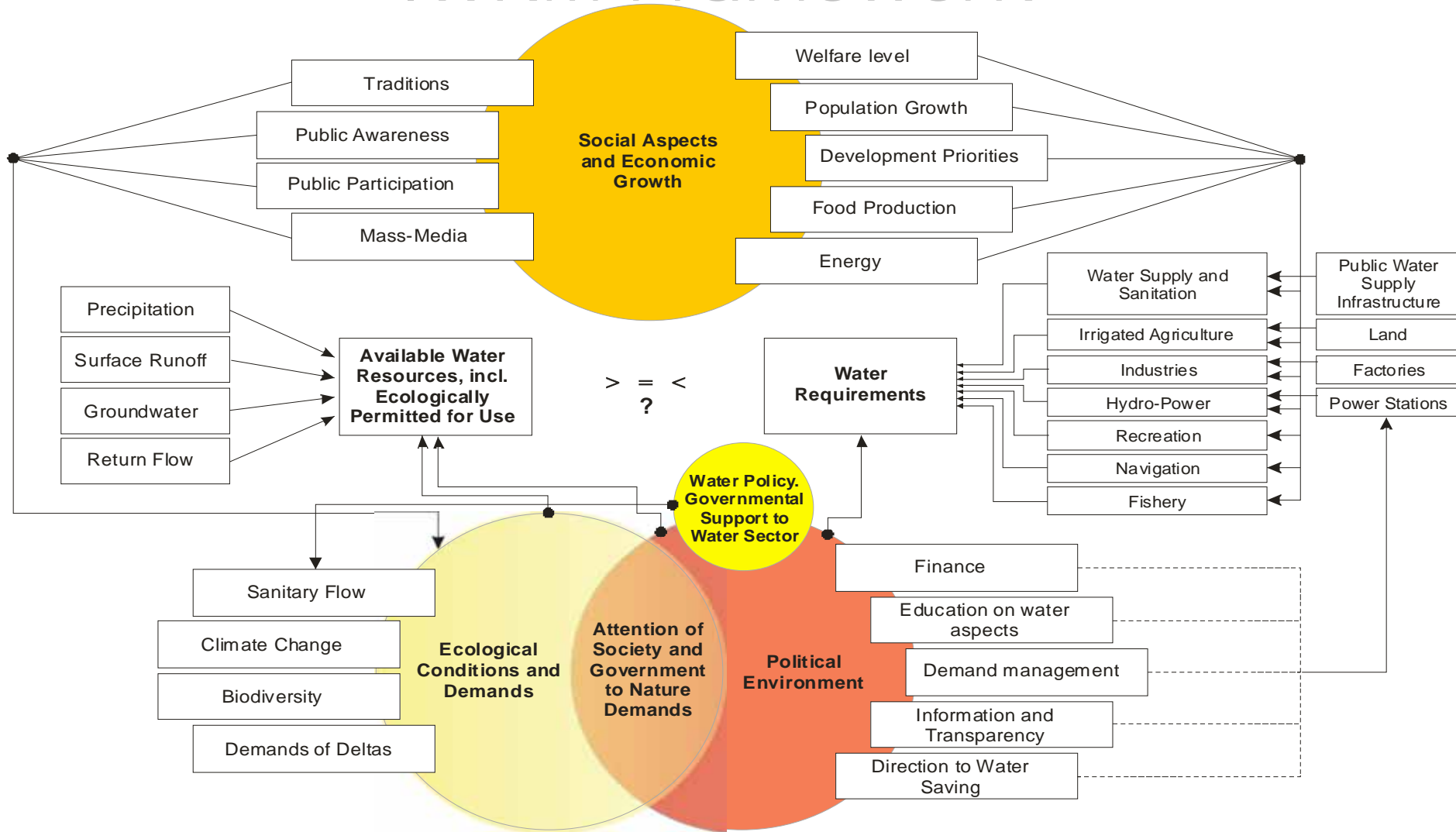


The Key elements of the IWRM Concept for Central Asia

Vadim Sokolov, Victor Dukhovny

**World Water Forum – 4
MEXICO
March 2006**

Interacting Factors within the IWRM Framework

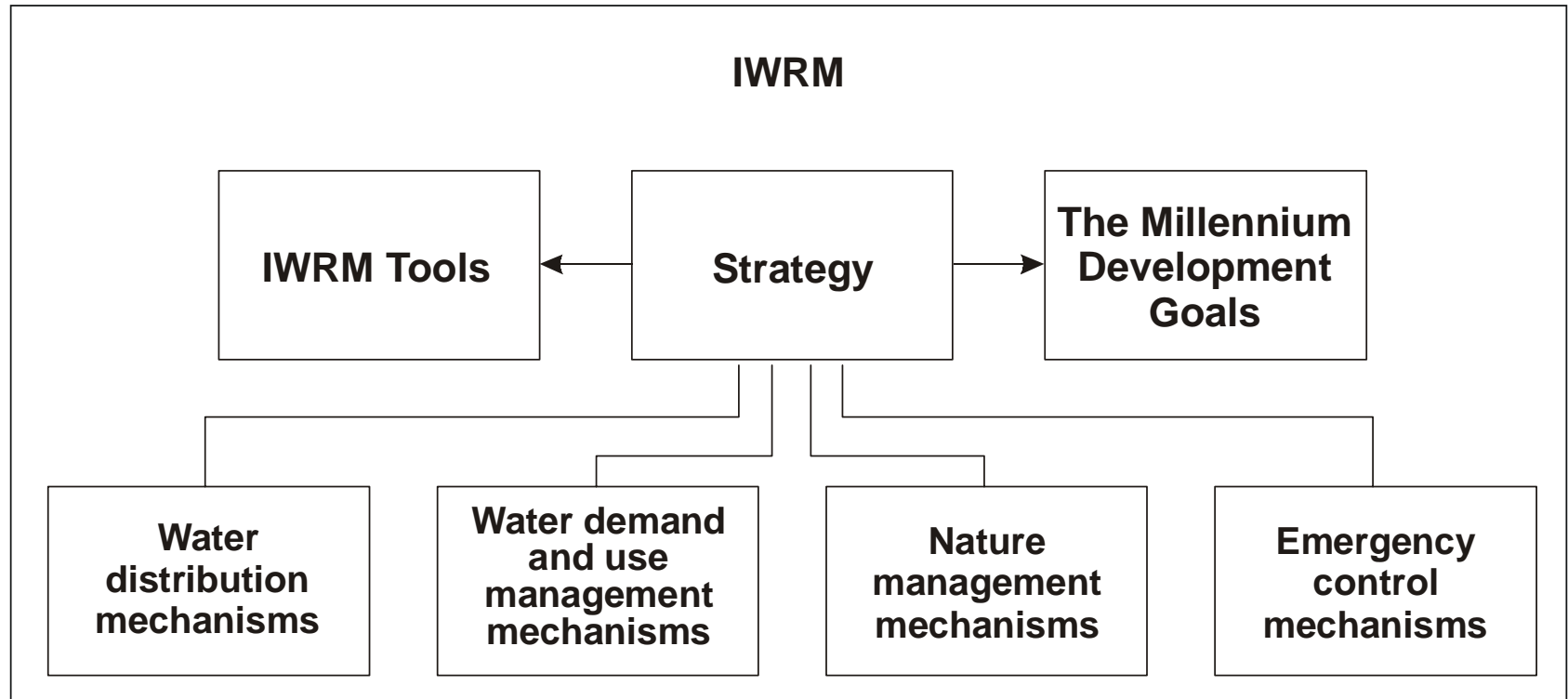


Definition of IWRM

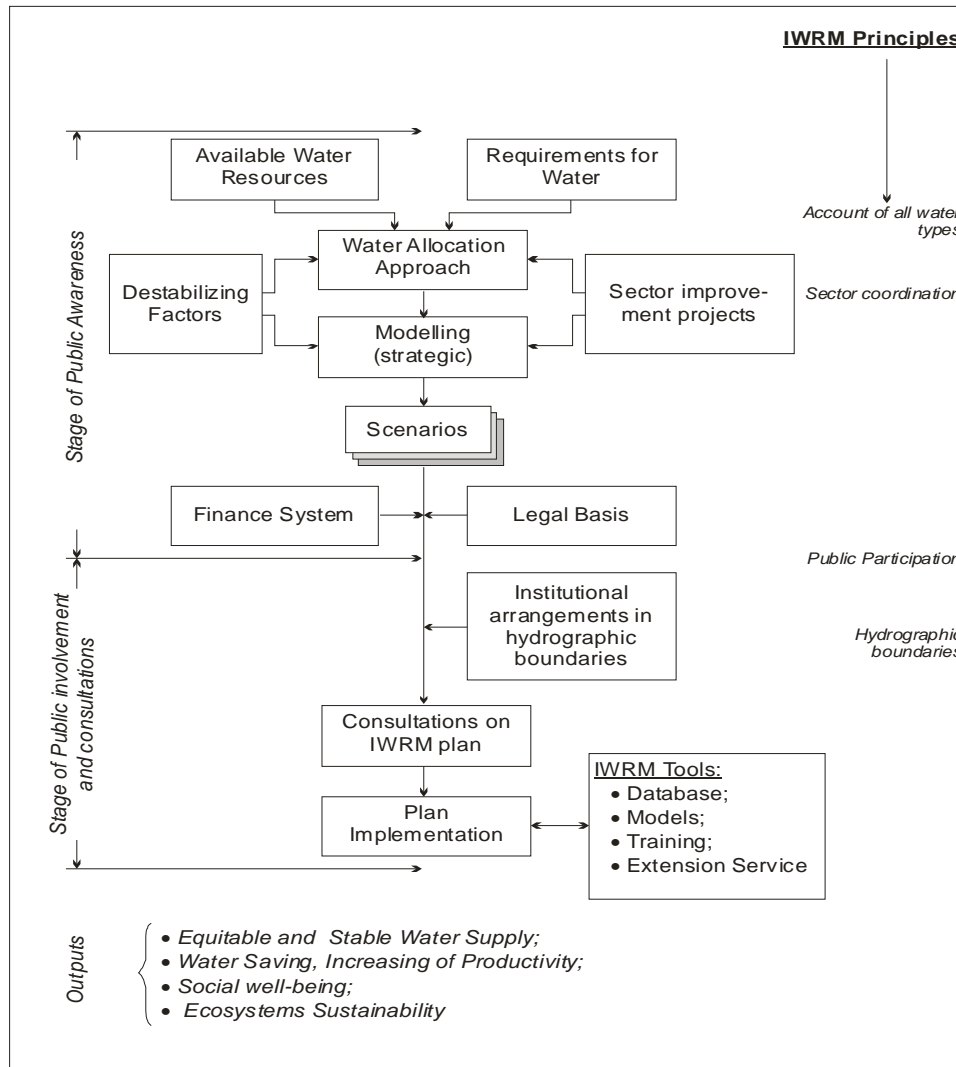
“IWRM is the management system based on consideration of all kinds of water resources (surface water, groundwater, and return water) within hydrological units that coordinates interests of different economic sectors and hierarchical levels of water use, involves all stakeholders into decision-making, and promotes efficient use of water, land and other natural resources for the sake of sustainable satisfying water requirements of eco-systems and human society”

