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Policy Brief : Improving welfare in the Alazani/Ganykh River Basin region through a transboundary nexus approach



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Coordination between the water, energy, food and environment sectors is fraught with difficulties at the national level, the complexity of which increases substantially in transboundary basins. The “nexus approach” to managing interlinked resources has emerged as a way to enhance water, energy and food security by increasing efficiency, reducing trade-offs, building synergies, and improving governance, while protectin.

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The sustainable use and management of the Alazani/Ganykh Basin’s resources is essential for the development of the riparian regions in Azerbaijan and Georgia.

There are multiple linkages in the Alazani/Ganykh between the different basin resources.

The Alazani/Ganykh, a sub-basin of the Kura Basin, extends over an area of 11,717 km². The basin has productive agricultural land, attractive landscapes, and abundant and high quality water resources. Some 70% of Georgia’s vineyards are located in the region of Kakheti which roughly corresponds to the Georgian part of the basin. The agriculture and tourism sectors are expected to drive development in the riparian regions. The renewable energy potential, hydropower in particular, is locally significant although because of their geomorphological characteristics – at least in the upper tributaries – hydropower development is risky. Improving energy access and affordability in rural areas also contributes to the improvement of rural livelihoods.

Energy-land and land-water linkages are particularly strong. But second-degree linkages are also significant – for example, the lack of modern fuels in the upper basin leads to fuel wood collection and consequent deforestation. This creates land erosion and sedimentation, which in turn affects water resources and infrastructure. Salient infrastructure includes irrigation systems and hydropower plants that are mainly of run-of-the-river type, located on the tributaries. community livelihoods, providing foraged food, fuel and timber. And low carbon electricity production contributes to significant reductions in greenhouse gas emissions.



The basin's resources are increasingly under pressure.

Economic development is driving demand for the supply of water and water transfers to cities outside the basin, raising the levels of agricultural and household pollution and increasing the exploitation of hydropower potential. Despite reduced levels, poverty is still an issue, and because of excessive logging for fuel wood and the poor maintenance of riverbanks and irrigation infrastructure, is driving erosion and sedimentation. In addition, recurrent flooding of agricultural plots contributes to soil loss.

A transboundary nexus approach enabling cross-sectoral and cross-country interventions is needed to address current challenges.

Intersectoral planning needs to be strengthened at national level. The preparation of the National Water Strategy of Azerbaijan and the updating of the Georgian Water Law provide opportunities to strengthen intersectoral coordination of water-user sectors. Whilst there is currently good transboundary cooperation at the technical level, management of the nexus requires stronger transboundary governance. The two countries are currently negotiating a transboundary agreement on the shared water resources of the Kura Basin, to which the Alazani/Ganykh belongs. Concluding that agreement therefore represents a valuable opportunity for different water-using sectors to engage in better cooperation at the transboundary level.

