

IN-DEPTH ANALYSIS

The World Bank considers feasible the building of the Tajik Rogun dam

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Abstract

Water issues in Central Asia, which have proven contentious since the breakup of the Soviet Union, have attracted international attention with the World Bank's recent impact assessment condoning Tajikistan's plan to build an enormous dam. The Rogun Dam, under construction for decades, is strongly contested by downstream Uzbekistan. Tensions between energy-deprived Tajikistan and water-starved Uzbekistan – exacerbated by the region's endemically unsustainable resource management and growing competition – have prevented the countries from pooling their complementary resources. Downstream Uzbekistan has applied political and economic pressure to its poorer upstream neighbour to ensure the huge Uzbek cotton fields continue to be watered. For its part, Tajikistan hopes to export electricity to Afghanistan with the hydropower project, which has suffered from a lack of funding as well as political wrangling. The dam, located in an earthquake-prone region, would be the tallest in the world – and the most cost-effective way to boost Tajikistan's economy and energy efficiency. According to the World Bank, whose reports included technological and environmental considerations, the construction and operation of the dam are feasible, and the proper application of international standards would reduce the risk of failure. The Bank also recommends that downstream countries have an equity participation in the project.

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1 The World Bank feasibility assessment

The Rogun dam was initially designed in the 1970s and revived again in 2004 as a symbol of Tajikistan's sovereignty and a foundation for its economic growth.

The World Bank studies confirmed the safety of building and operating a large dam at the Rogun site complying with international safety norms.

The conclusions highlighted the fact that the dam would have the capacity to withstand environmental risks and that it would be more economical than alternatives to the Rogun dam.

The studies identified some short-term impacts but suggested that the overall negative effects would be minor and could be mitigated acceptably.

The bulk of the World Bank's long-awaited draft assessment report on Tajikistan's most ambitious energy project was published in June 2014. The Rogun dam was initially designed in the 1970s by Soviet engineers with the aim of spurring industrialisation in the country. The project was abandoned shortly after independence and was revived again in 2004. The Rogun dam is symbolic for the Tajik Government and represents an image of sovereignty. It is also considered to be a crucial foundation for the economic growth and stability of the state, having as a priority goal to end its crippling energy shortages.

The World Bank Draft for Discussion analyses the project's technical feasibility and environmental and social impact. Overall, the studies gave the Tajik Government the green light, confirming the safety of building and operating a large dam at the Rogun site, within international safety norms. The World Bank discussed three possible dam heights, the most economical of which was defined as having a full supply level of 1 290 meters above sea level, corresponding to a dam height of 335 meters¹.

The Techno-Economic Assessment Study (TEAS) of the project concluded that all three proposed heights for the dam would have the capacity to withstand the 'maximum credible earthquake' and the 'probable maximum flood'², controversial issues that were frequently discussed by downstream neighbour Uzbekistan, which is opposed to the construction of the dam. The conclusions also highlighted the fact that any of the three dam design options would be more economical in meeting Tajikistan's electricity needs than any alternatives to the Rogun dam. The studies showed that the tallest dam (335 meters) would yield the highest total system cost savings.

The Environmental and Social Impact Assessment (ESIA) of the project provided by the World Bank pointed to two important issues that would require special attention. Further construction work and operation of the dam would require the – mostly involuntary – resettlement of households living in the reservoir area, or in close proximity to the dam site. Also, unless the mitigation measures comply with international norms, the potential reduction in summer flows could negatively affect the irrigation of the downstream countries – particularly Uzbekistan, but also Turkmenistan. Notwithstanding the above, assessment results suggest that the overall impact of the construction and operation of the dam is small and can be mitigated acceptably, based on monitoring activities that meet international norms.

¹ World Bank Draft for Discussion, 'Key Issues for Consideration on the Proposed Rogun Hydropower Project', World Bank, June 2014.

² World Bank Draft for Discussion, 'Key Issues for Consideration on the Proposed Rogun Hydropower Project', World Bank, June 2014, p. 10.

The financial feasibility and economic management of the project are important considerations, both of which are proving to be the most difficult to secure for Tajikistan.

The World Bank studies suggest that the best and most attractive option for financing would be an international consortium with equity participation from downstream countries.

Through a cooperative mode of operation, the Rogun dam could in theory operate to the benefit of all the parties concerned.