Note: This definition is different from given by GWP in TEC Paper # 4, 2000

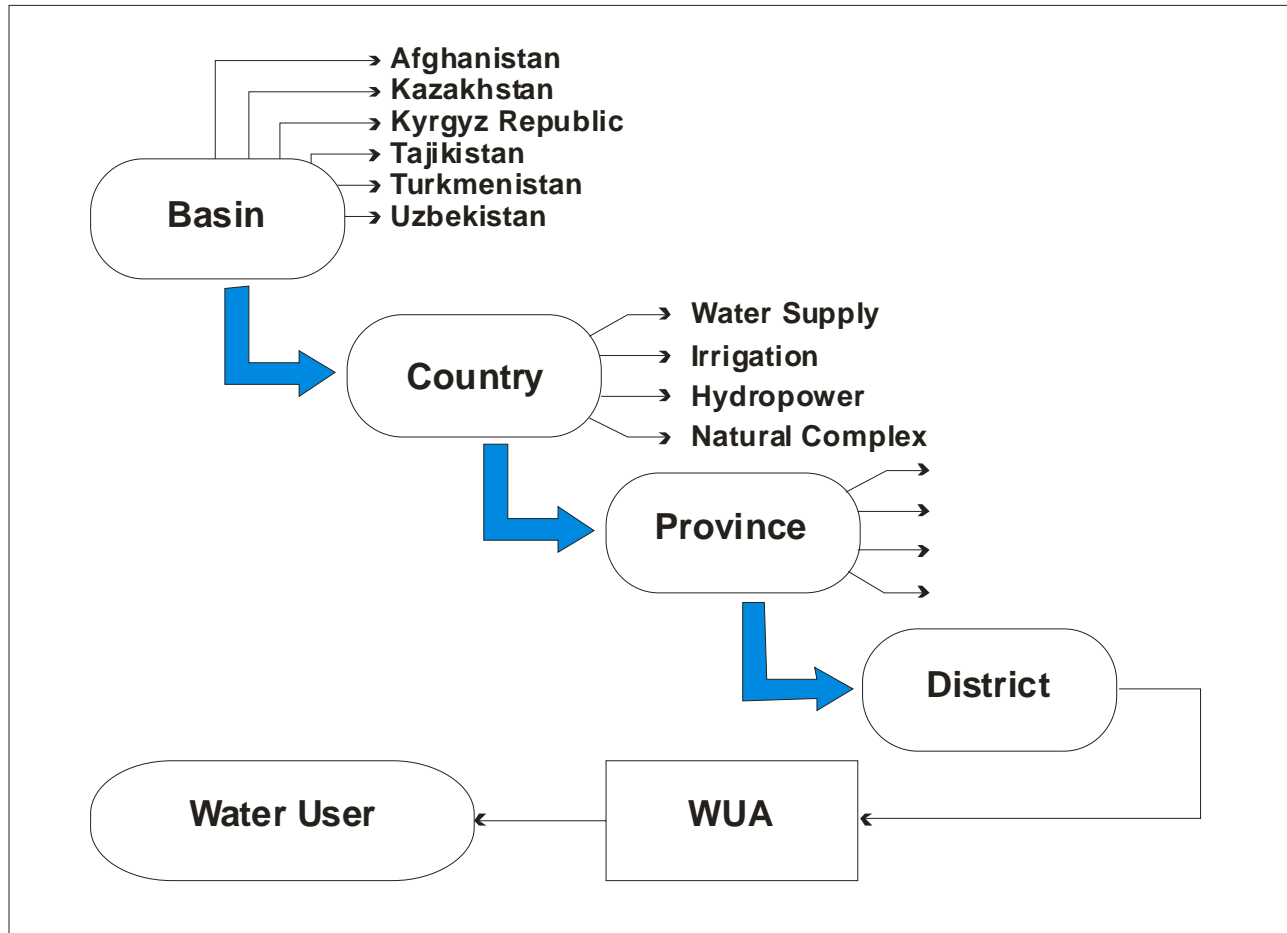
