THE POTENTIAL BENEFITS OF TRANS-BOUNDARY COOPERATION IN GEORGIA AND AZERBAIJAN

LAKE JANDARI: FROM COMPETITIVE WATER USE TO COOPERATIVE ACTION. ENHANCING ECONOMIC BENEFITS

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Project Objectives

• The overall purpose of the project is to make the case for trans-boundary cooperation between Azerbaijan and Georgia for the management of the Kura river.

• For the two water bodies selected as case studies, assessment of the economic benefits is underway. A share of benefits and costs for each riparian country will be assessed under alternative scenarios.

• Suggestions on mechanisms to realise these benefits will be made.
Trans-boundary cooperation: why is it needed?

Cooperative action yields specific benefits which could not be obtained otherwise

The project is assessing the benefits of trans-boundary cooperation in two practical case studies (trans-boundary water bodies):

- Water quantity and quality issues in lake Jandari
- Flooding issues along the Kura river
Overall approach

**Scenarios**

- $S_1$: Country 1 does all the effort
- $S_2$: Country 2 does all the effort
- $S_3$: $C_1 + C_2$, Uncoordinated action
- $S_4$: $C_1 + C_2$, Coordinated action

**Actions**

- $C_1$: Country 1 does all the effort
- $C_2$: Country 2 does all the effort
- $C_1 + C_2$: Uncoordinated action
- $C_1 + C_2$: Coordinated action

**Benefits**

- $B_1$: First level of trans-boundary cooperation
- $B_2$: Higher level of trans-boundary cooperation
- $B_3$: $C_1 + C_2$, Uncoordinated action
- $B_4$: $C_1 + C_2$, Coordinated action
A practical application

Lake Jandari

Water quantity issues
From trans-boundary water management issues....

Gardabani canal – water sources: Kura river, Tbilisi reservoir

Georgia is engaged to deliver 70 million m$^3$ of water per year to the lake 50 million m$^3$ for irrigation in Azerbaijan, and 20 million m$^3$ for maintaining the ecological balance.

Trans-boundary pressures

Increasing water abstraction for irrigation

Decreasing water levels
Unknown ecological impacts

Increasing water abstraction for irrigation

Trans-boundary impacts

Irrigated area: unknown

Irrigated area: 8,500 ha
....to cooperative action

Step 1 ➔ Identify a suitable abstraction reduction target, which is:
  • Accepted and agreed upon by the two countries
  • Sufficient to reduce current impacts of water abstraction in lake Jandari

Step 2 ➔ Identify the most cost-effective cooperative set of actions – and share of efforts among the two countries
Bringing cooperative action to a higher level

Option 1

**Water abstraction is reduced in each country proportionally to current abstraction levels**

**PROS:** this solution can be implemented without collecting additional data – current abstraction levels are known

**CONS:** the economic impact of this solution might not be shared equitably among the two countries

Option 2

**Water abstraction is reduced in each country based on the most efficient allocation**

**PROS:** this solution takes into account the water productivity of each activity, so the economic impact is equitably shared

**CONS:** this solution requires data collection and economic analysis
In conclusion….

• Negotiating **suitable environmental targets** among the two countries is the first crucial step of trans-boundary cooperation.

• Trans-boundary cooperation is key to the **economic development** of the concerned areas.
  
  → However, a **thorough economic analysis** is required to ensure that the share of efforts among the two countries leads to the most efficient economic outcomes.

• **Negotiations** between the two countries still play a crucial role when defining the share of efforts among them, as other priorities rather than only economic ones can come into play.