

Transformations in Water Management in Central Asia:

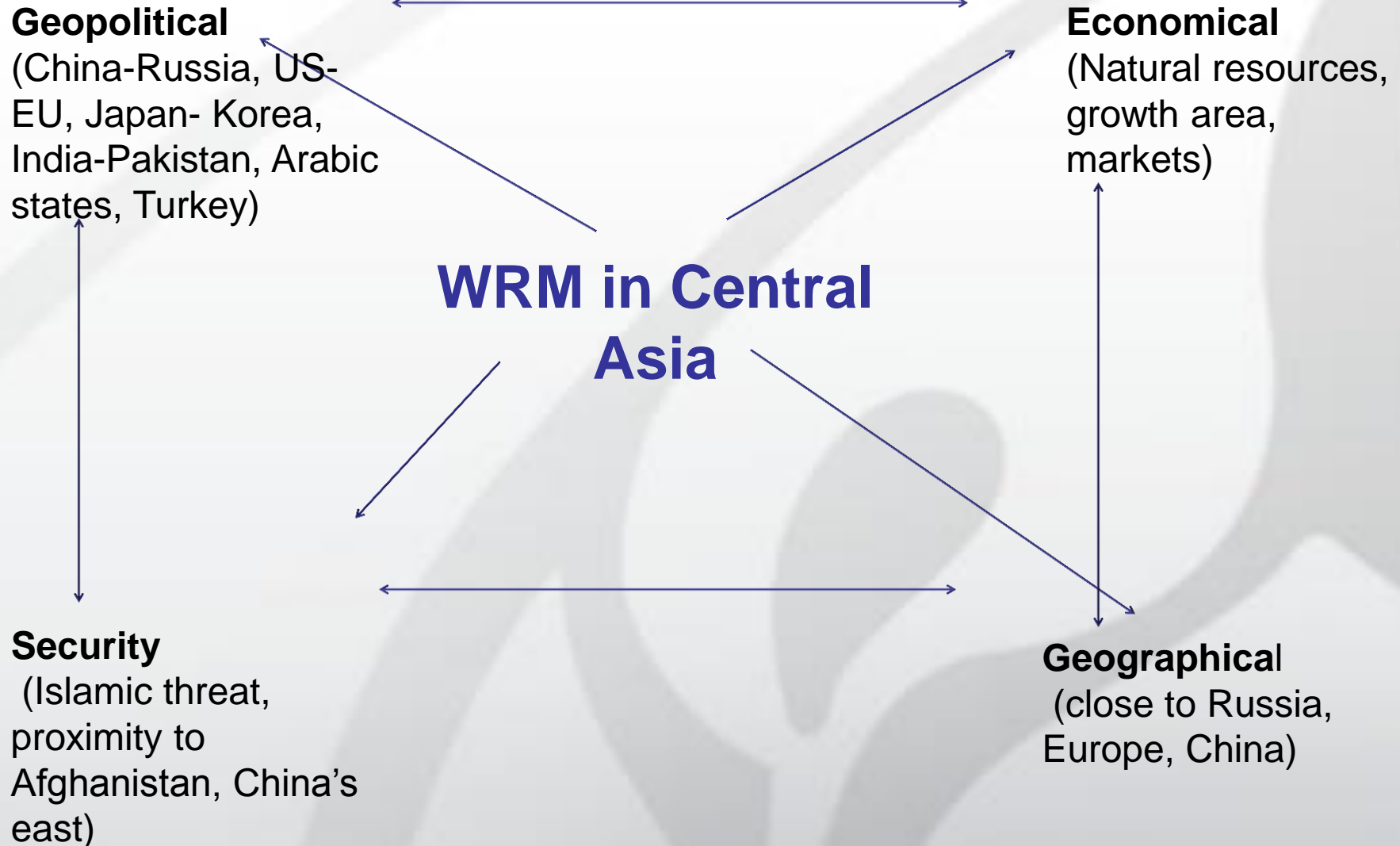
**From water challenges to
development challenges**

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Water Management in Central Asia

