

Adaptation in water sector in Central Asia: regional, national and local policy solutions

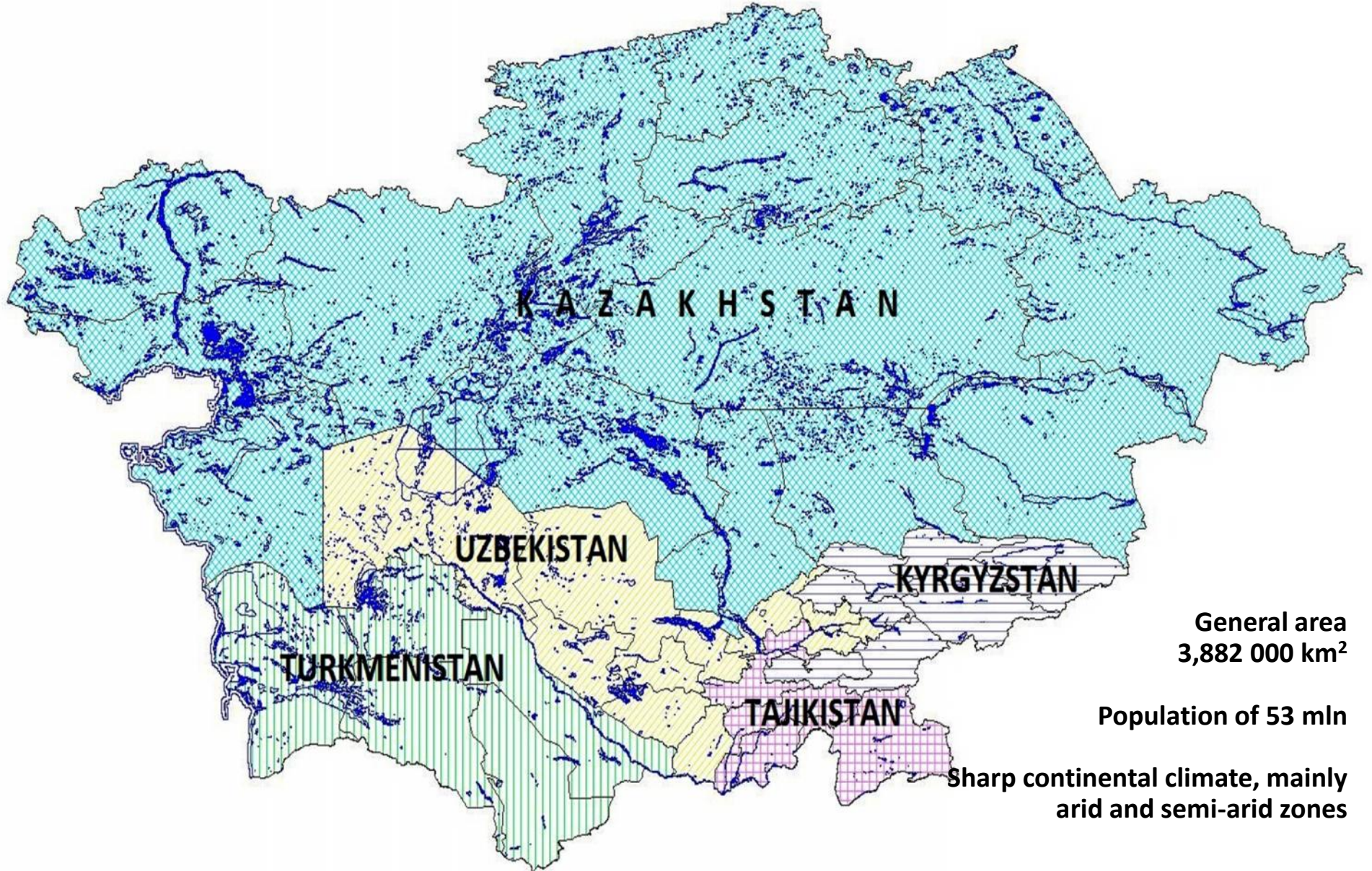
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Central Asia