Additional issues that require consideration are the economic management and financial feasibility of the project, both of which are proving to be the most difficult to secure for Tajikistan. In order to acquire credible international partners, sound economic management and transparency of overall public finances are crucial. However, the economic climate under the current Tajik Government inspires little confidence. This point has also been raised by the European Parliament, encouraging the modernisation of Tajikistan's economy and better management of its public finances. Moreover, Tajikistan's public institutions are weak, corruption is widespread, memories of the civil war are still fresh and violent clashes are frequent in the east, all of which pose serious challenges for Dushanbe.

Further controversies have arisen based on the fiscal burden associated with the building and operation of the dam. The latter amounts to over USD 4 billion, which is equivalent to 50 % of Tajikistan's GDP for 2013³. Furthermore, while full domestic financing of the project is theoretically feasible, major risks, such as the exacerbation of poverty and a diminishing of domestic consumption, are likely to follow. Due to transparency concerns, the World Bank has also acknowledged that full foreign financing is unlikely. The best and most attractive option suggested by the World Bank is through an international consortium approach, combining government self-financing, equity participation from downstream neighbours, and a certain number of foreign loans. This approach would most definitely require thorough financial reforms.

Without regional tensions over water management, the Rogun dam could operate to the benefit of all the parties involved. Through a cooperative mode of operation with other hydropower providers, such as the Nurek dam, water production can be managed so as to be mutually beneficial in both upstream and downstream countries, based on climate-specific needs⁴.

2 Regional context

Mismanagement of water and energy resources has intensified tensions in Central Asia.

During the last two decades, tensions have intensified around water and energy resources in Central Asia, mostly due to the increasing mismanagement of these sectors. Although the region is endowed with water and energy resources, uneven distribution on a geographical and economic scale is giving rise to conflict.

The downstream countries in the region (Kazakhstan, Turkmenistan and Uzbekistan) are exceedingly dependent on upstream countries (Kyrgyzstan and Tajikistan) for irrigation water, which is further dependent on seasonal water flows. Upstream countries, on the other hand, have limited gas reserves and rely heavily on natural gas imports from downstream countries.

³ World Bank Draft for Discussion, 'Key Issues for Consideration on the Proposed Rogun Hydropower Project', World Bank, June 2014, p. 19.

⁴ World Bank Draft for Discussion, 'Key Issues for Consideration on the Proposed Rogun Hydropower Project', World Bank, June 2014.

The regional context suggests that the water and energy problems in Central Asia are not one of supply, but of distribution.

After the breakup of the Soviet Union, rising nationalistic sentiments and competition between the five states made it impossible to retain an operational system of management.

Due to inefficient irrigation technologies, almost 50 % of water is lost every year, which is the equivalent of 5 billion kWh of lost electricity per year.

The poorer upstream countries are looking to diminish their energy dependency on their wealthier downstream neighbours.

Paradoxically, although it is a leader in world per capita hydropower potential, Tajikistan is obliged to purchase electricity from Turkmenistan and Uzbekistan, at international prices. The regional context therefore suggests that the water and energy problem in Central Asia is not one of supply, but of distribution. Water-energy linkages are complex from the perspectives of national security, regional stability and economic growth⁵.

Under the Soviet system, Moscow regulated and managed the free exchange of water and energy resources across what were then the administrative borders of the union's constituent republics, and provided funding for the building and maintenance of infrastructure. As was the case in other areas, the 1980s brought an increasing lack of funding and coordination of infrastructures in the USSR. Moreover, environmental considerations were not part of the USSR's strategic plans, and the foundations of the globally recognised catastrophe that is the dramatic shrinking of the Aral Sea were at that time being laid.

Like all post-Soviet states, the countries of Central Asia also experienced a rise in nationalism which spurred up competition between the region's five states, crippling their capacity to create a viable regional approach to replace the Soviet system of resource management. By the time the five countries agreed to retain the Soviet-era quota system, such an approach had become unfeasible. Violence within the often artificial borders (and even civil wars) as well as economic decay in the region deteriorated the water and irrigation systems to a grave and irreparable condition, and left control and enforcement mechanisms ineffective. Irrigation systems had become unsustainable to the extent that half of all water never reached the water-intensive crops found in some naturally dry areas, instead causing downstream flooding⁶.

