

WATER USE AND THE ARAL SEA

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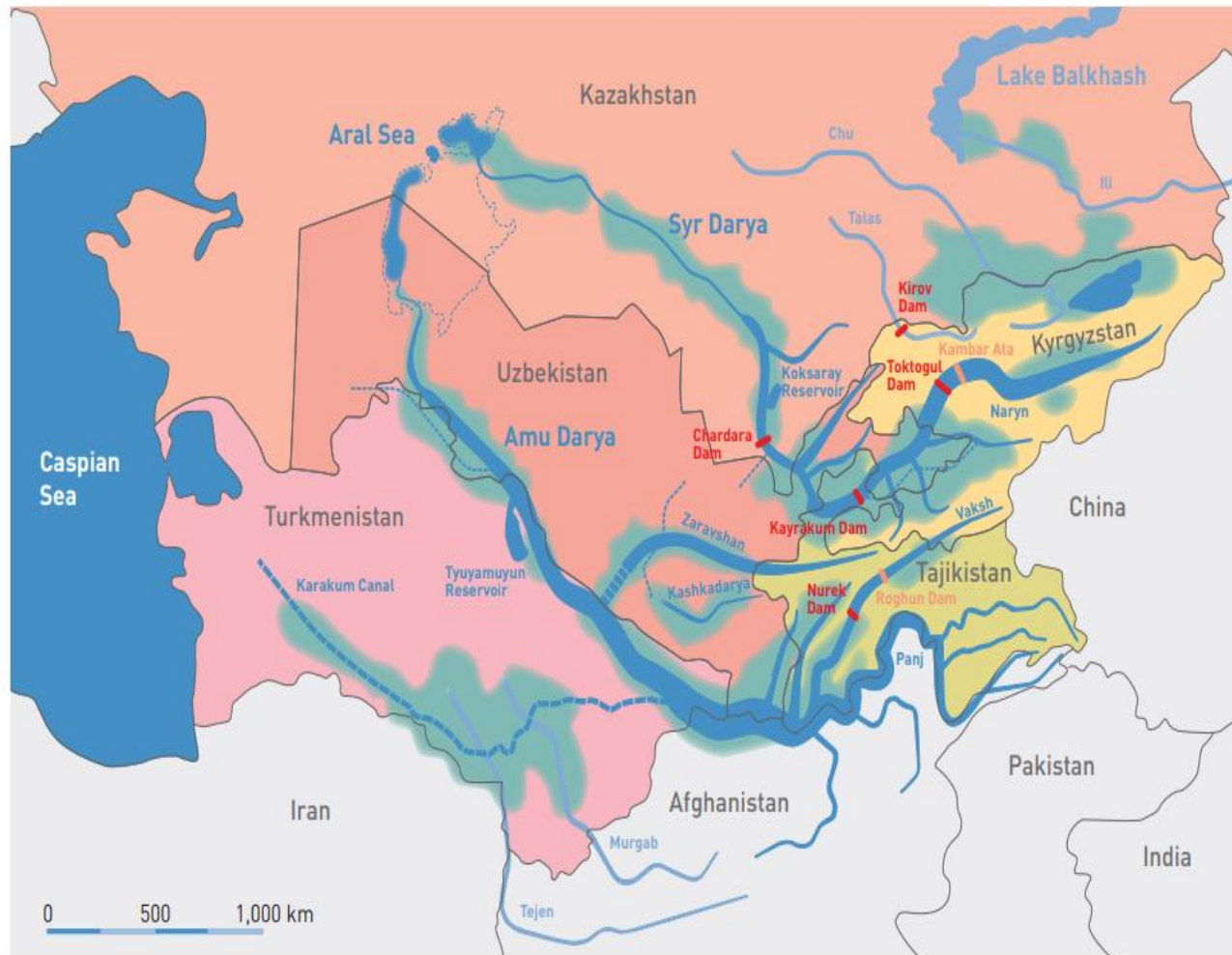
Aral Sea Basin