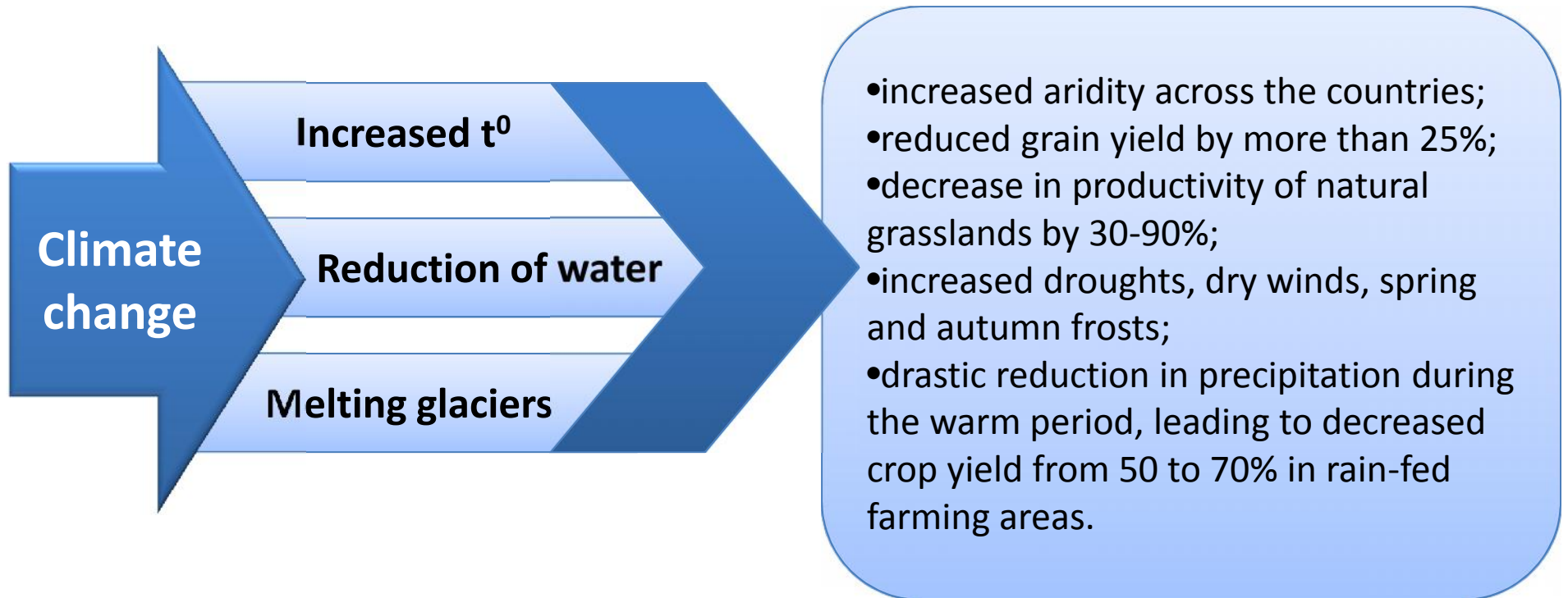


General area
3,882 000 km²

Population of 53 mln

Sharp continental climate, mainly
arid and semi-arid zones

Climate change effects



Increased air temperature ($^{\circ}\text{C}/10$ years):

Kazakhstan - 0.26°C (1936–2005)
Kyrgyzstan - 0.08°C (1883–2005)
Tajikistan - 0.10°C (1940–2005)
Turkmenistan - 0.18 (1961–1995)
Uzbekistan - 0.29°C (1950–2005)

