

# Water Pressures in Central Asia

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## *Executive Summary*

Water has long been a major cause of conflict in Central Asia. Two states – Kyrgyzstan and Tajikistan – have a surplus; the other three say they do not get their share from the region’s great rivers, the Syr Darya and Amu Darya, which slice across it from the Tien Shan, Pamir Mountains, and the Hindu Kush to the Aral Sea’s remains. Pressures are mounting, especially in Kyrgyzstan, Tajikistan and Uzbekistan. The population in Central Asia has increased by almost ten million since 2000, and limited arable land is being depleted by over-use and outdated farming methods. Extensive corruption and failing infrastructure take further toll, while climate change is likely to have long-term negative consequences. As economies become weaker and states more fragile, heightened nationalism, border disputes, and regional tensions complicate the search for a mutually acceptable solution to the region’s water needs. A new approach that addresses water and related issues through an interlocking set of individually more modest bilateral agreements instead of the chimera of a single comprehensive one is urgently needed.

The root of the problem is the disintegration of the resource-sharing system the Soviet Union imposed on the region until its collapse in 1991. Kyrgyzstan and Tajikistan provided water to Kazakhstan, Turkmenistan and Uzbekistan in summer and received Kazakh, Turkmen and Uzbek coal, gas and electricity in winter. The system had broken down by the late-1990s, and a plethora of bilateral and regional agreements and resolutions concluded in that decade failed to fix it. The concerns Crisis Group identified in 2002 – inadequate infrastructure, poor water management and outdated irrigation methods – remain unaddressed, while the security environment is bleaker.

Regional leaders seem disinclined to cooperate on any of their main problems. Suspicion is growing between the most directly affected countries, Kyrgyzstan, Tajikistan and Uzbekistan. Personal relations between Tajik President Emomali Rahmon and Uzbek President Islam Karimov have been icy for years, and Karimov and his ministers are increasingly prone to make bellicose statements. International partners, including Russia, the European Union (EU) and the U.S., say they can do little if the countries remain fixated on a narrow interpretation of national interests. Differences over upstream hydropower projects require intensive, high-level resolution. Though some localised efforts to improve water supply have worked, usually with donor aid, corruption has undermined more ambitious ones. Yet, the failure of the Kyrgyz, Tajik and Uzbek governments to modernise water-dependent sectors such as energy and agriculture increases their mutual dependence.

For all its complexity, the water issue is probably the one that offers some opportunity for solution. As a Swiss water specialist observed, “water can be a driver of conflict but it can also be a driver of peace”. It is an objective problem, and equitable distribution and a concomitant energy exchange would produce tangible benefits for all. Removal of the water factor from the more intractable problems of borders and enclaves, meanwhile, might mitigate conflicts and perhaps even help solve them. Improved water infrastructure and management projects could thus be crucial for building peace and political stability, while promoting development and economic growth.

Attempts at comprehensive regional solutions have foundered on mistrust. Kyrgyzstan, Tajikistan and Uzbekistan (and their international backers) should act now in the border areas of the Ferghana Valley to end the annual cycle of competition and conflict over water by dividing the water issue into more manageable portions – seeking gradual, step-by-step solutions along conceptual and geographical lines rather than one all-inclusive resource settlement. If Uzbekistan will not participate, Kyrgyzstan and Tajikistan should work bilaterally. Meanwhile, high-level mediation should be sought to address Uzbekistan’s objections to upstream hydropower projects.

There is no guarantee this would work, but it could give these three states an opportunity to modernise infrastructure and the management of water resources as well as train a new generation of technical specialists. The agreements would also set a modest precedent for other spheres in which cooperation is sorely needed and might help defuse tensions in the region, while improving the grim living conditions of most of its population.

