



Transboundary Water Management in Central Asia

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„Geopolitical benefits of transboundary water cooperation“ The case of the Isfara River

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The Regional Environmental
Centre for Central Asia



Source:
GRID-Arendal

The Isfara River Basin



- **Location:** South-west Fergana Valley
- **Catchment area:** approx. 3,900 km²
- **Annual Discharge:** 1.8 – 3.0 km³
- **Irrigated land:** c. 265 km²
(80 km² in KGZ and 185 km² in TJK)
- **Population served:** 300,000 people
(approx.) living in the Isfara River Basin
- **Trans-boundary nature:**

- Originates in Kyrgyzstan and flows northwards into Tajikistan and further (canalized) into Uzbekistan (south Ferghana canal, Kairakum)

- Problematic catchment area:
Batken Oblast, Kyrgyzstan;
Sughd Oblast, Tajikistan;
Tajik enclave of Vorukh;
Uzbek territories in the North

- Ethnic Minorities

- The basin's water resources are vital for all stakeholders: more than 2/3 depending on agriculture
- Frequent disputes on arable land in border areas & water distribution between local population
- No clear border delineation; violent incidents also involving border guards



THE MAP DOES NOT IMPLY THE EXPRESSION OF ANY OPINION ON THE PART OF THE AGENCIES CONCERNING THE LEGAL STATUS OF ANY COUNTRY, TERRITORY, CITY OR AREA OF ITS AUTHORITY, OR DELINEATION OF ITS FRONTIERS AND BOUNDARIES.
MAP BY VIKTOR NOVIKOV AND PHILIPPE REKACEWICZ - UNEP/GRID-ARENAL - APRIL 2005