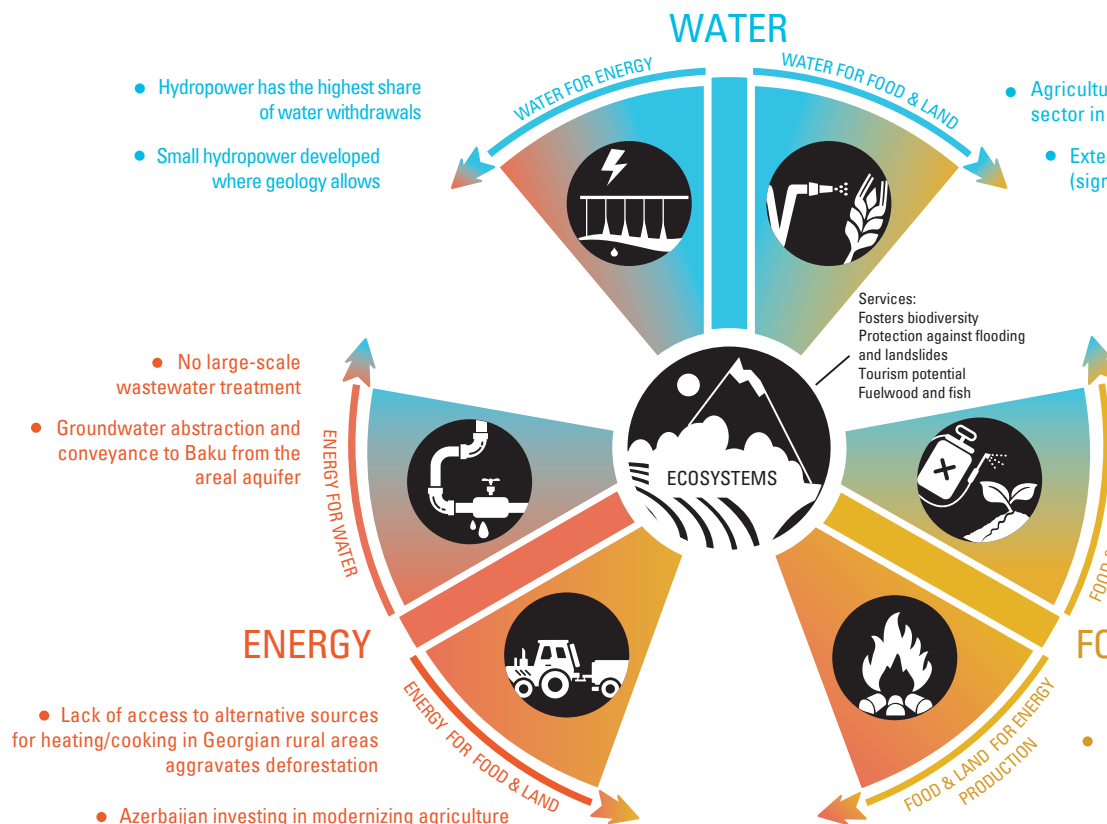
The Alazani/Ganykh nexus assessment has identified a menu of solutions to address specific intersectoral challenges in the basin.

Institutional solutions include strengthening basin governance, developing mechanisms to incorporate wider nexus impacts into sector-based policy development, engaging water-user sectors in the ongoing development of water laws, strategies and plans; clarifying roles and responsibilities (e.g. in relation to the maintenance of riverbanks), and leveraging the support of development partners. Information solutions in the Alazani/Ganykh Basin should

be aimed at improving the monitoring and assessment of basin resources and uncontrolled hotspots, assessing intersectoral linkages when developing sectoral plans or assessments, and providing extension services to upgrade agricultural and forestry practices. Implementation of policy instruments should focus on improving land use planning, promoting the replacement of fuel wood with modern fuels, reforming agricultural support packages, better managing

water supply and sanitation, and developing environmental flow regulations. Infrastructure solutions include investment in the preservation of water resources (e.g. modernising irrigation and wastewater treatment), developing an approach to investing in flood risk management measures, ensuring that new hydropower plants maximise benefits across multiple uses, and promoting the development of renewable energy sources other than hydropower.

ALAZANI / GANYKH BASIN



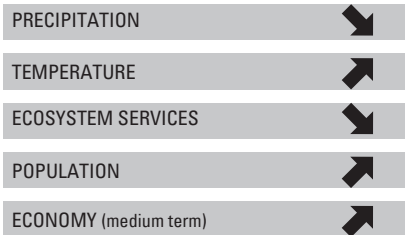
NEXUS CURRENT STATUS

International coordination and co-operation at basin and regional level offers opportunities to “manage the nexus” beyond what is possible at national level.

These include coordinating flood risk management and water quality protection measures, facilitating information-sharing and peer learning, coordinating climate change adaptation plans and measures, and developing a strategic plan for the development of hydropower potential. Target setting and development of the normative frameworks are expected to facilitate investment into different renewable energy

sources. A strengthened consultation of multiple stakeholders would help ensure finding the best options, setting priorities and using resources efficiently. International experience through the application of guidelines and good practices would help to improve sustainability in the location, design and construction of hydropower plants.