## *Recommendations*

*To develop a modern, corruption-free, and efficient water management system in the region firewalled from other disputes between Kyrgyzstan, Tajikistan and Uzbekistan*

**To the governments of Kyrgyzstan, Tajikistan and Uzbekistan, the UN and the donor community, including Russia, the European Union (EU) and China:**

1. Recognise that the Syr Darya and Amu Darya rivers should be the subject of separate water-sharing agreements.
2. Promote and mediate individual bilateral water and energy sharing agreements between Kyrgyzstan and Uzbekistan and Uzbekistan and Tajikistan, pending a comprehensive agreement on their management.

**To the donor community, including Russia, the EU and China:**

3. Expand infrastructure modernisation programs:
  - a) in urban areas regarding water meters and improved sanitation; and
  - b) in agricultural areas regarding modern techniques such as drip irrigation.
4. Prioritise water issues at the highest levels of engagement with the Kyrgyz, Tajik and Uzbek governments and use international and local media to publicise the need for progress.
5. Work with the smallest units of government, or directly with local communities, to mitigate corruption; and make further funding conditional on the implementation of anti-corruption measures.
6. Build energy sector reform, including anti-corruption measures, into financing plans for large hydropower projects.

**To the governments of Kyrgyzstan, Tajikistan and Uzbekistan:**

7. Commit to resolving border demarcation problems without using water or energy as a coercive factor; facilitate cross-border cooperation between police forces and form a tripartite intra-regional council to oversee day-to-day management of water and land resources parallel to high-level border delimitation negotiations.
8. Investigate and prosecute corruption and misuse of donor money.
9. Embark on large-scale public education programs highlighting the extent of water wastage.
10. Ask donors to design and implement cross-border economic development projects focusing on border and enclave issues, including the management and maintenance of shared water resources for agriculture.

**Bishkek/Brussels, 11 September 2014**

# Water Pressures in Central Asia

## I. Introduction

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In 2002, Crisis Group identified reasons why existing agreements and frameworks in Central Asia were not producing satisfactory water management. These included lack of transparency and political commitment, and failure to comprehend the need for collaborative maintenance arrangements for vital infrastructure such as the Toktogul reservoir in Kyrgyzstan. These and most other issues identified remain unaddressed.

Since the collapse of the Soviet Union in 1991, disputed borders between Kyrgyzstan, Tajikistan and Uzbekistan have caused a series of inter-state, albeit local, conflicts.<sup>1</sup> Each government has used water as leverage in these conflicts and elsewhere in relations with its neighbours.<sup>2</sup> Competition over water and land resources between the three states are now themselves causing armed clashes and festering tensions.<sup>3</sup> Added to the other challenges they face – poverty, weak governance and corruption, for example – water problems contribute to the overall sense of political and socio-economic disenfranchisement and instability.

Likewise, disputes at a national level over the use of shared water resources compromise regional security. Behind these disagreements are economic ambitions and political rivalries. The collapse of Soviet era gas-coal-water-electricity barter arrangements was an economic blow to Kyrgyzstan and Tajikistan. Uzbekistan has gas that can be exported at market prices.<sup>4</sup> Kyrgyzstan and Tajikistan earn money from the water they have in abundance by converting it into hydroelectricity, but this puts them on a collision course with Uzbekistan, whose economy and autocratic political system are underpinned by the water-intensive cotton sector.<sup>5</sup>

This report examines the impact of water issues on shared border areas in the volatile Ferghana Valley; water service stresses in urban areas; and competing water and energy needs among the three states. It focuses on Kyrgyzstan, Tajikistan and Uzbekistan as the source of Central Asia's water problems. Although Kazakhstan and Turkmenistan are impacted by decisions made by the upstream states, the greatest risk of conflict arises from the tensions between these three. The report also analyses the international community's potential to contribute to national and regional stability in Central Asia by working with these countries at a high level to reach a mutually acceptable framework for agricultural and energy sector reform and development. Extensive field research was conducted in Kyrgyzstan and Tajikistan during 2013 and 2014. Crisis Group was unable to gain entry to Uzbekistan.

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<sup>1</sup> Crisis Group Asia Report N°33, *Central Asia: Border Disputes and Conflict Potential*, 4 April 2002.