Due to inefficient irrigation technologies, almost 50 % of water is lost every year, with an aggregate loss of 3 % to Central Asia's GDP⁷, which is equivalent to 5 billion kWh of lost electricity every year. Central Asia has the highest levels of water withdrawal and consumption worldwide (notably for agricultural use).

Technological inefficiency is also a primary reason for Tajikistan's winter energy crisis. Each winter, more than one million people suffer due to severe electricity shortages. Part of the reason for this is the production of Tajikistan's main export (aluminium), for which just one company (TELCO) accounts for approximately 40 % of total electricity consumption in the country. Furthermore, 98 % of the country's electricity is produced by power plants that cannot operate on full capacity in the winter, but which produce

⁵ The World Bank Group, (2013). [Central Asia Energy-Water Development Program](#)

⁶ International Crisis Group. (2002). Central Asia: Water and Conflict, ICG Asia Report No.34, pp. i-ii.

⁷ Trilling, D. (2013). [Tajikistan and Uzbekistan: World Bank Cautiously Positive on Hydropower Project.](#)

Tajikistan sees the construction and operation of the Rogun Dam as the most cost-effective way of achieving energy security and economic growth.

an excess of electricity in the summer. Summer electricity generation amounts to 5 billion kWh, which is lost every year due to a lack of sustainability⁸.

The complexity of the water-energy nexus in Central Asia has contributed to a regular blockade of resource exchange between the increasingly mutually dependent upstream and downstream countries. For this reason, the poorer upstream countries are looking to reduce their energy dependency on their wealthier downstream neighbours, through the realisation of their enormous potential for hydroelectric generation⁹.

In this context, Tajikistan is pushing for the construction and operation of the Rogun hydropower plant so as to boost domestic energy production by limiting its dependence on Uzbek energy imports, ensuring stable energy supplies nationwide, and reducing public spending. Tajikistan sees the construction and operation of the Rogun Dam as the most cost-effective way of achieving energy security and economic growth¹⁰.

3 Impact on Tajik-Uzbek relations

Uzbekistan opposes in the strongest possible terms the building of the Rogun dam, claiming that it will take a toll on its agricultural sector and that it poses dangerous socio-economic and environmental risks for the region.

The construction of the Rogun dam is fiercely opposed by the government in Tashkent, which claims that it will take a toll on Uzbekistan's agricultural sector and pose dangerous socio-economic and environmental risks in the region.

Uzbekistan's main export is cotton, which accounts for around 60 % of all foreign exchange receipts. Cotton production is also the main source of employment in the country, accounting for around 45 % of all jobs. Cotton is a water-intensive crop which requires regular irrigation and for which Uzbekistan depends on upstream flows of water. If completed, it is estimated that the Rogun dam will require 16 years to fill up, at the same time reducing downstream water flows. Uzbekistan is concerned that its cotton production industry might suffer from these adverse circumstances¹¹.

Another concern voiced by Uzbek leaders is the potential interference with the ecological balance of water in the region, which could lead to a disruption of river flows. Furthermore, the dam site is known for the intensity of its seismic activity, which amplifies the risk of man-made disasters¹².

With the aim of halting Tajikistan's efforts to advance the management and planning of the hydropower plant project, Tashkent has been using

⁸ Central Asia News. (2014). Implementation of large-scale energy projects to allow Central Asia to achieve sustainable development – Energy and Water Resources Ministry.

⁹ Gleason, G. (2001). [Upstream-Downstream: The Difficulties of Central Asia's Water and Energy Swaps](#).

¹⁰ Oxford Analytica Daily Brief. (2013). [Water Management creates tensions in Central Asia](#).

¹¹ Laine, S., (2013) Transboundary Water Management. The Rogun Dam in Tajikistan, Library of the European Union, p. 3.

¹² Central Asia News. (2013). Uzbekistan speaks out against Rogun and Kambarata hydropower plants at UN tribune.

Downstream Uzbekistan has been using every means possible to halt Dushanbe's advances in the hydropower plant project, even using war rhetoric, back in 2012.

