

# From monocentric ideal to polycentric pragmatism in the Syr Darya: Searching for second best approaches

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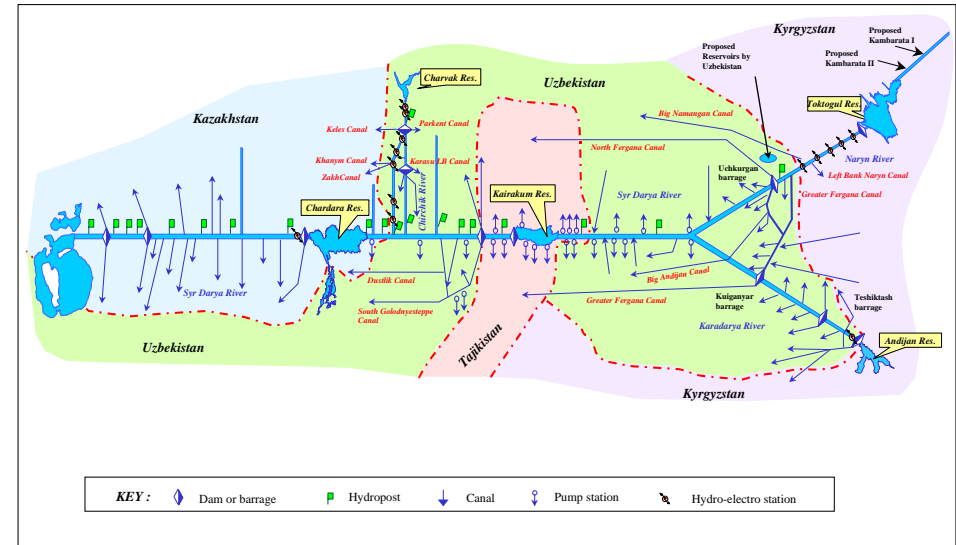
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# River Basin Management and IWRM approaches

- Question is raised whether IWRM in the South should mean the same as in the North.
- Centralized / monocentric versus polycentric model (Wester et al. 2005)
- cathedral versus bazaar (Lankford & Hepworth 2010)
- But even in the North – is it implemented? Example from the US:
- “while the conceptualization of IRBM is apparent, implementation remains a challenge in many locations in the US. Much of this challenge can be explained by negotiations over issues of sovereignty and power” (Hooper 2010b, p.8)

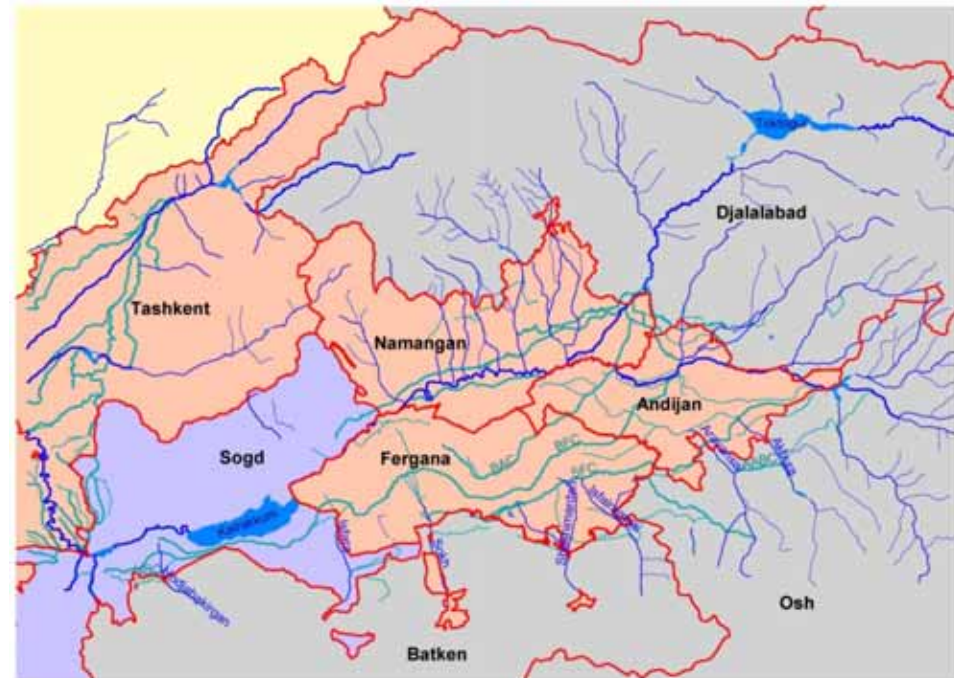
# Syr Darya basin

- Average annual flow 37 km<sup>3</sup>
- Perception monocentric management is necessary (Toktogul reservoir)
- However: Naryn (13.8 km<sup>3</sup>) contributes only about 30%