<sup>2</sup> A senior Kyrgyz official said that when Uzbekistan blocked rail freight traffic in 2013, he told his Uzbek counterpart to let trains through or else Uzbekistan “would not get any water.” Crisis Group interview, Bishkek, January 2014.

<sup>3</sup> Askat Turusbekov, “Приграничные конфликты происходят из-за затягивания делимитации и демаркации госграниц – Т.Мамытов” [“Border conflicts occur due to the protraction of the demarcation and delimitation of the state borders – T. Mamytov”], *Kabar*, 15 March 2013.

<sup>4</sup> Crisis Group Asia Report N°34, *Central Asia: Water and Conflict*, 30 May 2002; “Kyrgyz DCM Discusses Difficulties”, U.S. embassy Tashkent cable, 24 March 2006, as made public by WikiLeaks.

<sup>5</sup> Crisis Group Asia Report N°93, *The Curse of Cotton: Central Asia's Destructive Monoculture*, 28 February 2005.

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## II. The Watery Roots of Tensions

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### A. *The Great Rivers of Central Asia*

The main sources of water in Central Asia are the Syr Darya and Amu Darya Rivers, mostly fed by snow- and glacier-melt from the Pamir, Hindu Kush and Tien Shan mountain ranges.<sup>6</sup> The 2,200km Syr Darya originates in the Tien Shan, flows through Kyrgyzstan as the Naryn River and combines with the Kara Darya to become the Syr Darya. It traverses the Uzbek portion of the Ferghana Valley on its way to Khujand in Tajikistan and eventually toward the Aral Sea, where it forms a large delta.<sup>7</sup> The 2,540km Amu Darya begins in the Pamirs at the confluence of the Vakhsh and Panj Rivers and flows west, forming Afghanistan's borders with Tajikistan, Uzbekistan, and Turkmenistan much of the way, and then on to the Aral Sea.<sup>8</sup>

The Syr Darya and Amu Darya account for 90 per cent of Central Asia's river water and 75 per cent of the water needed for its irrigated agriculture.<sup>9</sup> Though Kyrgyzstan and Tajikistan are just 20 per cent of the Aral Sea basin, 80 per cent of the area's water resources flow from their territory.<sup>10</sup> The Kyrgyz control the downstream Syr Darya flow at the Toktogul dam and reservoir; Tajikistan continues to build, intermittently (for lack of funds), the Rogun dam on the Vakhsh, a major Amu Darya tributary.<sup>11</sup> If completed, it will be the world's tallest.<sup>12</sup> Another major dam, Nurek, about 75 km from Rogun, has operated since 1980, but silt may soon close it.<sup>13</sup> This would have major consequences for Tajikistan, some 80 per cent of whose electricity it produces.<sup>14</sup> The rivers make Kyrgyzstan and Tajikistan, Central Asia's poorest republics, potential world leaders in renewable energy. Currently, however, Tajikistan is unable to provide much of its population with more than one hour a day of elec-

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<sup>6</sup> Stefan Klotzli, *The Water and Soil Crisis in Central Asia: A Source for Future Conflicts?* (Zurich, 1994).

<sup>7</sup> The Ferghana Valley consists of Kyrgyzstan's Batken, Jalalabad and Osh provinces, Tajikistan's Soghd province and Uzbekistan's Ferghana, Namangan and Andijan provinces

<sup>8</sup> R.D. McChesney, *Central Asia: Foundations of Change* (Princeton, 1996), pp. 35-36.

<sup>9</sup> Daene McKinney, Dan Burghart and Theresa Sabonis-Helf (eds.), *In the Tracks of Tamerlane: Central Asia's Path to the 21<sup>st</sup> Century* (Honolulu, 2005).

<sup>10</sup> The Aral Sea Basin includes the Syr Darya and Amu Darya Rivers, as well as the Tedzhen and Murgabi, the Karakum canal and shallow rivers flowing from Kopet Dag and western Tien Shan. The basin extends through Uzbekistan, Tajikistan, Kazakhstan, Kyrgyzstan, Turkmenistan, Afghanistan and Iran. Its area is about two million kilometres. Nikita Glazovsky, Jeanne Kasperson, Roger E. Kasperson and B.L. Turner II (eds.), *Regions at Risk: Comparisons of Threatened Environments* (Tokyo, 1995).