The System of IWRM Development



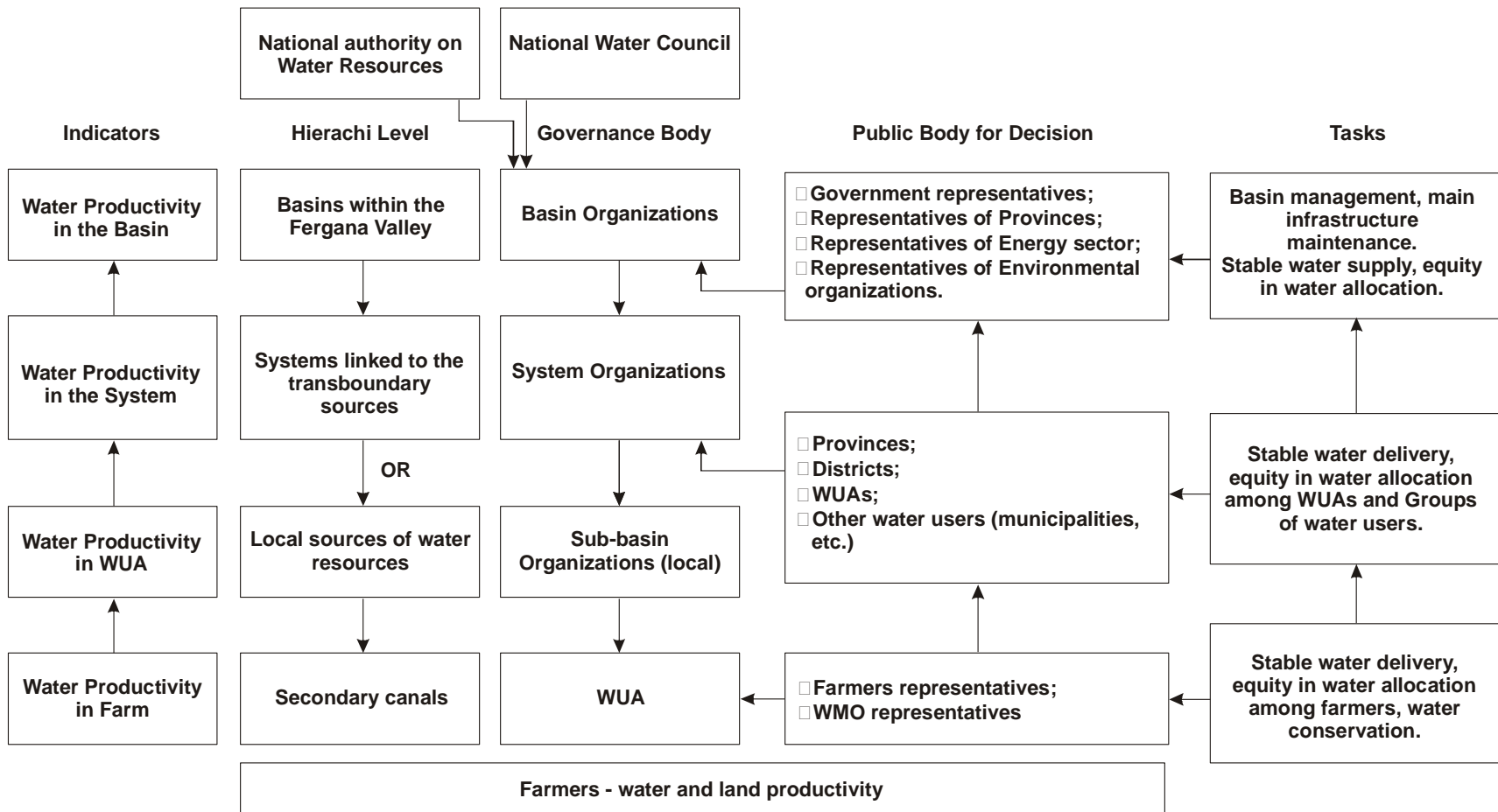
Steps in National