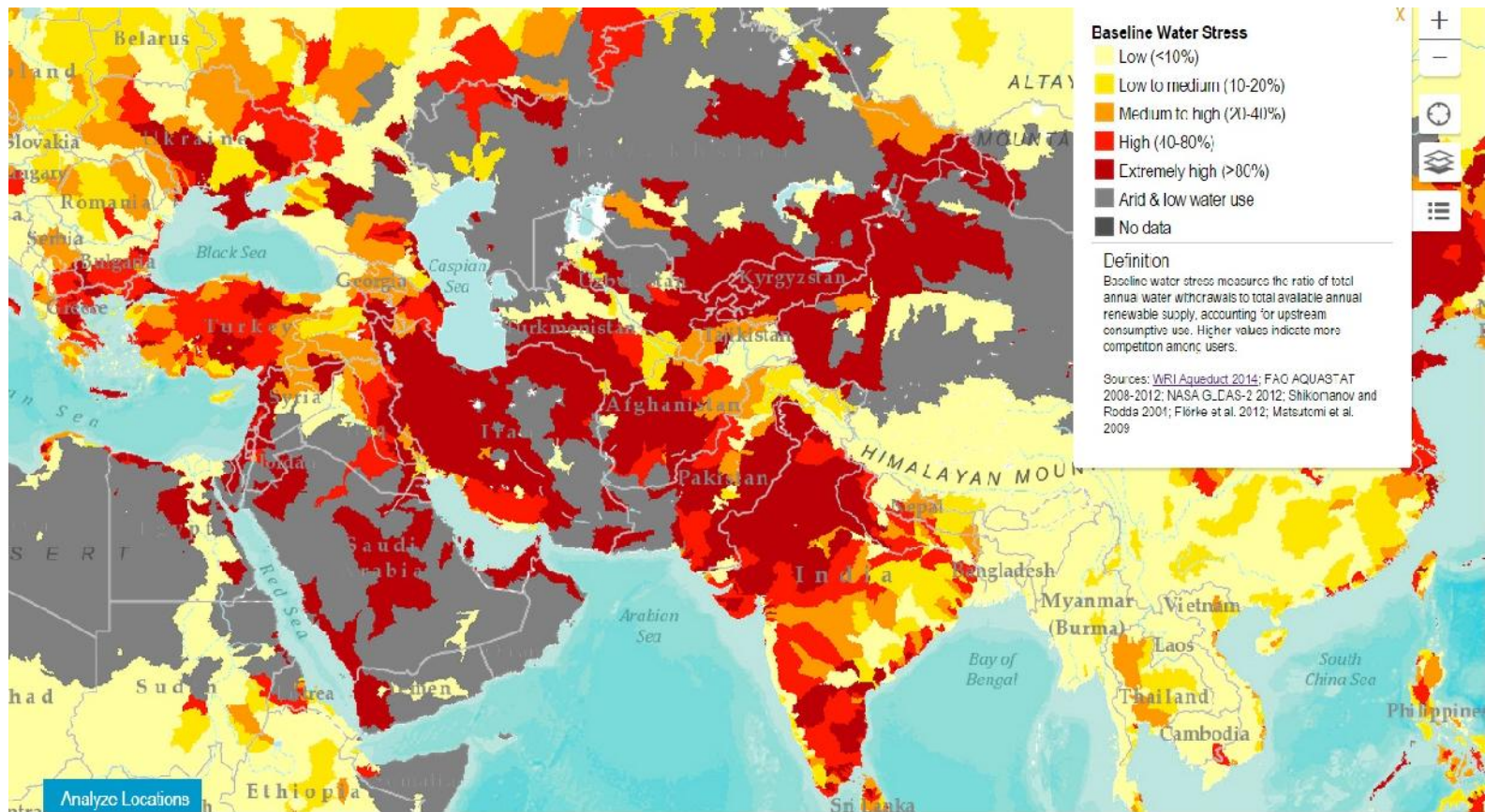
The 'Big Picture' – Global Water Stress Levels