- 60 million people (90 million in 2050)- **demographic pressure**
- Growing economy- total GDP \$600 billion+ \$4-5 billion annual growth - **economic pressure**
- Resource intensive- high footprint **development mode**
- Outdated infrastructure, institutes and policies- **path dependency**
- Serious consequences of climate change- **new challenges**

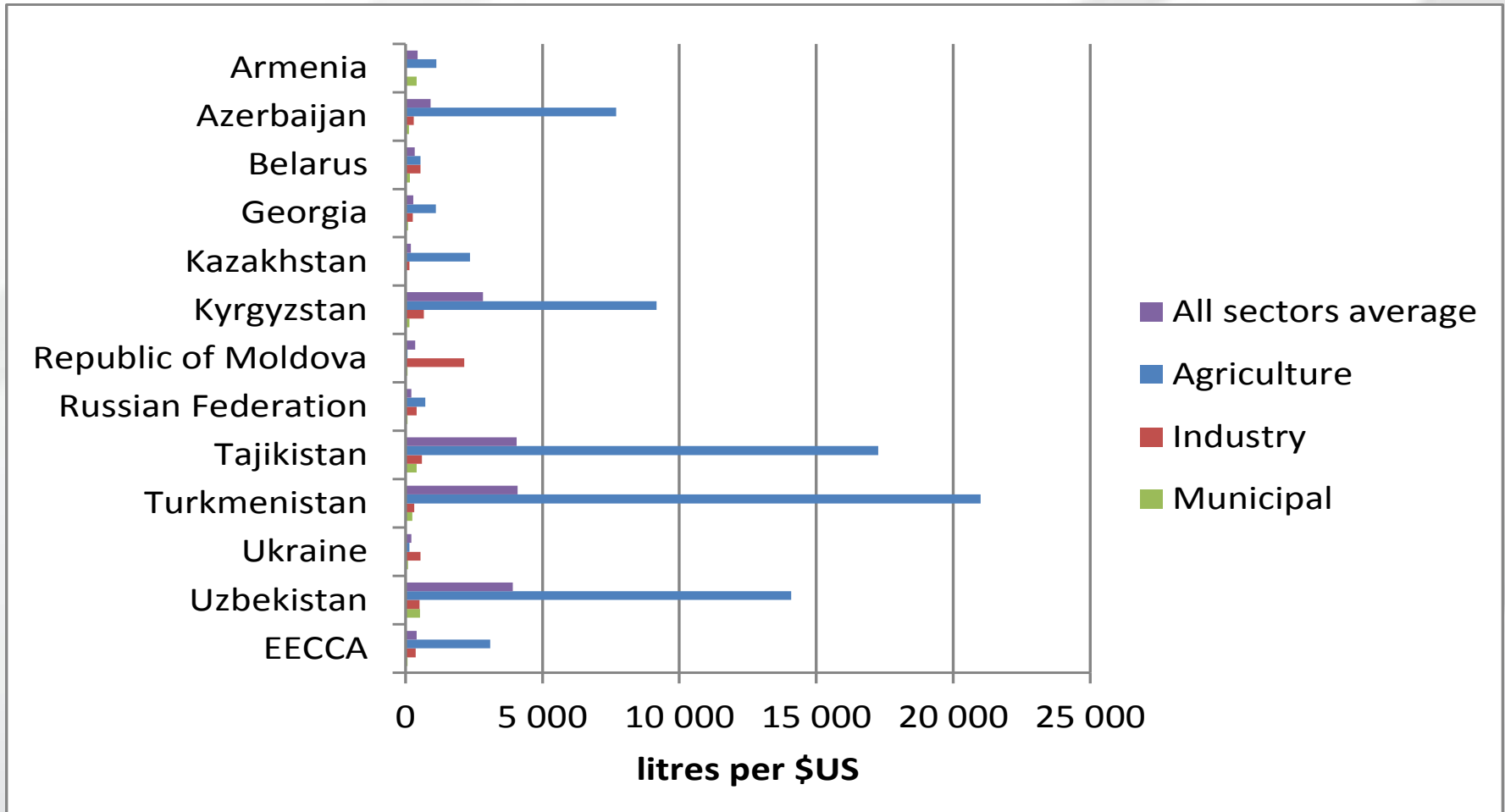
Why WRM in Central Asia important?