IWRM Planning



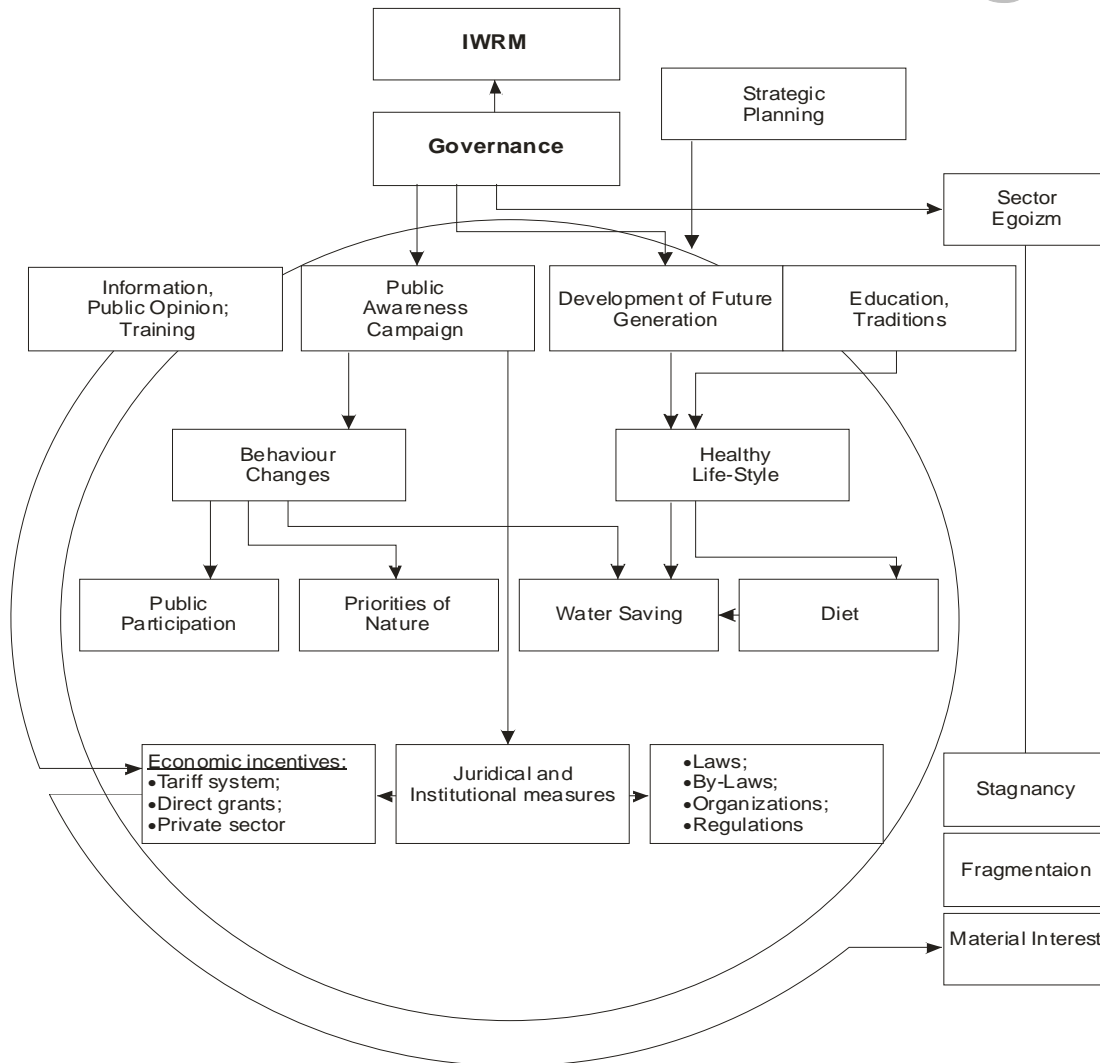
The Hierarchical Levels of Water Management