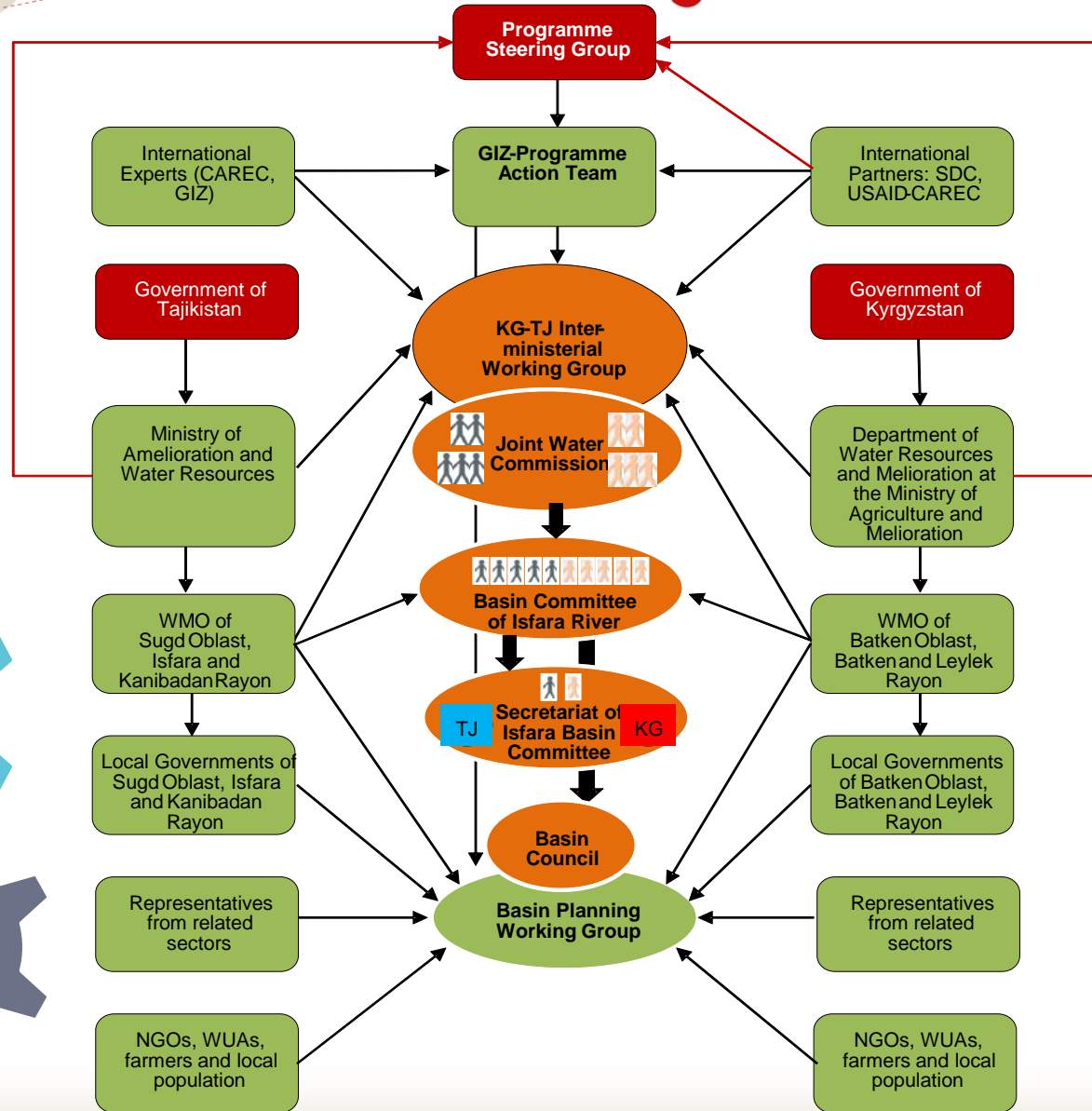
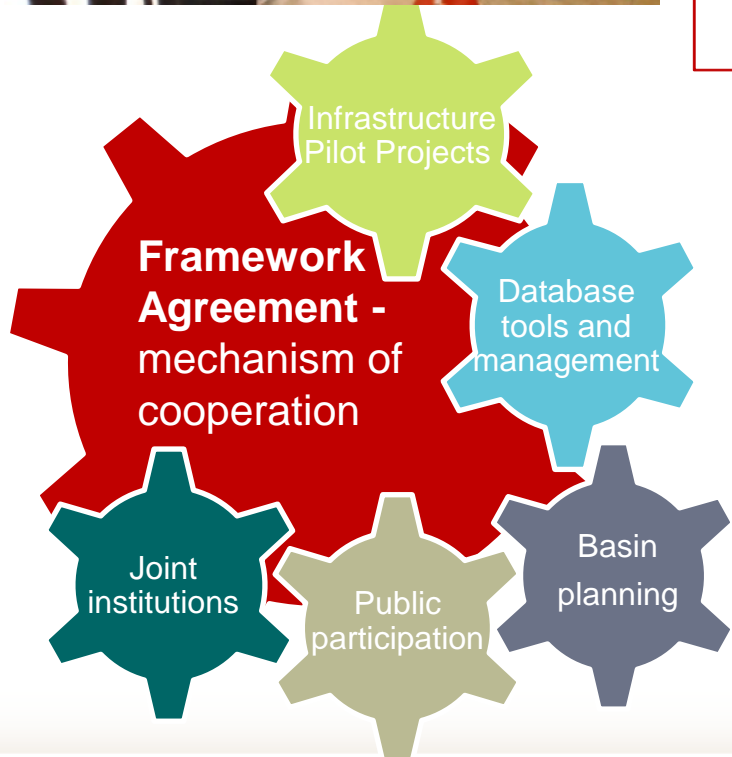


The Isfara River Basin



...some impressions







Data Base:



Tools: web based software for storing and analysis of the data

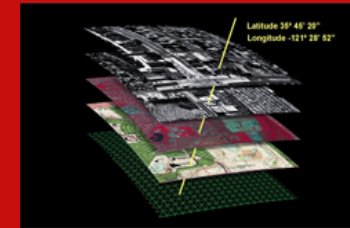
Structure/Content:

1. Water Resources- Climate info
2. Hydrology and water use
3. Hydrotechnical Facilities
4. Geological situation
5. Economical situation
6. Administrative situation
7. Environmental situation

Data Management Concept

Linking up

GIS/Land Use Map:



Tools: GIS maps, satellite images, GPS measurements, etc.

Structure/Content:

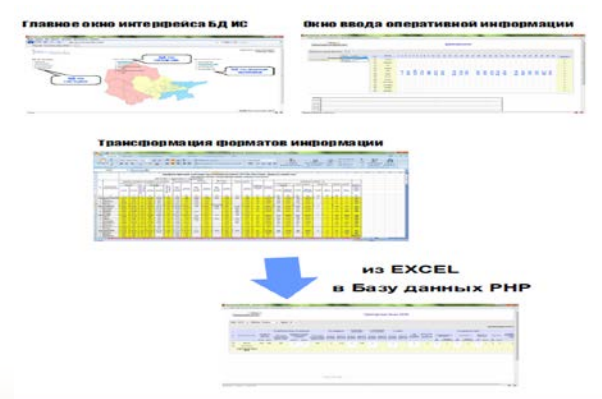
1. Irrigated lands
2. Water bodies
3. Alluvial lands
4. Forrest and other lands
5. Settlements
6. Water formation zones
7. Hydrotechnical infrastructure

Digital (numerical, tabular) and GIS outputs

➤ Regular reports (daily, decade, annual) of WMOs (to higher levels of WMOs, statistical departments, etc.)