<sup>11</sup> Crisis Group Report, *Central Asia: Water and Conflict*, op. cit. See also Artyom Fradchuk, "Tajikistan's Energy Dilemma", Institute for War and Peace Reporting (IWPR), 10 April 2006.

<sup>12</sup> It is planned to be 335 metres high, with six turbines and a capacity of 3,600 MW.

<sup>13</sup> Nurek's hydropower potential is diminished due to silting, according to Odinamakhmad Chors-hanbiyev, head of the central dispatch service of Barki Tojik, a Tajik national power company. He said in 2011 that the reservoir would be completely silted in ten to fifteen years. "Если мы не построим Рогун, то можем потерять Нурек, – 'Барки точик'" ["If we do not build Rogun, we might lose Nurek – 'Barki Tojik'"], *Avesta.tj*, 1 November 2011. Other specialists feel Nurek could be inoperative within eight years. Crisis Group interview, Swiss water specialist, June 2014.

<sup>14</sup> "Таджикистан намерен достроить Рогунскую ГЭС" ["Tajikistan intends to finish constructing the Rogun hydropower plant"], *Vremya Vostoka*, 16 August 2013.

tricity in winter.<sup>15</sup> After a period of drought, Kyrgyzstan faces another spell of sharply reduced water supply to Toktogul, which provides 90 per cent of its electricity.<sup>16</sup>

### B. *Soviet Management of the Rivers*

In 1988, two water management agencies (*Бассейновое Водное Объединение*, BVOs) were formed to control the flow of the Syr Darya and Amu Darya, both headquartered in Uzbekistan. They worked in conjunction with Gosplan, the State Planning Committee, which had final say over all economic life in the Soviet Union and set water quotas and energy barter deals in consultation with ministries, including agriculture, energy, land reclamation and water resources. The top priority was always cotton production.<sup>17</sup>

After the Soviet Union's collapse, the BVOs continued under the auspices of the Interstate Coordinating Water Commission (ICWC), composed of Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan, that was created after late-1991 consultations between water resource ministers in Almaty and enshrined in a February 1992 agreement. The ICWC sets quotas, and the BVOs monitor their implementation. The agreement maintained Soviet-era levels but gave the BVOs the ability to adjust allocations up or down by 15 per cent. Numerous other agreements, of varying effectiveness, were layered over the Almaty agreement, more than three dozen on the Syr Darya alone. Although the system is still in place, it has achieved little.<sup>18</sup> Moreover, the original intent of the agreements has been abandoned.

Dams in Kyrgyzstan and Tajikistan collected and stored water in autumn and winter and released it in spring and summer to irrigate downstream crops. In exchange, Uzbekistan and Kazakhstan provided oil, gas, coal and electricity from their thermal plants to Kyrgyzstan and Tajikistan during winter months. By the mid-1990s, Kazakhstan and Uzbekistan no longer had surplus electricity to barter, so started asking market prices for their hydrocarbon exports. Kyrgyzstan and Tajikistan, unable to pay these for fuel to run their heating plants, began releasing water in winter to produce hydroelectricity to heat their own homes and factories.<sup>19</sup> This in effect disrupted the Soviet system that prioritised agriculture and the release of water to Kazakhstan and Uzbekistan in spring and summer.

### C. *Water Use*

In May, the snow on the Tien Shan mountain range begins to melt, and rivers often overflow their banks on the way to larger tributaries, replenishing the great reservoirs like Kyrgyzstan's Toktogul ahead of the summer irrigation period. They supply water for drinking, irrigation and electrical power: some 93.3 per cent of Kyrgyzstan's energy and 98.8 per cent of Tajikistan's electricity generation are now hydroe-

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<sup>15</sup> Mirzonabii Kholikzod, "В Таджикистане введен, жесткий лимит на электроэнергию" ["Harsh limitations on electricity are introduced in Tajikistan"], Radio Ozodi, 23 March 2014.

