

Assessment of the Water-Food-Energy- Ecosystems Nexus in Transboundary Basins: the Caucasus and Central Asia

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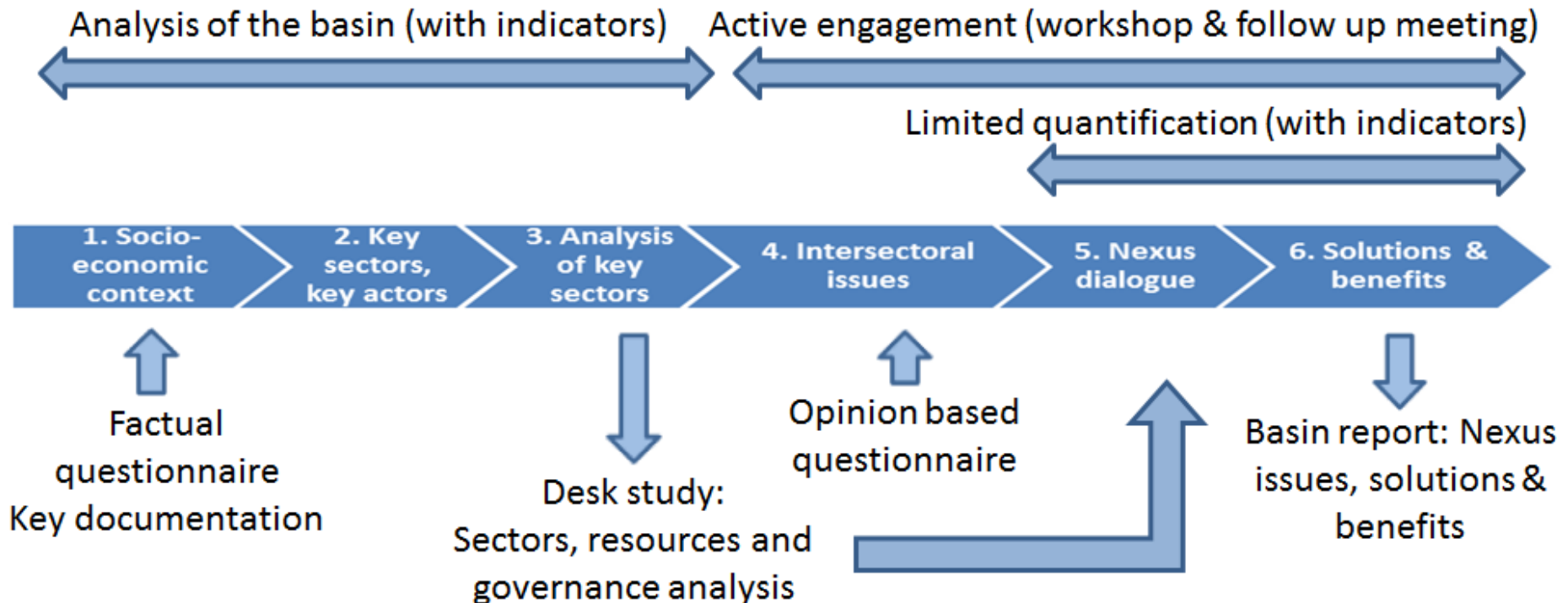
Convention of the Protection and Use of Transboundary Watercourses and International Lakes



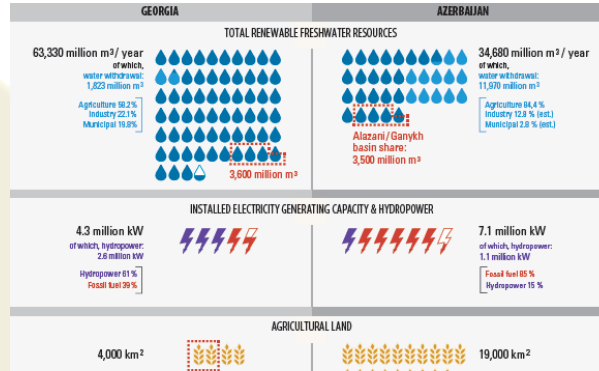
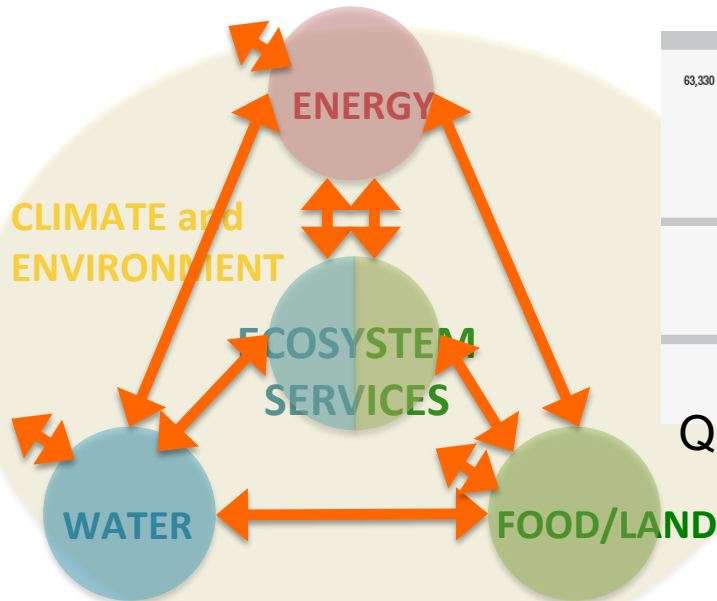
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Nexus assessment methodology

