

Alternative methods in IWL under Climate Change: a Case Study of Water-Energy Exchange Cooperation in Central Asia

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Summary

Evidence for Action

Aligning the Climate and SDG Agendas

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- 1. Research background and theoretical basis
- 2. Research question
- 3. Research framework
- 4. Conclusion

1. Research background & theoretical basis

Article 6

Factors relevant to equitable and reasonable utilization

(g) The availability of alternatives, of comparable value, to a particular planned or existing use.

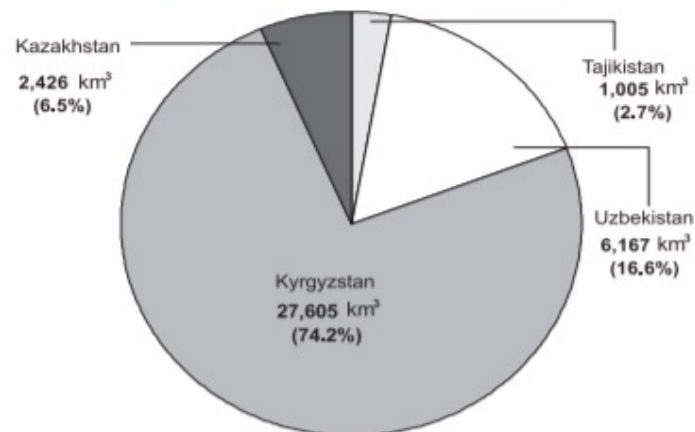
cate general equivalence in value. The expression “corresponding value” is thus intended to convey the idea of generally comparable feasibility, practicability and cost-effectiveness.

met by an existing or planned use. The alternatives may thus take the form not only of other sources of water supply, but also of other means—not involving the use of water—of meeting the needs in question, such as alternative sources of energy or means of transport. The term “corresponding” is used in its broad sense to indi-

1. Research background & theoretical basis

- In Central Asia, climate change has a far-reaching impact on the environment including water resources.
- The uneven distribution of transboundary water resources leads to potential conflict.

Figure 2. The Syr Darya River: Run-off by country



Climate change in Central Asia: key findings, trends and projections

INDICATORS	Kazakhstan	Kyrgyzstan	Tajikistan	Turkmenistan	Uzbekistan
Air temperature ¹⁾	↑	↑	↑	↑	↑
Precipitation and snow ¹⁾	↑	↑↓	↑↓	↑↓	↑↓
Climate aridisation and desertification	↑	↑	↑	↑	↑
Extreme weather events and climate-related hazards ²⁾	↑	↑	↑		↑
Melting ice and permafrost ¹⁾	↑	↑	↑		↑
Water resources availability in the future ³⁾	↑↓	↓	↓	↓	↓
Health ⁴⁾	↑	↑	↑	↑	↑
1) Greenhouse gas emissions 1990-2005	↓	↓	↓		↑
2) Greenhouse gas emissions 2000-2005	↑	↑	↑	↑	↓
Policy instruments, actions and awareness	↑	↑	↑	↑	↑
Climate observation and weather services ²⁾	↓	↓	↓	↓	↓

↑ increase, enhancement ↓ decrease, reduction ↑↓ mixed trends

¹⁾ 1950-2005 ²⁾ 1990-2009 ³⁾ 2050-2100 ⁴⁾ infectious and vector-borne diseases, heat stress

Sources: Second National Communications of Kazakhstan, 2009; Kyrgyzstan, 2009; Tajikistan, 2008; Uzbekistan, 2008; Technical Needs Assessment and the Initial Communication of Turkmenistan

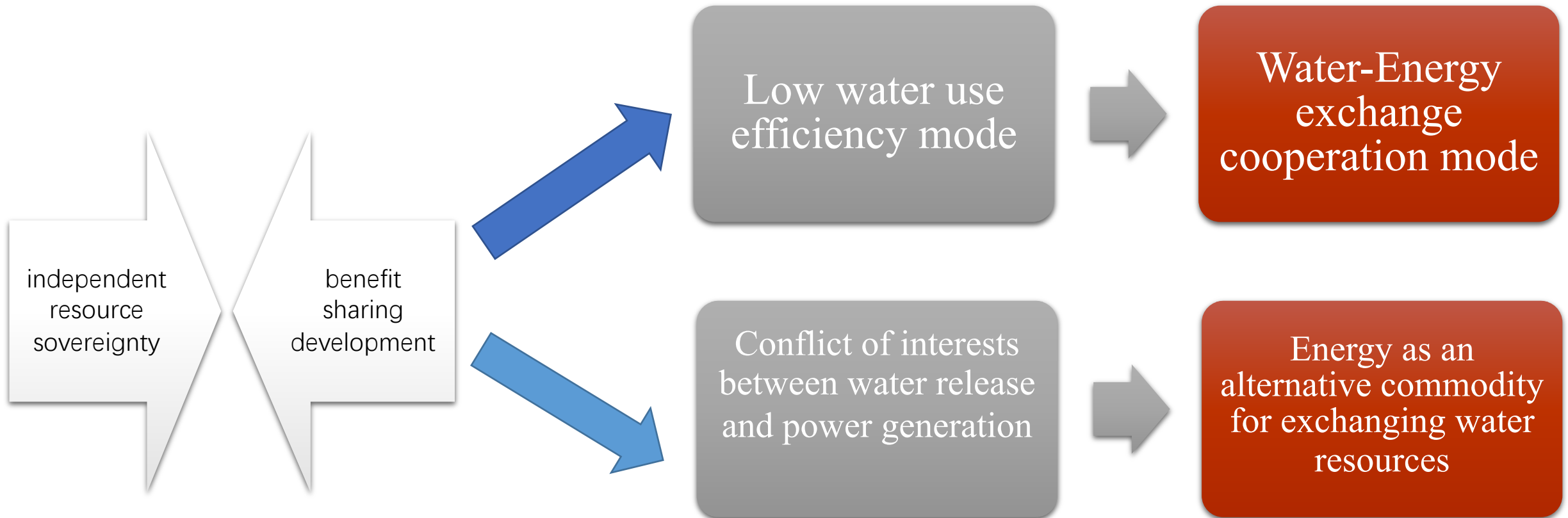
2. Research question

- How does transboundary river cooperation in Central Asia, specifically the water-energy exchange mechanism, embody the creative application of alternative method?

3. Research framework

- **Part 1. Development of International Water Law adapting to climate change**
- **Part 2. Alternative methods as a way for effective and beneficial use of water**
- **Part 3. Water-Energy exchange as an alternative method in Central Asia**

4. Conclusion



" the potential for replacement of antiquated method of utilization by a less wasteful method "

--- ILA, Report Of The Fifty-Second Conference, Helsinki, 1966

Thanks for listening!

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