<sup>16</sup> Aidana Usupova, Assel Satubaldina, Tatyana Kuzmina, "Irrigation water shortage in Kyrgyzstan hits Kazakhstan", Tengrinews, 31 July 2014.

<sup>17</sup> Peter Sinnott, Robert A. Lewis (ed.), *Geographic Perspectives on Soviet Central Asia* (New York, 1992).

<sup>18</sup> "Central Asia Regional Water, Environment and Energy Agreements", University of Texas. [www.ce.utexas.edu/prof/mckinney/papers/ara/c/central\\_asia\\_regional\\_water.htm](http://www.ce.utexas.edu/prof/mckinney/papers/ara/c/central_asia_regional_water.htm).

<sup>19</sup> Crisis Group Report, *Central Asia: Water and Conflict*, op. cit. p. 12.

lectric, a result of their decisions in the mid-1990s to switch to energy generation in the winter, rather than rely on power and fuels from Kazakhstan and Uzbekistan.<sup>20</sup> Uzbekistan uses up to 90 per cent of the water released by Kyrgyzstan and Tajikistan in spring and summer to irrigate cotton, its main cash crop.<sup>21</sup> But water wastage is high, and this sector is a source of controversy for its attendant, well documented human rights violations. Donors have been criticised for supporting it through technical aid.<sup>22</sup>

Uzbekistan's irrigation system desperately needs modernisation. Researchers suggest that 50 to 80 per cent of water used for agricultural irrigation is lost. Only 25 to 35 per cent of what makes it to crops is used efficiently.<sup>23</sup> A former senior provincial official from rural Uzbekistan said:

[Farmers] are told they have to grow cotton, and the way they water the fields of cotton is very old-fashioned. They should use new modern methods to do it, but [the government] does not want to spend money. They could buy cotton-picking machines, but it is cheaper for them to use children and the people's labour for cotton picking. Uzbekistan cries about the lack of water, but it is not true. It is an artificially created problem.<sup>24</sup>

The problem of salinisation is especially acute in Uzbekistan, where over 50 per cent of the irrigated land is affected in varying degrees due to inappropriate irrigation practices. Salinisation is one of the country's most serious environmental problems, the UN Food and Agriculture Organisation (FAO) maintains.<sup>25</sup> The salinisation rates of Kyrgyzstan and Tajikistan dipped in the 1990s, but mismanagement and drainage have since led to the salinisation of 16 per cent of Tajikistan's irrigated land and approximately 5 per cent of Kyrgyzstan's.<sup>26</sup> Salinisation in Central Asia's reservoirs has also increased significantly over the past 30 years.<sup>27</sup>

Water contamination is another growing concern throughout the region. "Kazakhstan is already complaining about the quality of the water coming from Uzbekistan", said a specialist who agreed the complaints are well-founded and added that:

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<sup>20</sup> "Electricity production from hydroelectric sources (% total)", World Bank, <http://data.worldbank.org/indicator/EG.ELC.HYRO.ZS>.

<sup>21</sup> Tomi Petr (ed.), "Fisheries in irrigation systems of arid Asia", UN Food and Agriculture (FAO) Fisheries Technical Paper, no. 430 (2003), pp. 125-150.

<sup>22</sup> Crisis Group Report, *The Curse of Cotton*, op. cit.; "Uzbekistan: Forced Labor Widespread in Cotton Harvest", Human Rights Watch, 26 January 2013.

<sup>23</sup> Yulia Shirokova and Alexander Morozov, "About Ways for Improvement of Water Use in Irrigation of Uzbekistan", pp. 358, 363.

<sup>24</sup> Crisis Group interview, April 2014.