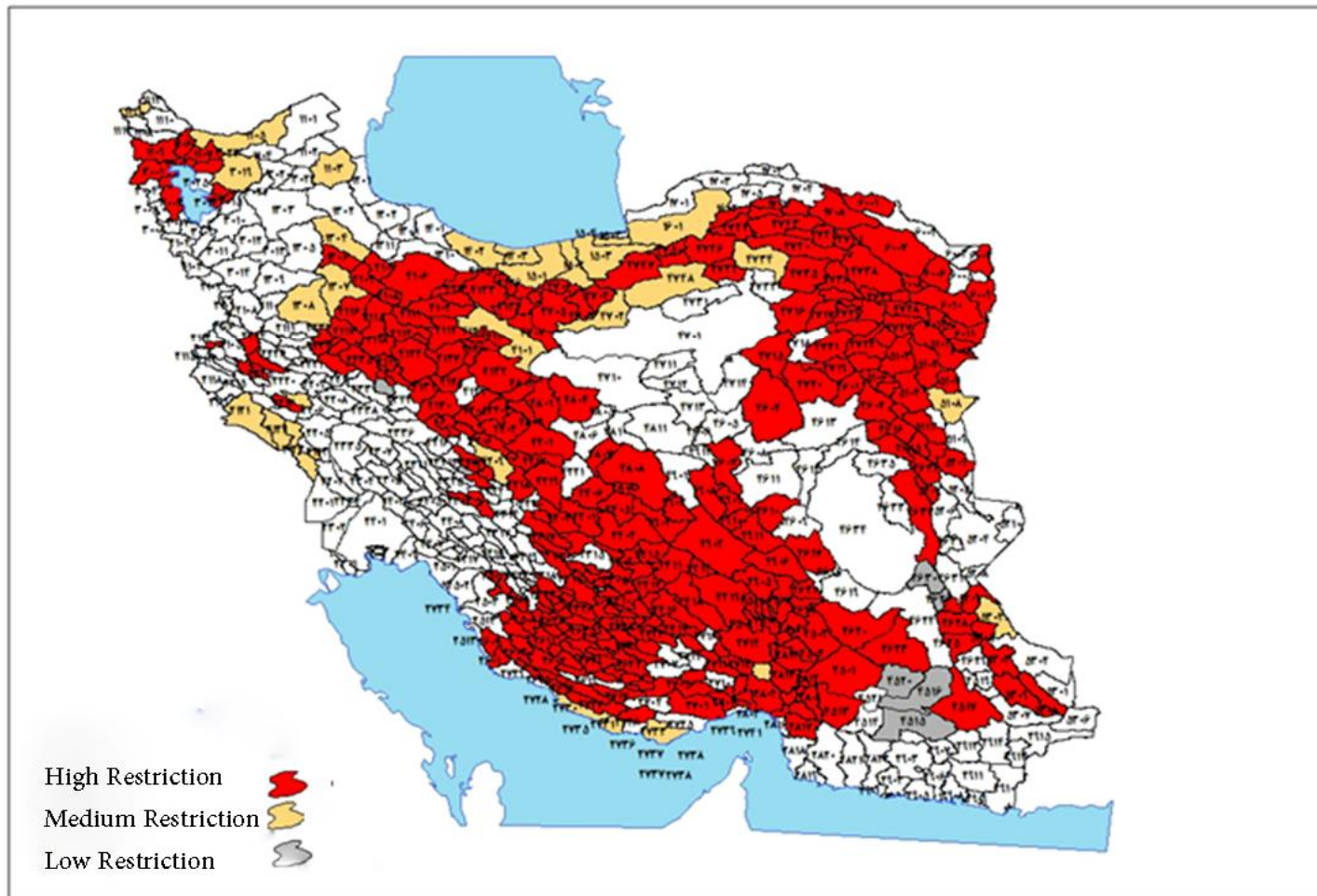
Groundwater Resources (Recharge & Extraction)