Shared rivers Amu Darya and Syr Darya

All or most of the water used, mainly for irrigation

No plans to recover the Aral Sea

Map 2: Water resource use in the Aral Sea Basin



- Irrigated lands
- Rivers (breadth reflects average annual flow)
- Major canals
- Major dams
- Aral Sea shoreline 1960
- Proposed dams

Based on: Zoi Environment 2011

Basin-wide issues

- Water use for irrigation
- Water-energy coordination
- Dam safety (Sardobe)
- Water quality
- Water-dependent ecosystems
- Dry sea bottom

Countries sharing the basin

- Afghanistan – uses ? cbkm
- Kazakhstan – uses 14 cbkm
- Kyrgyzstan – uses 7 cbkm, hydropower important
- Tajikistan – uses 10 cbkm, hydropower important
- Turkmenistan – uses 26 cbkm
- Uzbekistan – uses 50 cbkm

TABLE 11
Areas under irrigation

Country	Year	Full control irrigation area	Spate irrigation area	Total area equipped for irrigation	Area equipped as % of cultivated area	Area equipped as % of region	Area equipped for irrigation actually irrigated	Area actually irrigated as % of area equipped
		ha	ha	ha	%	%	ha	%
Afghanistan	2002	3 208 480		3 208 480	42	24	1 896 000	59
Kazakhstan	2010	1 199 600	866 300	2 065 900	9	16	1 264 970	61
Kyrgyzstan	2005	1 021 400		1 021 400	75	8	1 021 400	100
Tajikistan	2009	742 051		742 051	85	6	674 416	91
Turkmenistan*	2006	1 990 800		1 990 800	102	15	1 990 800	100
Uzbekistan	2005	4 198 000		4 198 000	89	32	3 700 000	88
Central Asia		12 360 331	866 300	13 226 631	33	100	10 547 586	80

* Total area equipped for irrigation is larger than the cultivated area, since the irrigation area includes irrigated permanent pasture while permanent pasture is not included in cultivated area.