Some myths of WRM in Central Asia

- **Water is abundant-** abundance is *relative*:
 - 1960's 40% water for development and 60% for nature (withdrawals)
 - currently, development- 90% and environment only 10%
- **Irrigation is inefficient-** *inefficiency is in every sector and for all resources*:
 - Water productivity for irrigation from \$0.07- 0.20/1000 m³ (2-3 times less than potential level)
 - Energy productivity \$0.03- \$1.0/1000 kwt (5-6 times less than potential level)

Central Asia: High Water Footprints



Some myths of WRM in Central Asia

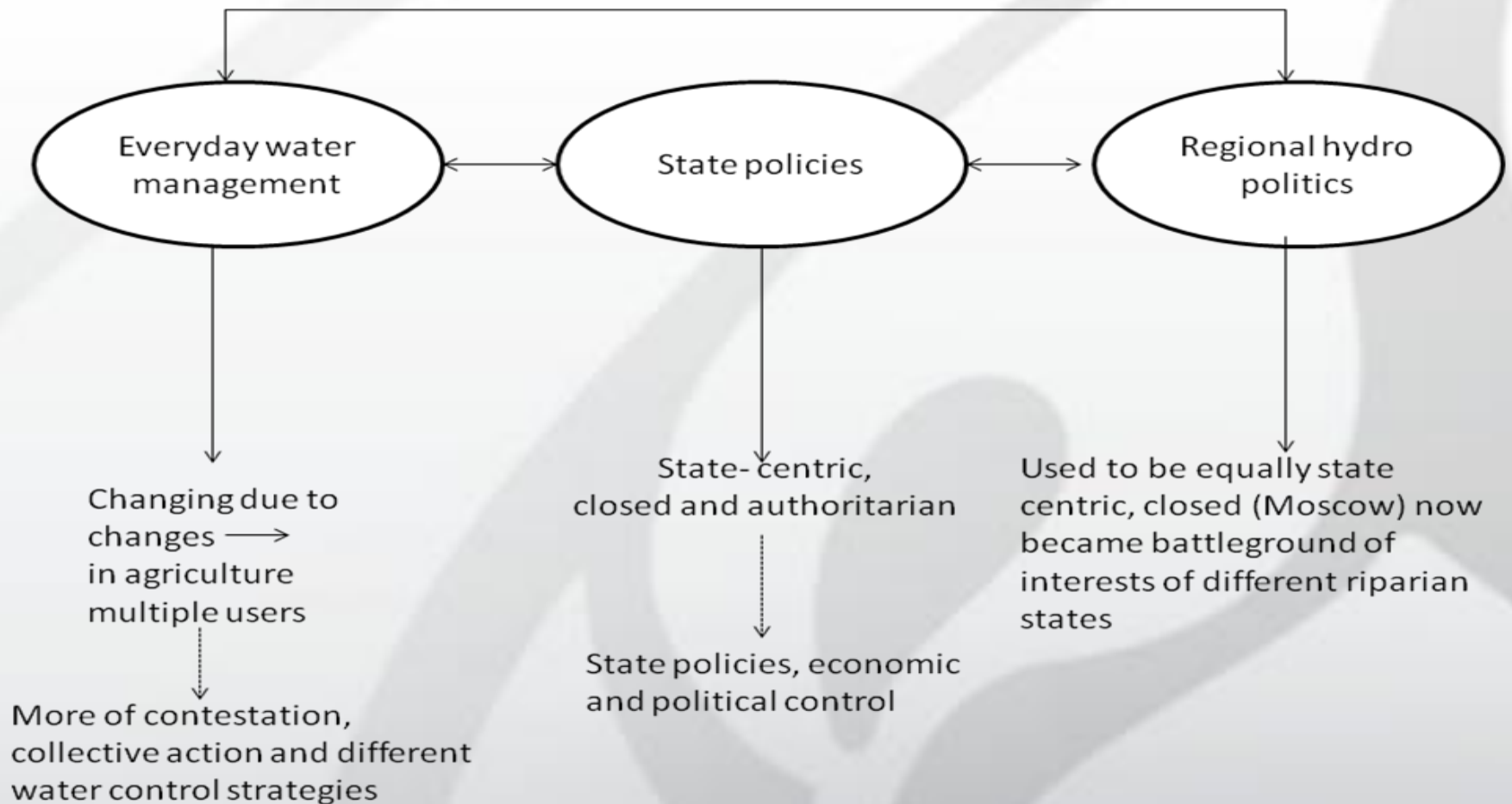
- **Water saving** is a major solution:
 - Since 1990's water consumption is reduced by 10-15% (e.g., Uzbekistan reduced 8-10 km³/annual water use)
 - Water withdrawals not reduced
- **Farmers use water inefficiently** and major losses are in field level:
 - 30-40% of water withdrawals not reach the field
 - Farmers invest 10-15% of investments and time for improving land-water management