- Adapts to the context and the issues specific to the basin
- A non-prescriptive, inclusive and indicative approach — provides a good basis for identifying cooperation opportunities
- Application to 5 transboundary basins demonstrates value for engaging different sectors into a dialogue
- Initial identification of issues, analysis by fit-for-purpose tools

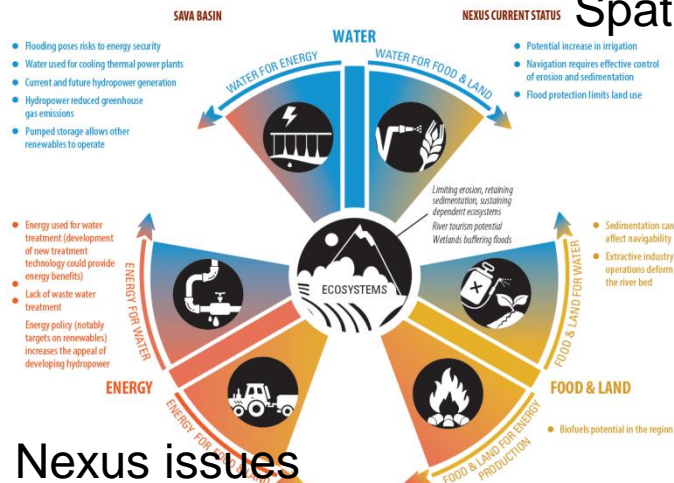


Participatory nexus assessments provide for moving from identification of intersectoral issues to solutions

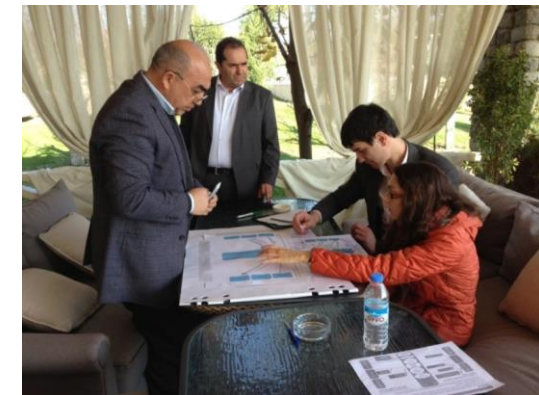


WATER FOR FOOD & LAND Irrigation needs	↗	↗
WATER FOR ENERGY Electricity generation needs, cooling	↗↗	→
ENERGY FOR WATER Treat, move and store water	→	↗
ENERGY FOR FOOD & LAND Grow, store, process and move food	↗	↗
FOOD & LAND FOR ENERGY Food-energy competition for water, biofuel production	→	↘
IMPACT OF FOOD & LAND ON WATER RESOURCE Water pollution, agricultural use	↗	↗

Quantification: indicators & future/development scenario



Spatial aspects



Shared understanding

JOINT ACTION, SOLUTIONS
Instruments, institutions, Infrastructure etc

Nexus issues

Main nexus interlinkages & opportunities



Area/ aspect	Alazani/Ganykh	Syr Darya
Main nexus interlinkages	Water-energy (hydropower), land-energy-water (biomass use, erosion/ sedimentation, hydrological flow)	Water-land-ecosystems (irrigation, salinization), water-energy (hydropower), land-ecosystems
Main nexus opportunities	Facilitate access to modern energy sources and energy trade; minimize impacts from new hydropower development, including with application of international guidelines; catchment management to control erosion	Promote restoring and vitalizing energy market, develop the currently minimal trade in agricultural products; improve efficiency in energy generation, transmission and use; improve efficiency in water use (esp. in agriculture)

Outputs to help apply a nexus approach

- a. Material** to raise awareness and to promote follow up action:
 - a. Syr Darya assessment: a summary in RUS; an extended assessment in ENG and RUS in November
 - b. Alazani/Ganykh assessment: a summary in GE & AZ an extended assessment at least in ENG in November
 - c. 2 policy briefs
- b. Tools**
 - a. The nexus assessment methodology (ENG, soon RUS)
 - b. Energy system model for the Syr Darya countries: Can be used to quantify selected issues, e.g. the effects of changes to energy mixes, investments.
- c. Facilitation of discussion and agreement about action** about what can be done to address the nexus
 - a. At the national level, in cooperation with OECD: EUWI National Policy Dialogues (AZ, GE, KZ, KG, TJ)
 - b. At transboundary/regional/global level: Task Force on the Water-Food-Energy-Ecosystems Nexus, SPECA Thematic WG on Water, Energy and Environment

Moving forward: opportunities

The nexus approach should build on the existing — e.g. multisector structures, intersectoral processes (SEA etc.), review policy and economic instruments, consultation on and coordination of investments ...

Energy (beyond hydro) and trade action could offer constructive alternative perspectives to a narrow water allocation focus

Perceptions about the nexus/nexi vary. A communication challenge!

An intersectoral approach to achievement of SDGs is necessary

Opportunities:

- a. Exchanging experience about assessing the nexus and addressing the issues in practice: the global stock-taking workshop and the nexus Task Force in Geneva 6-8 December 2016 (financial support requests due 21 October)
- b. Energy sector is making commitments to more sustainable energy: Sustainable Energy Forum (Baku 18-21 October 2016) will discuss the nexus & the process to the next Forum & Ministerial in Kazakhstan in 2017.
- c. CAREC & EC with partners providing for a Nexus Dialogue in CA
- d. Investments forthcoming for intersectoral, sustainability oriented projects