THE SYR DARYA RIVER BASIN

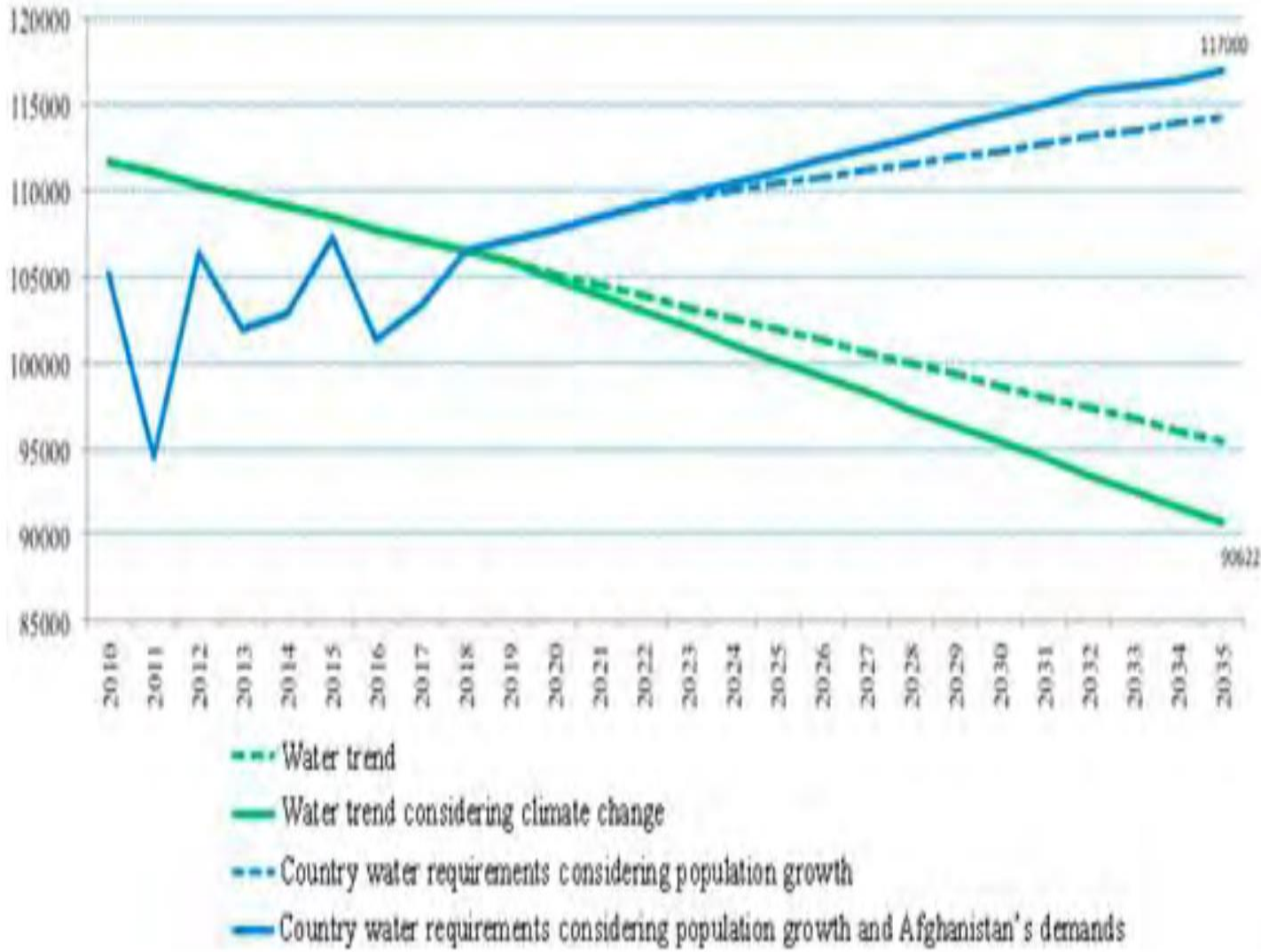


WATER REQUIRED FOR IRRIGATION IN SUMMER DOWNSTREAM

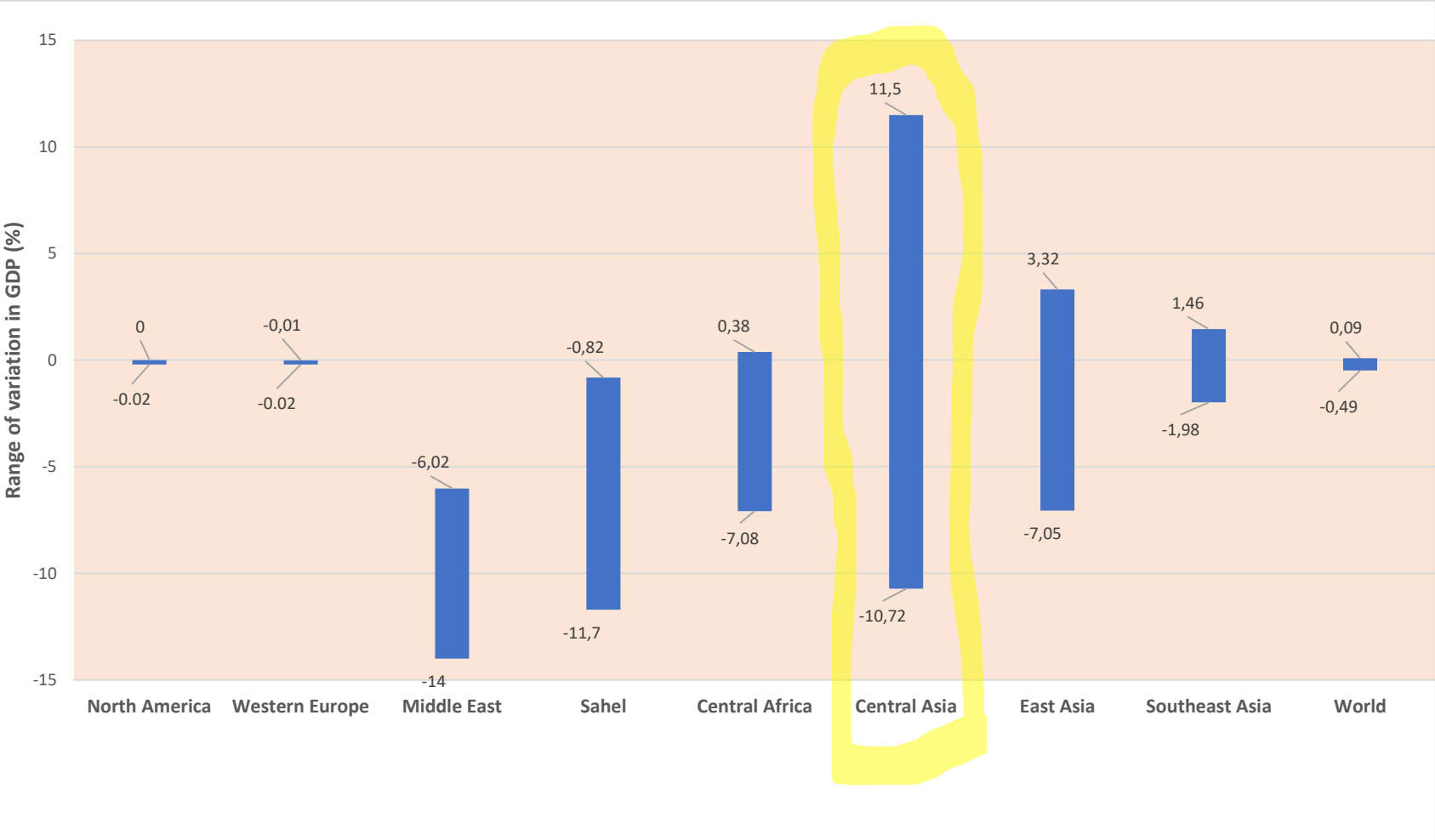
- **HYDROPOWER MAIN SOURCE OF ELECTRICITY**
- **HYDROPOWER DEVELOPMENT UPSTREAM**