Tajikistan has the potential to become a major energy exporter in the region. It is speculated that the south of the country may hold significant oil and gas reserves.

suppressive tactics by closing borders, preventing the transit of cargo and turning off gas supplies¹³. In 2012 Uzbekistan's President Islam Karimov referred to the prospect of war, should it continue its efforts towards completing the dam. Uzbekistan holds a strategic transit location in the region, which poses difficulties for Tajikistan's economy, as it relies on the goodwill of its other neighbours for stable trading. Although Tajikistan-Kyrgyzstan relations are considered good, the difficult drawing of their border at the Fergana Valley often causes disputes, sometimes with fatalities among border guards.

By revitalising its energy sector, Tajikistan, together with Kyrgyzstan, has the potential to become a major exporter of electricity to its southern and eastern neighbours Afghanistan, Pakistan and India¹⁴. Furthermore, it is speculated that the southern part of the country may hold around eight million barrels of oil and gas condensate, as well as around three trillion cubic meters of gas. Explorations are being carried out to determine whether or not there is truth behind these speculations. In the case where the explorations prove successful, Tajikistan may itself manage to deliver large parts of the funding needed for the project.

Although revitalising power systems and discovering energy resources could help resolve demand issues in Tajikistan, the former will pose challenges in terms of rising tensions immediately between Tajikistan and Uzbekistan, whereas the latter - should efforts prove successful - would only yield results in the longer term¹⁵¹⁶.

4 External positions

Russia has repeatedly shown interest in supporting the construction of the Rogun dam, and is very likely to emerge as one of the investors for the project.

Tajikistan's energy sector has long been a topic of interest for Russia, which has been actively participating with contributions to different hydropower facilities. Iran is another interested party with assets in one of Tajikistan's hydroelectric power plants¹⁷. Following the release of the World Bank feasibility report, Russia has once again expressed its readiness to support the construction of the Rogun hydropower plant.

The World Bank has recommended a consortium of foreign and local donors for the project, wherefore Russia is likely to emerge as one of the key investors. Another reason for Russia's persistence could also be to intimidate Uzbekistan, which has recently chosen to re-launch its previous strong links with the West. This move of Tashkent in 2014, when the majority of the ISAF troops are meant to leave Afghanistan, has an obvious geostrategic value. According to Russian Foreign Ministry spokesman Aleksandr Lukashevich, further efforts are needed from countries in the region to resolve

¹³ Trilling, D. (2013). [Tajikistan Troop Train Derails in Uzbekistan](#).

¹⁴ Oxford Analytica Daily Brief. (2012). [In Central Asia, water and energy needs collide](#).

¹⁵ Oxford Analytica Daily Brief. (2012). [Tajikistan will lobby more for Rogun Dam](#).

¹⁶ Oxford Analytica Daily Brief. (2012). [Tajikistan's power sector faces vicious circle](#).

¹⁷ Tajikistan and Iran share ethnic and linguistic links.

communication problems, to which there are no alternative solutions. In order to ensure that a direct regional dialogue takes place, Russia is ready to provide necessary assistance, if so requested¹⁸.

Overall, western reactions have largely been divided into pro- and anti-Rogun positions.

The western position on the Rogun dam has been critical, considering the possible socio-economic and environmental risks involved in its construction and operation. Overall, reactions have largely been divided into pro- and anti-Rogun positions. In 2011, Member of the European Parliament Elisabeth Jeggle was critical of the Rogun dam, simultaneously supporting a group of Uzbek environmentalists. She advocated alternative solutions, such as upgrading water and energy infrastructure and implementing environmentally friendly projects that do not infringe upon the rights of other states in the region.

After the World Bank Draft for Discussion came out, Human Rights Watch published another report analysing the issues linked to resettlement, focusing on its drawbacks.

Furthermore, after the publication of the World Bank feasibility studies, a second report was released by Human Rights Watch which focused on the issues linked to resettlement for the construction of the Rogun dam. The report analyses environmental risks attached to the building of the dam, but it mostly focuses on the drawbacks of forced resettlement. In the case of involuntary resettlement, the government has the responsibility to provide appropriate compensation which reflects real replacement costs for homes, and to make resettlement sites and farmland readily available, providing basic services such as water, electricity and education facilities. These arrangements have not been going as smoothly as had been promised. Reportedly, people are being left alone to build their own houses with limited financial assistance in rundown resettlement villages, with widespread scarcity of basic services.