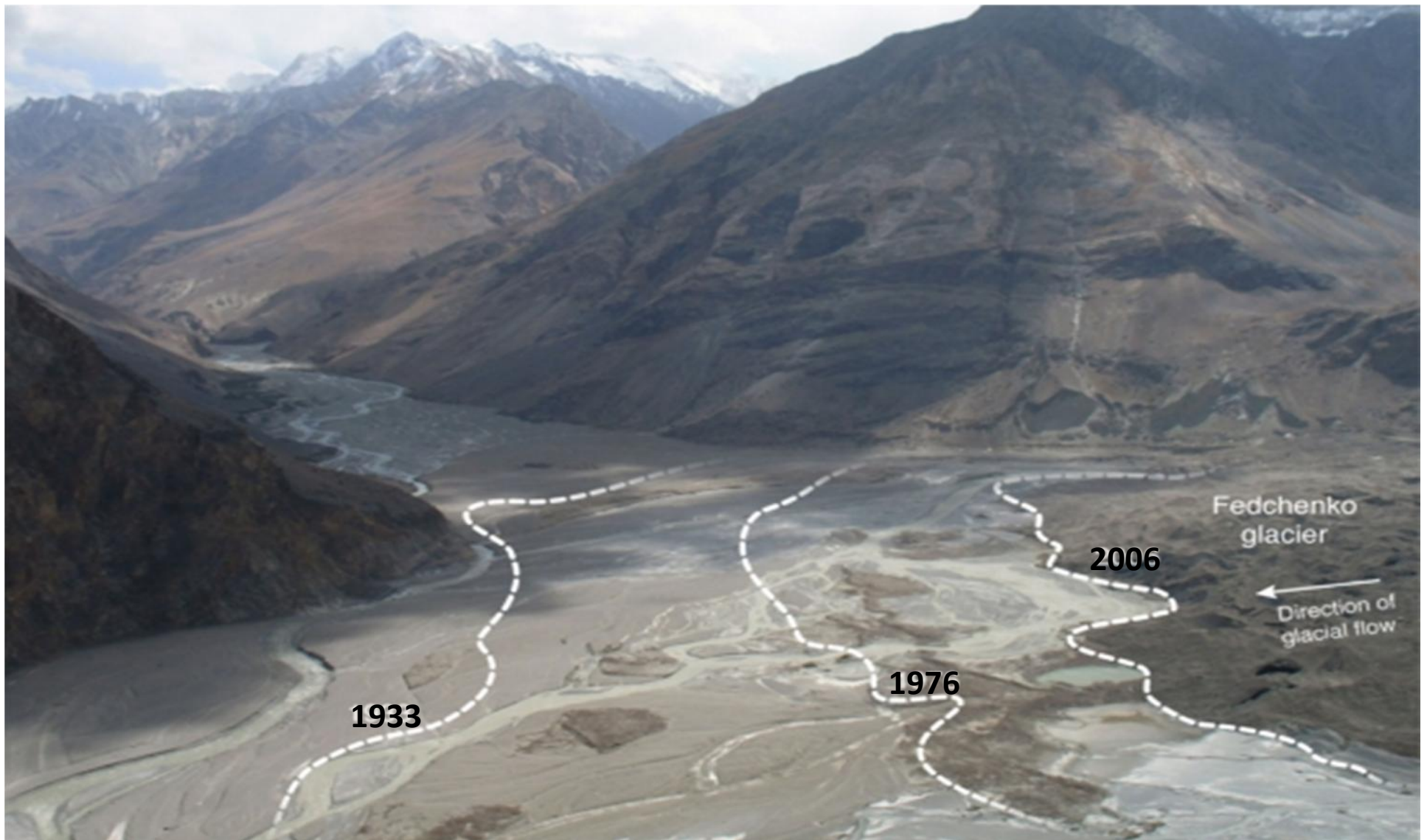
Reduction of water:

- Changes in precipitation
- Changes in soil moisture –
- Changes in hydrological regime of rivers
- Reduced river flows (by 20% in 50 years)

Melting of glaciers:

- During XX century the glaciers of Tajikistan decreased by 20-30%.
- Starting in 1930 the total area of glaciers of the Pamir-Alai decreased by 1/3

Degradation of Fedchenko glacier in Pamir, Tajikistan (1933-2006)



Main issues

- Major vulnerabilities arise in the water sector, due to changes in rainfall patterns, changes in inter-annual distribution of river flows, reduction in lake levels and melting of glaciers;
- Water-energy-agriculture nexus: the contested links between changes in hydrological regimes, water availability and regional security;
- USSR integrated system and infrastructure for the management of shared water and energy resources between the Central Asian states no longer exists;

Levels of cooperation

Level	Entry points
Regional	<ul style="list-style-type: none"> • Regional, multilateral political adaptation process (declaration, strategy)
Neighbouring countries	<ul style="list-style-type: none"> • Bi- or multilateral cooperation / agreements (e.g. on water, energy, environment)
National	<ul style="list-style-type: none"> • Regional adaptation programs and projects • National climate and adaptation strategies and projects
Sub-national / provinces	<ul style="list-style-type: none"> • Mainstreaming of climate change adaptation into existing national policies and regulations (e.g. (economic) development and security as well as foreign- and neighbourhood-policies)
Local	<ul style="list-style-type: none"> • Building institutions and capacities • Sub-national strategies and activities • Community-based adaptation projects and pilot projects

Regional cooperation

- **International Fund for Saving the Aral Sea (IFAS)**
 - attracts funds from regional and international donors (UN, WB) for projects aimed rehabilitating the Aral Sea and improving water and land management in the Aral Sea Basin;
- **Interstate Commission for Water Coordination (ICWC)**
 - determines annual volumes of water supply to river deltas and the Aral Sea, estimating annual releases into rivers and canals, and dealing with water conflicts;
- **The Interstate Commission on Sustainable Development of Central Asia (ICSD)**
 - regulates environmental protection issues including the issue of climate change impact on water resources.

National level

- **National programs, plans, concepts** (National Integrated Water Resources Management (IWRM) and Water Efficiency Plan (KZ), Water Sector Development Strategy (TAJ), The Water Saving and Rational Water Use in Irrigated Land Tenure Strategy (UZ));
- **Projects supported by the international donors**, (UNDP, SGP GEF, World Bank, ADB, USAID, GIZ and others) e.g. Water User Associations Support Program in Kyrgyzstan (USAID)

Adaptation at the local level through IWRM

- IWRM is a process which promotes the coordinated development and management of water, land and related resources in order to maximize economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems and the environment (GWP, 2003)
- IWRM includes approaches:
 - Participation of stakeholders
 - Inter-sectoral cooperation
 - Planning at a river basin level
 - Efficient water resources use