Figure 9.2. Comparison of water demand and water availability in ASB, Mm³



Climate-related impacts on GDP in 2050 (ranges of impacts determined by policies)



Source: High and Dry: Climate Change, Water and the Economy, World Bank Group 2016

Conclusion: Use water more efficiently! Then there is enough water!

"On approval of the Strategy for Water Resources Management and Development of the Irrigation Sector in the Republic of Uzbekistan for 2021-2023"

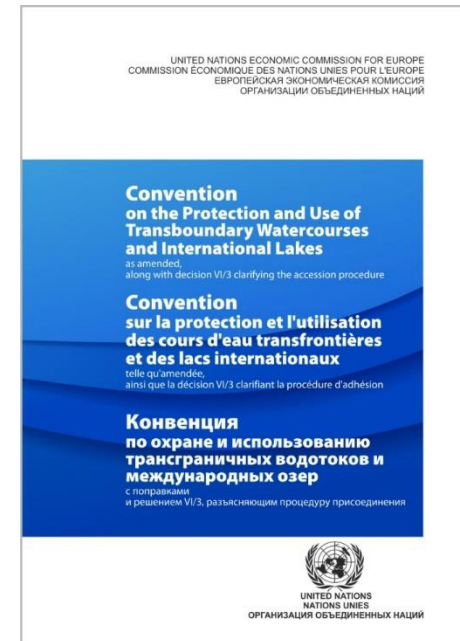
- increase in the share of canals with concrete coating
- reduction of irrigated areas with a low level of water supply
- bringing the introduction of water-saving irrigation technologies from 308 thousand to 1.1 million hectares, including drip irrigation technologies - from 121 thousand to 822 thousand hectares;
- reduction of the area of saline lands;
- transfer to automated control based on digital technologies of 60 large water facilities;
- monitoring of accounting for electricity consumption and water consumption;

Convention on the Protection and Use of Transboundary Watercourses and International Lakes

Objective: to protect and ensure the quantity, quality and sustainable use of transboundary water resources by facilitating cooperation

The Convention is based on three legal principles:

- The right to reasonable and equitable use
- To avoid causing significant transboundary harm
- To cooperate