Human Rights Watch is urging the Tajik Government to re-evaluate the process of resettlement to ensure the provision of basic services to newly relocated families. It is also encouraging the government to recalculate compensation to reflect the actual costs of resettlement. Human Rights Watch further recommends that the World Bank closely monitor the resettlement process and work with the Tajik Government to address any violations that may occur as a result of the World Bank's involuntary resettlement policy. It also stresses the importance of safeguarding the fundamental human rights of people affected by the project¹⁹.

On the positive side, a significant number of western leaders are convinced of the viability of the project, based on the results of the World Bank studies. The Rogun dam's potential to become a regional provider of water and electricity ranks high enough to consider the project feasible.

UN Secretary-General Ban Ki-moon welcomed the World Bank's feasibility

¹⁸ Interfax. (2014). Russia keen on Central Asia water use projects to become platforms of regional cooperation-ministry.

¹⁹ Corbacho, F., We Suffered When We Came Here: Rights Violations Linked to Resettlements for Tajikistan's Rogun Dam, *Human Rights Watch*, June 2014.

UN Secretary General welcomed the World Bank assessment and called for cross-border water cooperation in Central Asia

assessment and encouraged the governments of the Central Asian states to find comprehensive solutions for cooperation on the management of cross-border water resources, considering the interests of all states in the region²⁰. Similarly, a UK Foreign and Commonwealth Office spokesperson endorsed the World Bank Draft for Discussion, encouraging all states involved to participate in the World Bank consultations planned for the coming months. The UK Foreign and Commonwealth Office considers the Rogun project to be vital to achieve sustainability and address the energy challenges encountered throughout the region²¹.

Furthermore, former US Republican Congressman Dan Burton has also conveyed his support for the construction of the dam, inferring that Rogun has the potential to 'transform the lives of tens of millions of people – permanently and for the better'.²²

5 The EU's position

The EU has long supported prospects of full regional cooperation on the water-versus-energy debate in Central Asia.

The EU firmly supports prospects of full regional cooperation on the water-versus-energy debate in Central Asia, and strongly commends the work of the World Bank in the region.

In September 2012 a high-level roundtable discussion was held on water, peace and security in New York, with high-ranking officials from the US, the UN and the EU in attendance. The Vice-President of the Commission / High Representative of the Union for Foreign Affairs and Security Policy, Catherine Ashton, spoke at the meeting about the need to intensify western engagement in water security issues. In December of the same year, the EU Commissioner for Development, Andris Piebalgs, announced a grant to the World Bank's Multi Donor Trust Fund (MDTF) to support developments around water and energy in Central Asia. By joining efforts with the World Bank, the EU reiterated its intention to help enhance the overall management and development of a sustainable water and energy sector in the region²³.

In 2009 Parliament adopted a resolution urging Tajikistan to make use of its potential for hydroelectric power generation. Parliament also encouraged Tajik leaders to engage in a dialogue with the downstream countries, aiming to achieve a common and transparent system for water and energy management²⁴.

The EU endorses the World Bank assessment results, stating that the World Bank has greatly

After the release of the World Bank Draft for Discussion, the EU issued a

²⁰ Central Asia News. (2014). UN Secretary-General welcomes World Bank's draft assessment on Tajikistan's Rogun hydropower project.

²¹ Central Asia News. (2014). UK calls for constructive engagement on World Bank Rogun report.

²² Trilling, D. (2014). [Ex-Congressman Lobbies for Tajikistan's Quixotic Dam](#).

²³ European Commission. (2012) Press Release. EU to join efforts with the World Bank to develop water and energy in Central Asia. Brussels.

²⁴ Laine, S., (2013) Transboundary Water Management. The Rogun Dam in Tajikistan, Library of the European Union, pp. 1, 4.

contributed to a wider understanding of the context around the building of the dam.

statement endorsing the World Bank's activities to determine the viability of the proposed Rogun hydropower plant project in Tajikistan. The statement also reiterated that the results of the World Bank's studies should serve as inspiration for wider dialogue among all parties concerned, especially the riparian states directly affected. According to VP/HR Catherine Ashton, the World Bank has greatly contributed to a wider understanding of the context around the proposed Rogun project, as well as the overall situation concerning water, energy and the environment in Central Asia²⁵.

6 Annex I: Map



Source: *The Economist*, 2013, <http://goo.gl/5eL17k>

²⁵ European External Action Service. (2014) Statement by the Spokesman on the World Bank's Rogun Assessment Studies. Brussels.