Hierarchical Levels and Institutional Links among Them



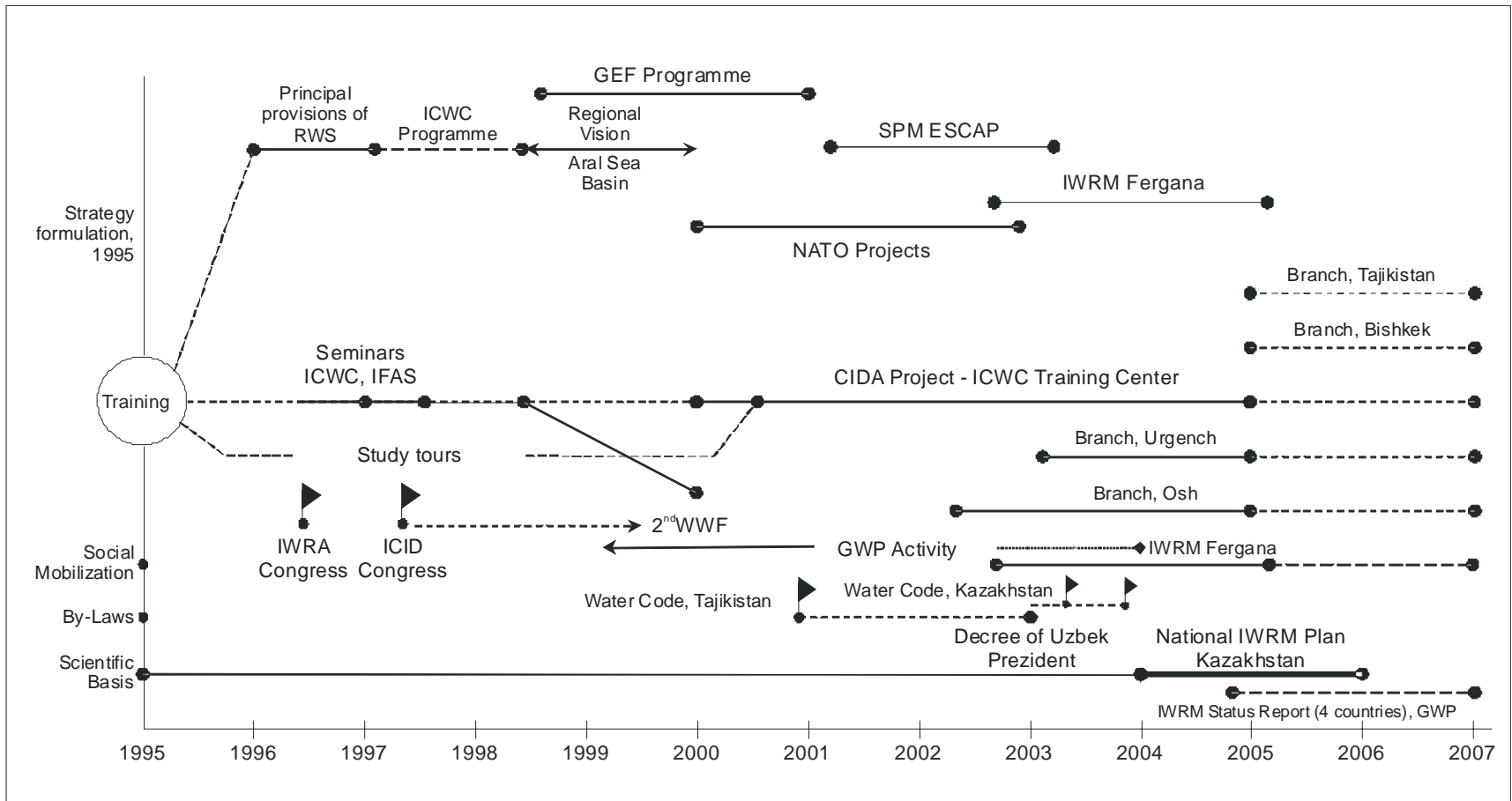
Interrelations between Governance and Management