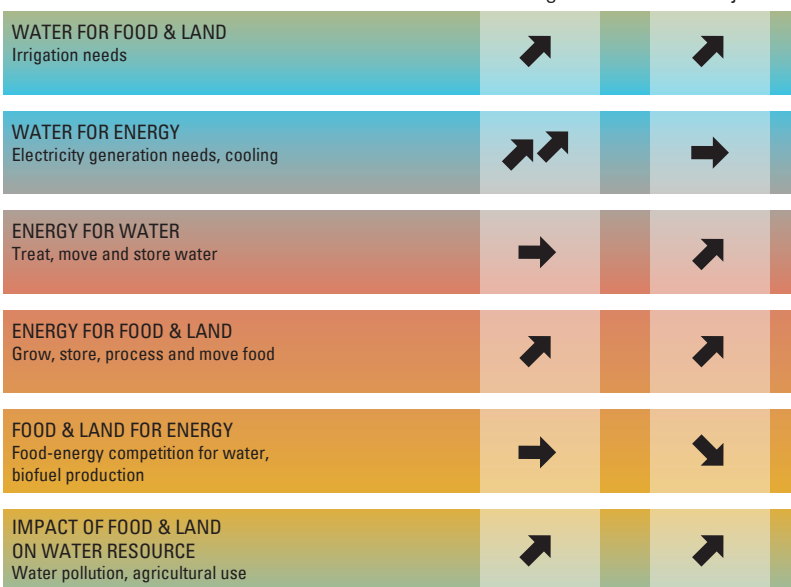
BASIN TRENDS



NEXUS FUTURE IN THE ALAZANI / GANYKH BASIN



NATIONAL TRENDS



There are many benefits of adopting a transboundary nexus approach in the Alazani/Ganykh Basin.

Better transboundary cooperation on the integrated management of basin resources would allow Georgia and Azerbaijan to exploit complementarities in their resource bases (e.g. Georgian forests, Azerbaijani gas). This would optimize resources development as well as risk management at the basin scale (e.g. coordinated hydropower development, coordinated flood management) to better protect the resource base for regional economic development, and to generate new economic opportunities (e.g. through more intense energy trade). There are opportunities for the two countries to learn from each other – for example, Georgia

would benefit from Azerbaijani experience in promoting the switch from fuelwood to modern fuels, and Azerbaijan could learn from the Georgian experience in the economic valuation of ecosystem services. The potential of the basin's land resource could be better realised with the optimisation and modernisation of irrigation, supported by the transfer of related experience. The nexus assessment identifies a number of benefits (Table 1), both on economic activities and what goes beyond those, generated by improvements in the management of the basin's resources as well as by increased trust between the riparian countries.

Benefits of implementing a transboundary nexus approach in the Alazani/Ganykh Basin

	On economic activities	Beyond economic activities
From improved management of basin resources	Economic benefits <ul style="list-style-type: none"> Increased productivity and profitability of agriculture Preservation and development of aquaculture Avoiding hydropower generation losses due to floods and reservoir siltation Cost savings in drinking water treatment Reduced economic losses from floods Reduced public spending on emergency situations and repairing damage Expansion of tourism industry 	Social and environmental benefits <ul style="list-style-type: none"> Health benefits from reduced indoor air pollution Reductions in human losses caused by floods Reductions in unemployment Poverty reduction and increased living standards Recreational use by local communities Preservation of forest habitats Carbon sequestration
From increased trust between Azerbaijan and Georgia	Regional economic cooperation benefits <ul style="list-style-type: none"> Increased trade in energy carriers (such as electricity, natural gas, kerosene) 	Geo-political benefits <ul style="list-style-type: none"> Alignment to international and EU regulation Reduced possibility of conflicts between Georgia and Azerbaijan

The assessment of the Alazani/Ganykh River Basin is the main objective of the nexus assessments under the Water Convention is to foster transboundary cooperation by identifying intersectoral synergies and determining measures that could alleviate tensions related to the multiple needs of riparian countries for shared resources.

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