<sup>25</sup> Salinisation is the process through which water-soluble salts accumulate in soil over time. It can occur naturally, but also from over-irrigation and insufficient drainage. It hinders crop growth by limiting the ability to absorb water and nutrients. It also degrades shallow ground water and surface water. "Soil Quality Resource Concerns: Salinization", U.S. Department of Agriculture, January 1998. "Land Resources – Uzbekistan", FAO, [www.fao.org/nr/land/projects-programmes/cacilm-initiative/cacilm-project/uzbekistan/en](http://www.fao.org/nr/land/projects-programmes/cacilm-initiative/cacilm-project/uzbekistan/en).

<sup>26</sup> M.A. Mohamed Smith (ed.), *Climate Change and Sustainable Development: New Challenges for Poverty Reduction* (Edward Elgar Publishing, 2009), p. 174. "Integrating Environment into Agriculture and Forestry: Progress and Prospects in Eastern Europe and Central Asia, Volume II", World Bank, November 2007. pp. 1, 8.

<sup>27</sup> "Salinization of waters", FAO, [www.fao.org/fishery/topic/13473/en](http://www.fao.org/fishery/topic/13473/en).

[The Uzbek government pursues] a completely wrong state policy on agriculture. Uzbekistan grows huge amounts of wheat and cotton annually, and the farmers are allowed to grow a third crop for their own income. This happens year after year without pause. The soils are impoverished and need industrial amounts of fertilisers in order to maintain the required harvest quota. Cotton is one of the crops with a major need for pesticides, and the products used in Uzbekistan are extremely dangerous for human health. Population growth and economic growth increase the problem.<sup>28</sup>

These interlinked issues are not being seriously addressed, and mistrust has grown perceptibly. “The Tajiks and Kyrgyz don’t believe that Uzbekistan can be trusted, and likewise Uzbekistan feels threatened and believes that no one is listening to them. There’s a lot of foot-dragging on all sides”, said a UN official knowledgeable about negotiations over the regional use of water resources.<sup>29</sup> Yet, remedies are available. The World Bank says reform of the Uzbek agricultural sector is “one of the most obvious and cost-effective ways to adapt” to water-related challenges.<sup>30</sup>

#### D. *Ballooning Populations, Growing Suspicions*

In 2000, an estimated 55.9 million people lived in Central Asia. Today there are about 65.7 million.<sup>31</sup> A further twenty million are expected by 2040, placing enormous demands on water and infrastructure.<sup>32</sup> Migration from the countryside to urban areas increases the problem. Analysts say lack of government interest in internal migration means data is scarce, but they believe the numbers are very large.<sup>33</sup> Local authorities rarely have funds to repair infrastructure or incentive to reform water-intensive agricultural practices. National governments frequently lack political will.<sup>34</sup>

International concern is growing. A U.S. intelligence community assessment reported in 2012 with respect to the Amu Darya that regional water issues include ineffective water agreements and management as well as a decline in water quality and noted:

Water shortages, poor water quality, and floods by themselves are unlikely to result in state failure. However, water problems – when combined with poverty, social tensions, environmental degradation, ineffectual leadership, and weak political institutions – contribute to social disruptions that can result in state failure.<sup>35</sup>

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<sup>28</sup> Crisis Group interview, June 2014.

<sup>29</sup> Crisis Group interview, Bishkek, January 2013.

<sup>30</sup> “Uzbekistan Climate Change and Agriculture Country Note”, World Bank, September 2010.

<sup>31</sup> “Population in 1999 and 2000: All countries”, UN Population Division, [www.un.org/popin/popdiv/pop1999-00.pdf](http://www.un.org/popin/popdiv/pop1999-00.pdf). Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan sections in “CIA World Factbook”, [www.cia.gov/library/publications/the-world-factbook/index.html](http://www.cia.gov/library/publications/the-world-factbook/index.html).

<sup>32</sup> Tobias Siegfried et al., “Will climate change exacerbate stress in Central Asia?”, *Climatic Change*, no. 112 (2012), pp. 881-899.