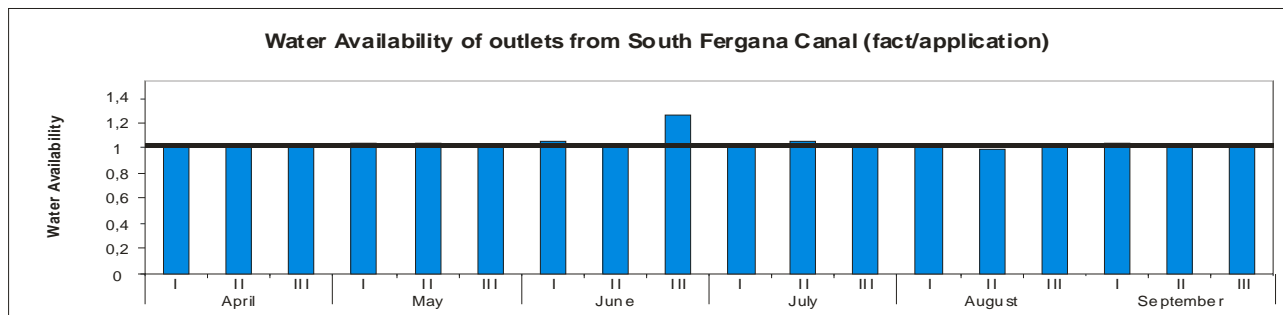
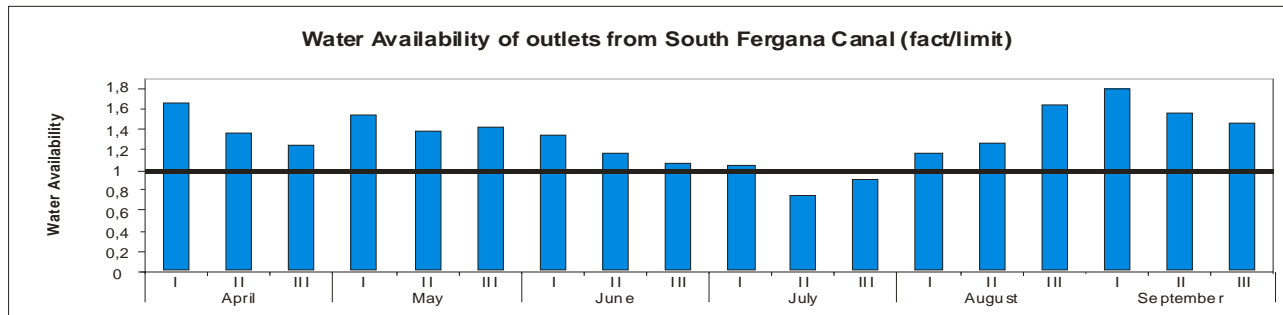
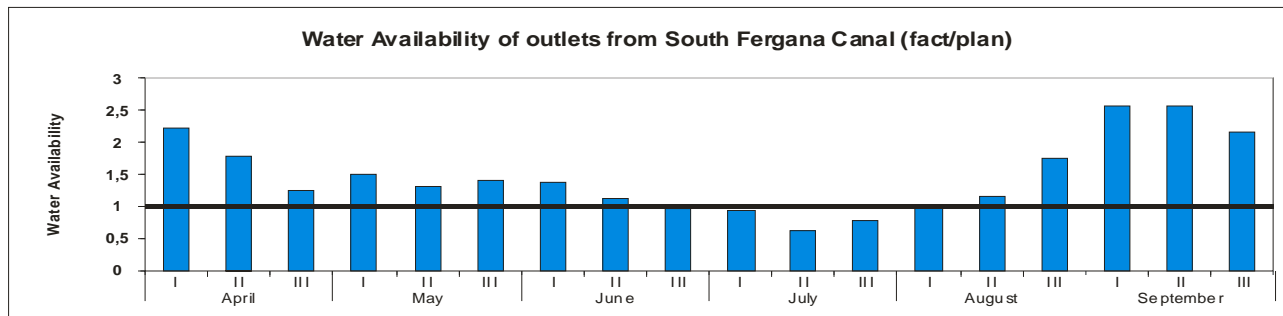
Causes for Water Productivity Losses and Mitigation Measures

Hierarchical level	Type of cause	Mitigation measures	
		Type	Brief description
Basin	Instability of head intake and water disposal due to the following causes:		
	• Political tensions;	legal	Water Law, Agreements, Negotiations
	• Breach of the water supply schedule;	Institutional	Establishing a proper governance system or developing the regulations
	• Excessive water diversion at upstream intakes;	legal	Agreements and negotiations
		technical	Distribution accuracy due to applying SCADA
	• Underestimate of water losses at upstream river sections	technical	Monitoring and evaluation of flow rates and water losses
	• Unstable flow modes in rivers	technical	Runoff control, use of drainage water
• Uncontrolled water distribution	technical	Improving the water management system	
Irrigation system	• Lack of the system of water resources planning, distribution and dispatching	technical	<ul style="list-style-type: none"> Developing and putting operational rules into practice Drafting the plan and its adjustments
	• Lack of water distribution discipline	technical	<ul style="list-style-type: none"> Regulations for water monitoring and records Introduction of the GIS and water use plans
	• Water over-diversion against schedule	organizational, economic	<ul style="list-style-type: none"> Applying of penalty provisions Proper governance
	• Lack of water keeping records	technical	<ul style="list-style-type: none"> Improving the water monitoring system Introduction of the SCADA Establishing the management information system
	• Lack of the proper water distribution procedures	technical	<ul style="list-style-type: none"> Introduction of water rotation Use of all types of water resources