➤ Basin analysis (with time steps of 5 years) – retrospective (water balances)

➤ Basin Planning (with time steps of 5 years)- scenarios (water balances)



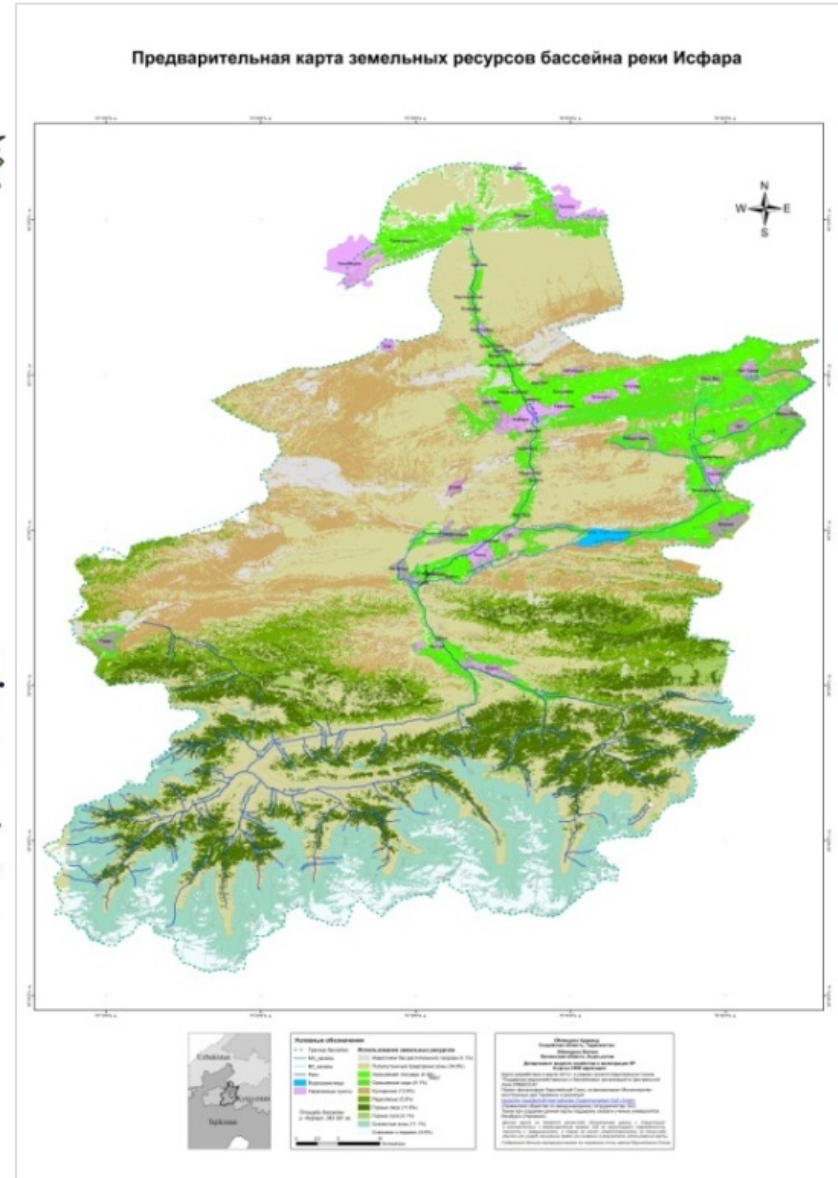
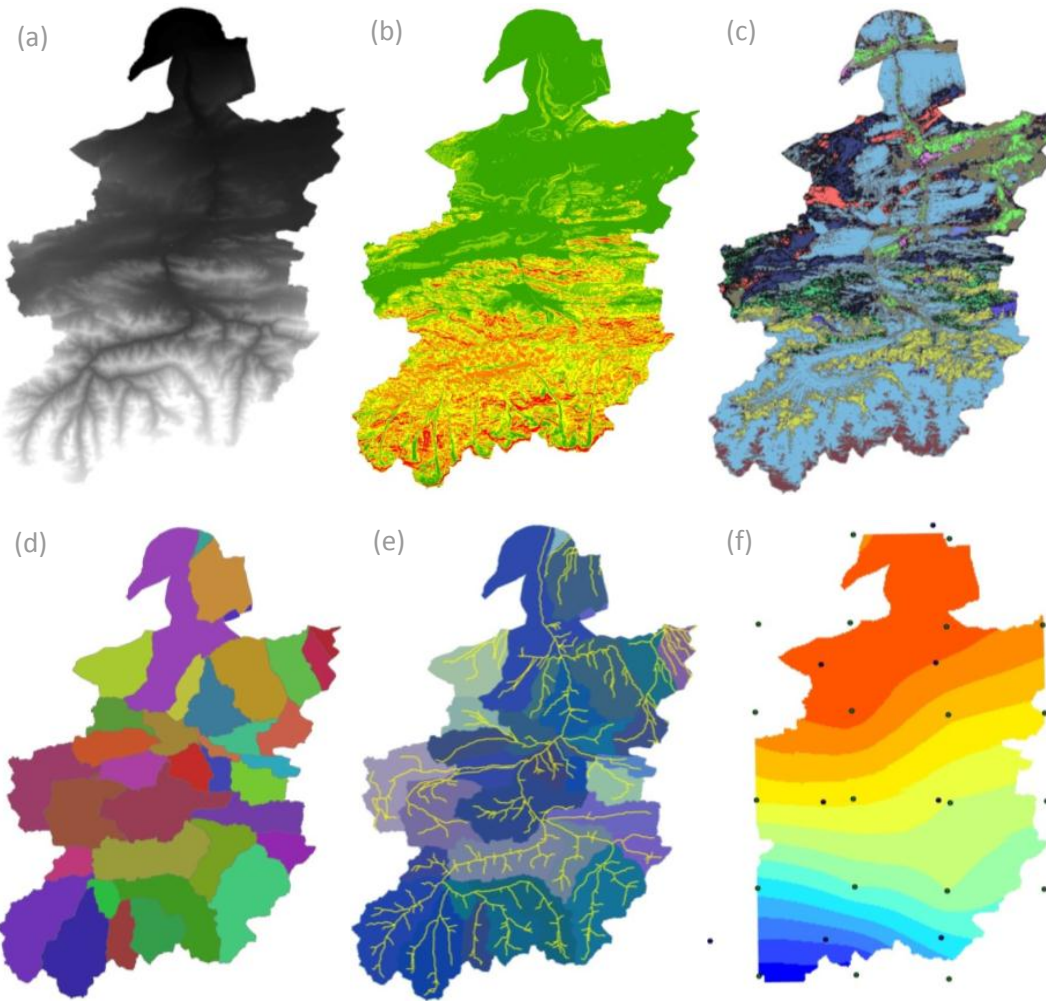
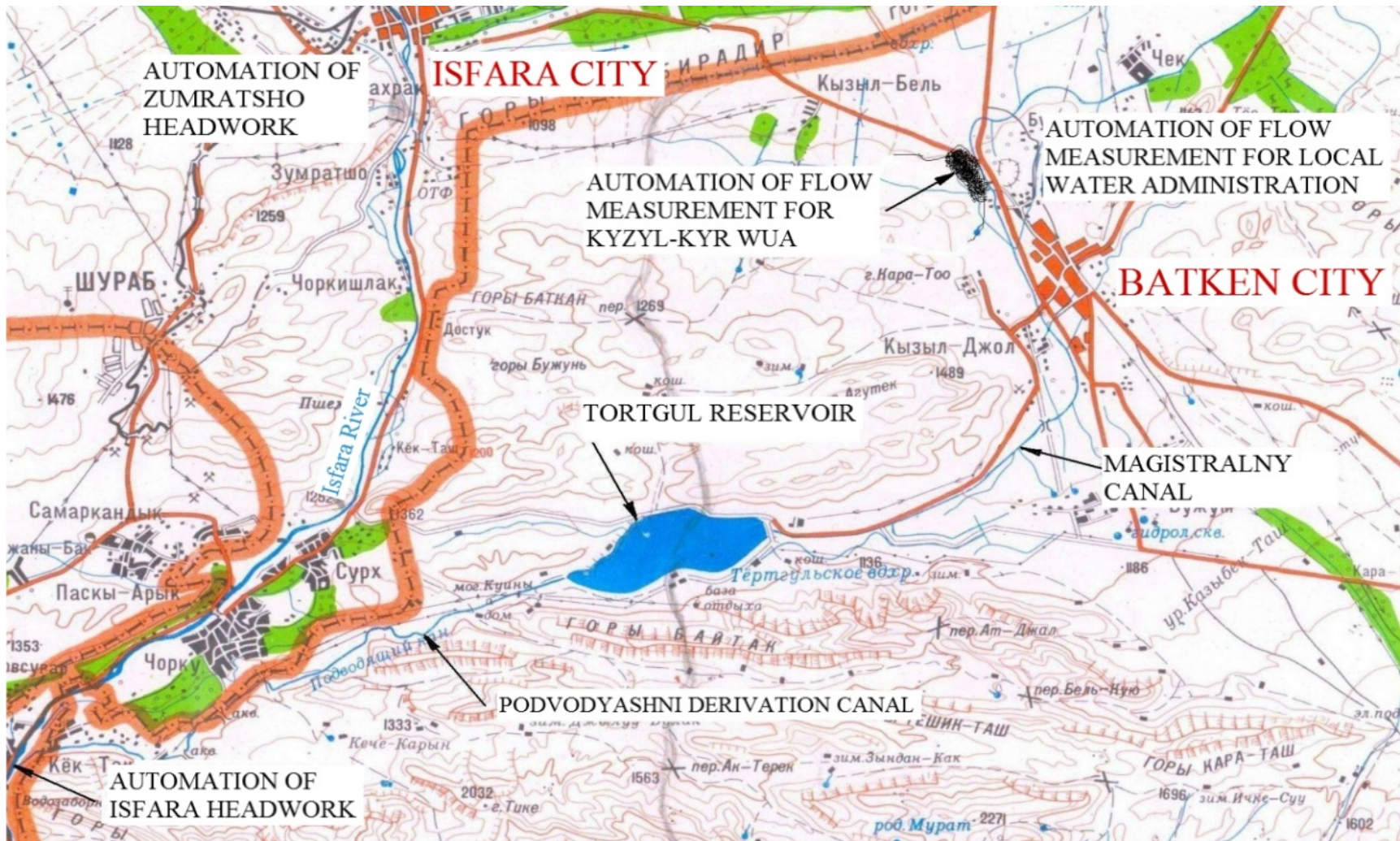