Basin Council as an instrument to develop IWRM

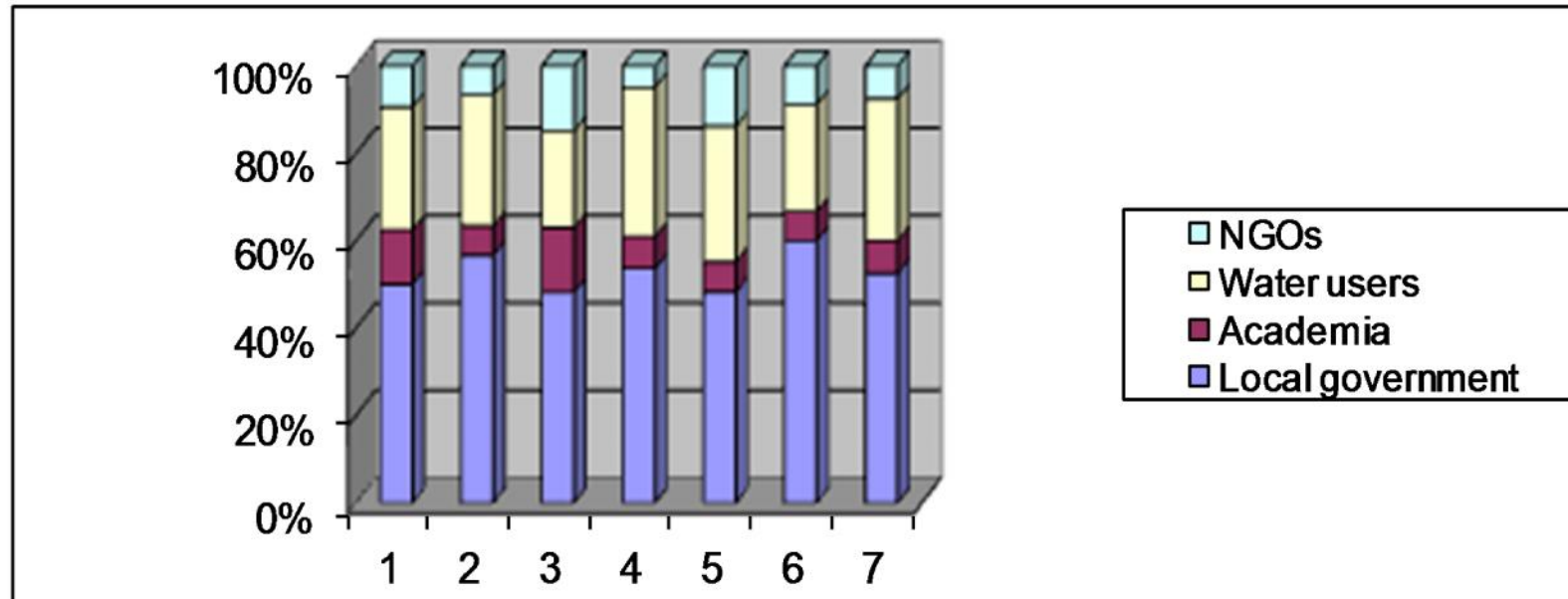
Basin Council is an **advisory body** established within the respective basin

- In international practice has the status of “Water Parliament” (exercising legislative functions within its competence)



How do basin councils operate?