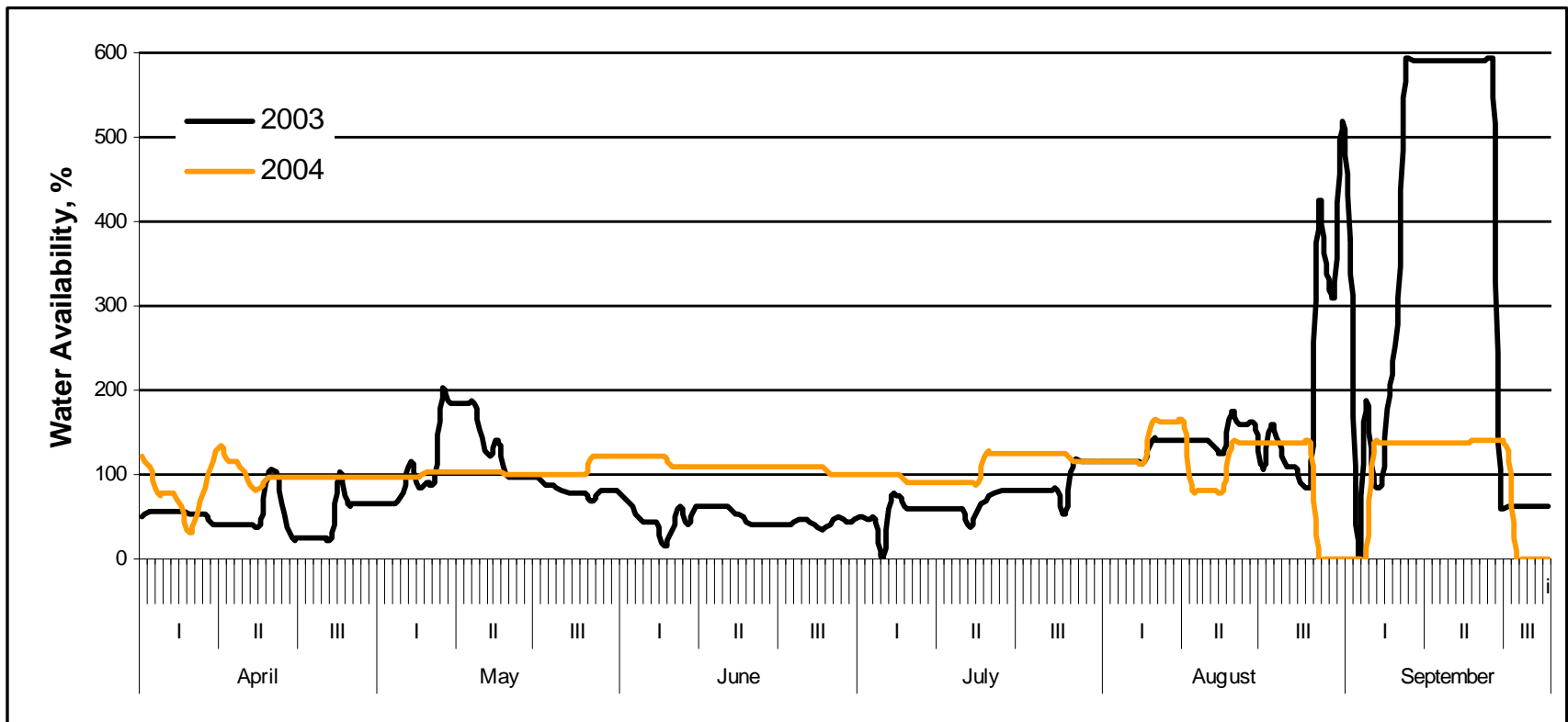
Timeframe of the IWRM process in Central Asia



Stability of Water Supply – is the Key Target for IWRM (1)



Stability of Water Supply – is the Key Target for IWRM (2)



Variability of daily water supply along the canal "RP-1" within the WUA "Akbarabad"

THANK YOU !!!

Additional information:

www.iwrm.icwc-aral.uz

vadim@icwc-aral.uz