# Other tributaries:

- Kara Darya (3.9 km<sup>3</sup>) – 10%
- Within the Ferghana Valley, small transboundary tributaries (STTs) 7.8 km<sup>3</sup> (20%)
- Midstream: Chirchik (7.8 km<sup>3</sup>) (20%)
- Downstream: Arys (2.0 km<sup>3</sup>) and Ahangaran (1.2 km<sup>3</sup>)
- **Plus** – Toktogul is also operated during the summer for Kyrgyzstan's energy needs



# Syr Darya management – not always monocentric

- Khoja-Bakirgan river
- Agreement signed between the Tajik SSR and the Kyrgyz SSR.
- Leninabad city (Khojand) 17–18 May 1962.
- Shakhimardan river
- Uzbek SSR, Kyrgyz SSR and representatives from the water ministry of the USSR
- Moscow 10 April 1980

**Table 1** Annex 1 of the Protocol of 10 April 1980: proportional water allocation of small rivers of the Ferghana Valley for irrigation (%)

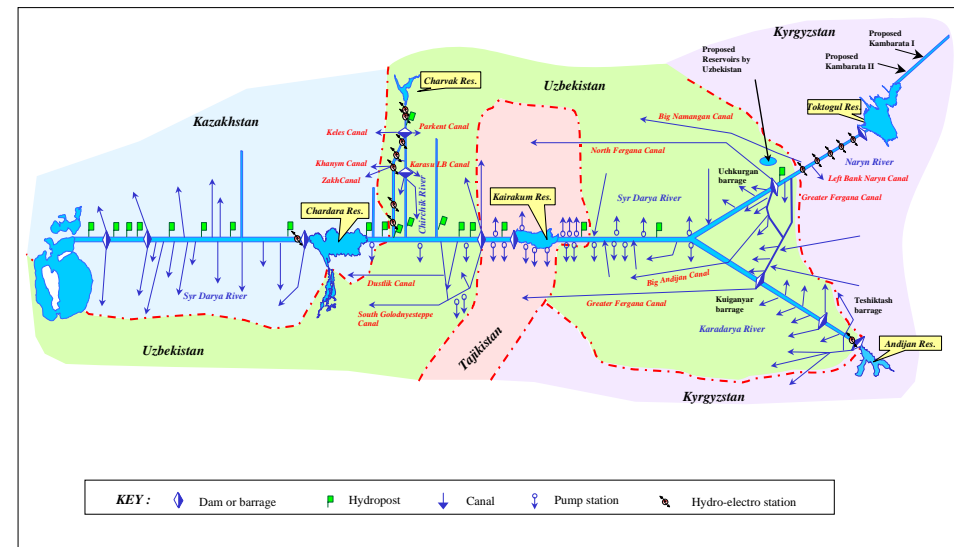
No.	River, canal	Share of	
		Uzbek SSR	Kyrgyz SSR
1	Akbura	18	82
2	Aravansay	23	77
3	Isfayramsay	70	30
4	Shakhimardan	73	27
5	Sokh	90	10
6	Isfara <sup>a</sup>	8	37
7	Maylisay	18	82
8	Padshaata with Chartaksay	64	36
9	Kasansay without tributaries	92	8

<sup>a</sup>Including 55% of share of Tajik SSR.

Source: Protocol (1980).

# Do we need monocentric management – or should we focus on pragmatic polycentric solutions?

- Kazakhstan - pump station at the Chardarya reservoir to lift water to Makhtaaral District and Koksarai reservoir
- Tajikistan – Kairakum reservoir
- Ferghana Valley – right side - Kenkylsay reservoir (0.7 km<sup>3</sup>) & Rezaksay reservoir (0.2 km<sup>3</sup>) left side – small tributaries and Karadarya
- What would be left would be Uzbekistan below Kairakum reservoir – but diversion from Chirchik (7.8 km<sup>3</sup>)



# Conclusion – call for more research

- When is monocentric management really necessary?
- Is polycentric management possible? – What are weak centers?
- What are the impacts of polycentric management?
- What kind of centers can be distinguished?
- Should the different centers be integrated under one umbrella and if so how?

*Thank you.*



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