Figure3 Causative factors as GIS layers: (a) Digital Elevation Model, (b) Slope map, (c) Land use map, (d) Watershed map, (e) Drainage network map, (f) Rainfall based on TRMM data



Small scale infrastructure projects in the Tajik and Kyrgyz Isfara river basin to improve efficient and transparent water management



Tortgul Reservoir: Pre-rehabilitation of equipment
(2009) © GIZ archive



Isfara Headwork: Automated systems
(2013) © Natalia Alexeeva

Zumratsho Headwork: Post-rehabilitation
(2014) © Umed Komilov



Batken District: Improving water allocation and abstraction
2013 © GIZ archive





Analysis and evaluations by local experts

- Legislative and institutional frameworks in terms of basin planning
- State of the environment and natural resources in the basin
- Socio-economic development of the basin
- Analysis of natural hazards, adaptation to climate change and disaster risk reduction in the basin
- Land use maps of the basin using ArcGIS

Training Module 'Five Steps to a Basin Plan'

- Training 1**
'Introductory Training on Basin Planning'
- Training 2**
'Basin Planning, Analysis of the Situation'
- Training 3**
'Identifying Problems, Determining Goals and Objectives'
- Training 4**
'Development of the Plan and Its Activities'
- Training 5**
'Implementation of the Basin Plan, Implementation Monitoring'

Training sessions led by international and local experts

- Land management taking into account possible climate risks
- Water management, calculation and forecasting of water balance
- Stakeholder participation in water resources management
- Economic and social development of the basin

Basin Plan for the Isfara river basin

2 coordinated Basin Plans through mutual participation in their development

...to be merged after adopted Framework Agreement...



Tajik working group on basin planning



Water users in Batken District comment on the Isfara Basin Plan



ISFARA RIVER BASIN PLAN
Batken District
Kyrgyz Republic



ISFARA RIVER BASIN PLAN
Isfara Rayon
Republic of Tajikistan



Thank you!



<http://www.waterca.org>

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