Water Stress in MENA Region



Groundwater Crisis in Iran – Intensity By Region

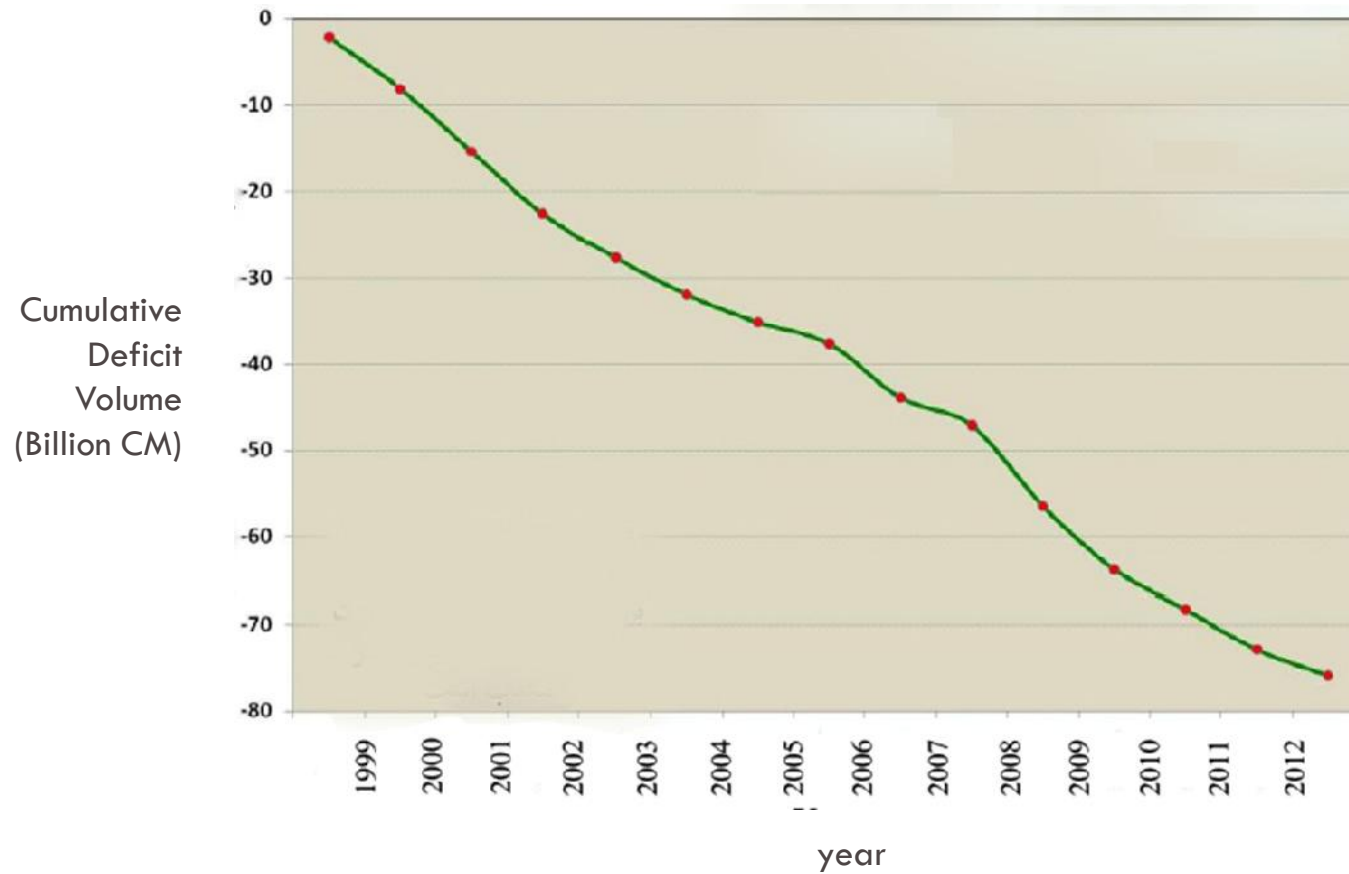


Groundwater crisis in Iran – Land Subsidence

Land Subsidence in Iran Plains	
Region	(mm/year)
Tehran Plain	250
Varamin Plain	200
Mashhad plain	300
Neishbour plain	120
Kashmar plain	300
Savojbolagh plain	220
Ghazvin plain	240
Golpayegan plain	120
Zarand Plain	250
Behraman plain	300
Rafsanjan plain	300

The stress threshold in EU is 4 mm/year!!!

Groundwater Crisis in Iran – Deficit Trend



Solutions - Dimensions



Groundwater Rebalancing Plan

Approaches

Production and accuracy of data and information on recharge sources and extraction of aquifers

Controlling and monitoring on exploitation of groundwater

Sociocultural Capacity Building and Social Impact assessment

Artificial recharge and watershed management

Public Awareness Raising and Social Impacts Assessment

- ✚ National activities are mostly focused on TOTs and Media
- ✚ Regional activities (Provincial) are composed of:
 - Researches and Studies (actor analyzing and ...)
 - Activities and projects (regional and in plain scope such as meeting with stakeholders and ...)
- ✚ Social impact assessment and management is aims to ensuring the success and sustainability guarantee

Stakeholders Participatory Management

Stakeholder Participatory management is following:

- + Empowerment of local stakeholders
- + Establishment of local organizations for sustainable groundwater management
- + Sharing some government roles with Local organization to gain sustainability