Transformations of WRM in Central Asia

- **Transformations**
 - Political Transformation
 - Economic Transformation
 - Social Transformation

Transformations of WRM in Central Asia

From fully state dominated water management to multiple dynamic systems



Transformations of WRM in Central Asia

- **Factors**

- *Economic* :Transition from centralized planning to semi-market economy
- *Political*: State led vs. state less
- *Social*: communal vs. individual
- *Environmental*: “conquering nature” vs. sustainable development

- **Drivers**

- *High Financial costs, large scale infrastructure*
- *Low priority vs. Nation Building efforts*
- *Critical public image*
- *Environmental consequences*

- **Past dependency**

- *Institutions*
- *Policies*
- *Implementation*

Transformations of WRM in Central Asia

- **Resources**

- Abundance
- Inefficiencies
- Allocation and distribution

- **Capacities**

- Human
- Technologies/Technical
- Institutional
- Research

- **Challenges**

- Allocation
- Quantities
- Quality
- Integration and coordination

Transformations of WRM in Central Asia

- Water sector **Reforms**
- **De-centralization**
- Value for **other uses**
- **IWRM** concept
- Increasing **funding** for water infrastructure
- Water **saving** efforts and plans
- **Sector** based
- **Funding** decline
- Low **efficiency**
- **Everyday management** overwhelming
- **Outdated**, large scale infrastructure
- **Water intensive** economy

WRM in Central Asia: focus and trends

- **Impact of policies** (agricultural, economic, environmental) on water management
- **Nexus approach:** implementation peculiarities and impact
- **New Challenges:** climate change, migration, economic growth, rural development
- **None- irrigation water issues:** drinking water, pollution, industrial water

WRM in Central Asia: focus and trends

- **Sectoral cooperation** (integration, allocation policies, new uses)
- **Economy** (is/will driving force on water developments) – water demand
- **Governance regimes** (state-led, decentralized, state-less)
- **Water saving** (incentives, efficiency, levels)

WRM in Central Asia: focus and trends

- **Institutions** (blue print, user's organizations, IWRM and reforms)
- **Water Sector** (depends on financing, national priorities, political system, governance structures)
- **Water Management:** access and quality (MGD's)

WRM in Central Asia: focus and trends

- **Transboundary Cooperation:**
 - *Institutions:* self-funded, sector based ,regional organizations
 - *Mode:* water allocation and environment centered
 - *Differences:* energy vs. irrigation, Nexus vs. sectoral cooperation, role of regional organizations
 - *Trends:* ASBP-3 and EC IFAS, support to ICSD
 - *Processes:* Water Diplomacy, support to regional cooperation, policy dialogues, water sector reforms
 - *Key aspects:* acceptance of international rules, capacities and information exchange

WRM in Central Asia: some questions

- How to turn WRM from **sectoral focus to IWRM- Nexus**?
- How to **de-securitize** water issues of transboundary nature?
- How to reduce “**water footprints**” of different sectors- green growth?
- How to shift from short term vision to the **long-term vision** for WRM?
- How to integrate **social and environmental aspects** into WRM?

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