Page view

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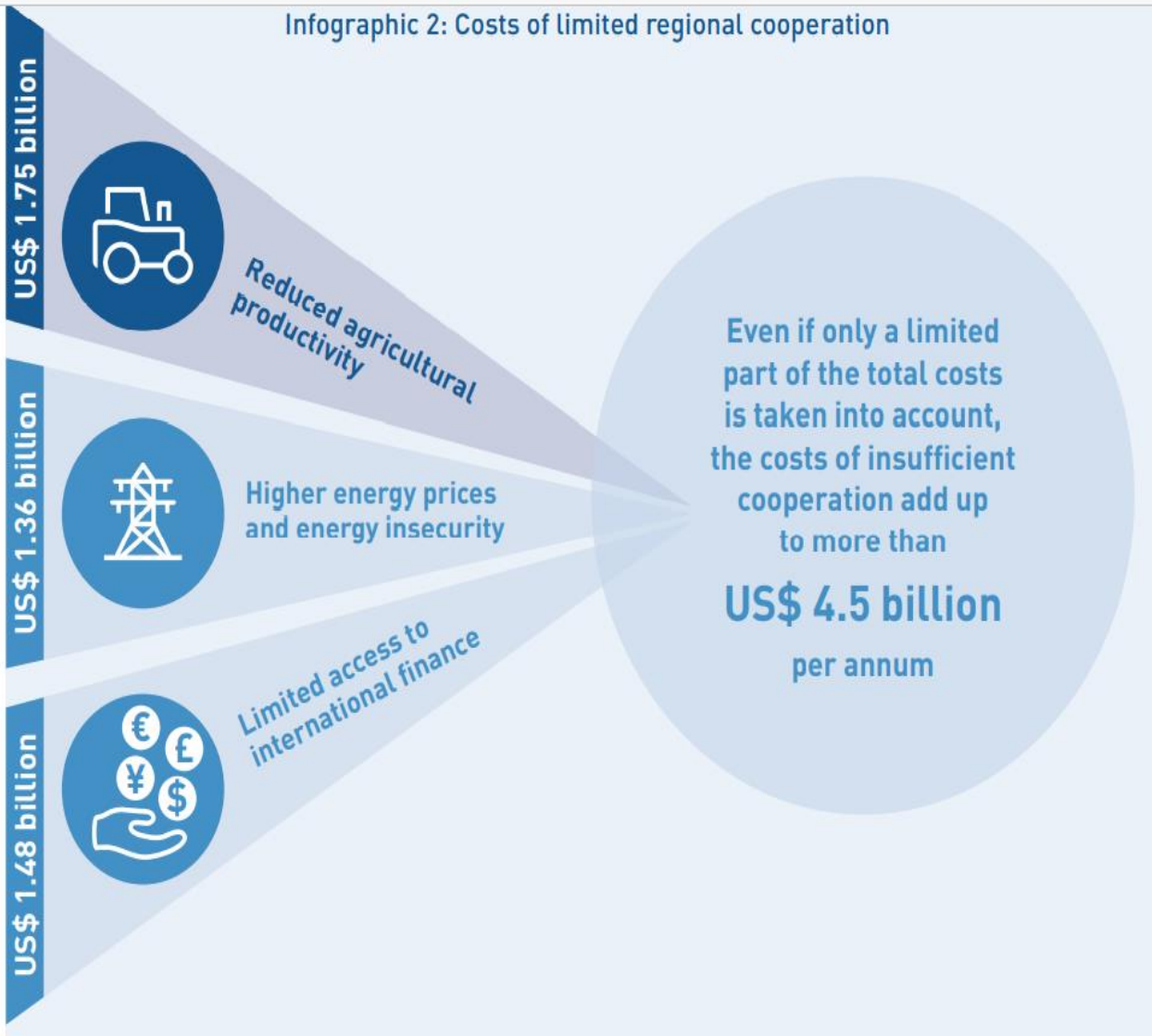
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Infographic 2: Costs of limited regional cooperation



Basin-wide issues – and how to deal with these

- Water use for irrigation – more efficient water use, less irrigation, payment for water, cooperation
- Water-energy coordination - cooperation
- Dam safety – cooperation, work on technical safety
- Water quality – cooperation, clean production, waste-water treatment
- Water-dependent ecosystems – more environmental protection
- Dry sea bottom – planting of trees