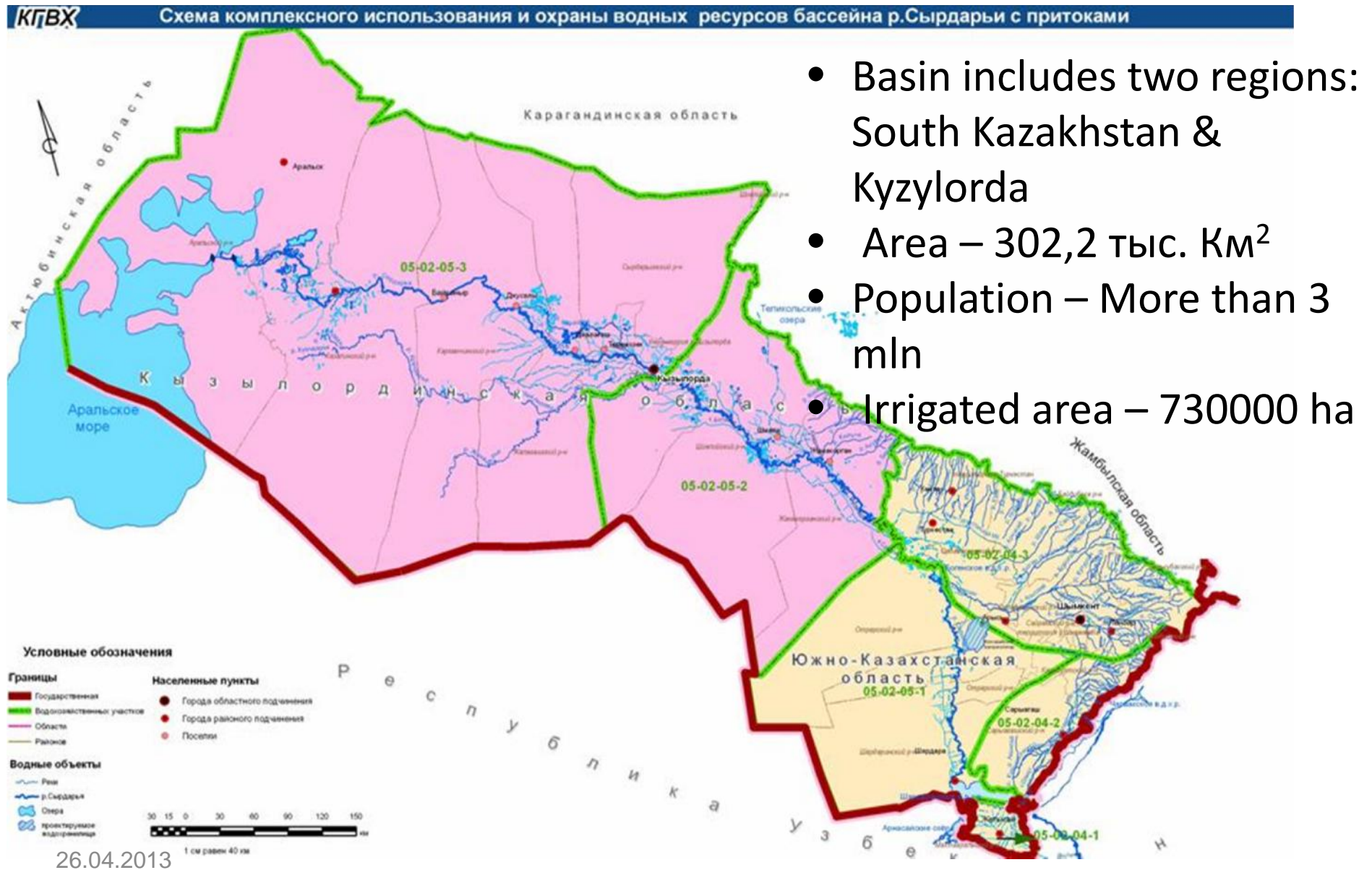
- Assigned to the Basin Inspection
- Head of the Basin Inspection is the Chairman of the Basin Council
- Basin Council includes representatives of various sectors (NGO's, Academia, Community leaders)
- Regular meetings 2 times per year
- Basin inspection performs the role of the Secretariat.



Main functions of Basin Council:

- Examines current issues in the use and protection of water resources, water supply and sanitation
- Makes suggestions and recommendations for the basin agreement participants
- Participates in basin agreement process
- Participates in the development and implementation of IWRM Plan
- Involved in monitoring of the implementation of the Agreement and Plan of IWRM

Development of IWRM Plan for Aral-Syrdarya Basin



Goals and objectives of the IWRM Plan for ASB

The main goal of the Basin Plan: To ensure *sustainable development of ecosystems, sustainable use and protection of water resources* of the Aral Syrdarya through the implementation of IWRM, *and taking into account the possible effects of climate change.*

Objective 1

Improve *ecology* of the natural systems of Aral Syrdarya Basin

Objective 2

Improve WRM at all levels and coordinate plans and actions of stakeholders

Objective 3

Improve the efficiency of water use, reduce water consumption in agricultural, municipal and industrial sectors

Objective 4

Improve living conditions and social security of the population

Conclusions:

- Proactive adaptation to climate change shall become a part of a long-term development program of the Central Asian countries, especially in consideration of the risk of damage caused by climate change.
- Adaptation to climate change should be incorporated into the strategic plans of the ministries, departments, plans for regional cooperation, and the national implementation plans to international conventions and agreements.
- A regional adaptation strategy should include links to existing multilateral environmental and water-related agreements. This could include discussions for updating outdated agreements that do not provide for adequate regulations in the face of a changing climate.
- Small Basin Councils serve as a platform for discussing and implementing adaptation measures on the local level