<sup>33</sup> “There is no statistical data about the exact or even approximate numbers of internal migrants, because there is no such office to control or track them. During 2005-2010, a huge number of internal migrants started moving to Bishkek and Osh [Kyrgyzstan’s capital and second largest city respectively] searching for a better life. In bigger cities they have at least some chance to get a pay cheque. The large number of internal migrants is a weight on the government. They are a burden on infrastructure”. Crisis Group interview, Nuriya Temirova, internal migration expert, Bishkek, June 2014.

<sup>34</sup> Crisis Group interview, water expert, Jalalabad, December 2013.

<sup>35</sup> “Global Water Security”, Defense Intelligence Agency, 2 February 2012.

An FAO expert concluded:

The absence of a shared vision on water security leads to increased risks of competition and conflict over water resources and the degradation of natural resources .... The drivers of change – climate change, urbanisation, population growth and economic growth – are placing increased pressure on the region’s water resources and governments must ensure that the institutions responsible for water resources and services can respond to this emerging challenge.<sup>36</sup>

Russia worries that water risks becoming a catalyst for political instability and deadly conflict. In 2012, ground forces commander Colonel General Vladimir Chirkin warned that water, land and energy issues could spark “local armed conflicts” in Central Asia.<sup>37</sup>

A Western diplomat in the region described the situation on the Ferghana Valley’s borders as acute, complicated and urgent and identified competing demands on water as a potential conflict trigger.<sup>38</sup> His views are regularly echoed in private by UN, Organisation for Security and Cooperation in Europe (OSCE) and European Union (EU) representatives, as well as Kyrgyz government advisers.<sup>39</sup>

Despite its stated concerns about the risk posed by resource issues, Russia is often viewed by Uzbekistan as pursuing policies that aggravate water tensions.<sup>40</sup> It alienated Tashkent in 2012 by providing loans and investments that further Kyrgyzstan’s hydropower ambitions, including a \$1.7 billion loan to finance the Kambarata-I dam that is still at the feasibility study stage but projected to cost up to \$3 billion and generate 1,860 MW.<sup>41</sup> Moscow’s decision was a significant policy shift. Previously it had positioned itself as the mediator in regional water disputes; now it was actively backing the Kyrgyz position.<sup>42</sup> Kyrgyzstan insists it needs Kambarata to provide electricity for domestic use as well as export. Moscow has also considered funding Tajik-

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<sup>36</sup> Crisis Group telephone interview, Ines Beernaerts, land and water resources officer, FAO Sub-Regional Office for Central Asia, June 2014.

<sup>37</sup> “Главком Сухопутных войск РФ не исключил новых войн в Центральной Азии” [“Commander of the Ground Forces of the Russian Federation did not rule out new wars in Central Asia”], RIA Novosti, 26 June 2012.

<sup>38</sup> Crisis Group interview, Bishkek, May 2014.

<sup>39</sup> Crisis Group interviews, Kyrgyzstan and Tajikistan, 2013-2014. A regional UN representative cautioned that water problems between Kyrgyzstan, Tajikistan and Uzbekistan are “becoming more and more political”, Crisis Group interview, Bishkek, January 2014. A senior OSCE official noted: “Water, pastures and roads are a big problem. Things can happen very fast. There is a certain dialogue, but they are stuck. It could be problematic tomorrow or next year”, Crisis Group interview, Bishkek, July 2014.

<sup>40</sup> Natalia Rogozhina, “Конфликтный потенциал водных ресурсов Центральной Азии” [“Conflict potential of water resources in Central Asia”], *Россия и новые государства Евразии* [*Russia and the New States of Eurasia*], no. 1 (2014) pp. 44-54.

<sup>41</sup> Suiunbek Shamshiev, “Osmonbek Artykbayev: Construction of Kambarata-1 requires about \$3 billion”, 24.kg, 21 July 2014, [www.eng.24.kg/economics/171518-news24.html](http://www.eng.24.kg/economics/171518-news24.html). A second plant, Kambarata-II, is expected eventually to produce 360 MW. Marlene Laruelle and Sebastien Peyrouse, *Globalizing Central Asia: Geopolitics and the Challenges of Economic Development*, (Armonk, 2013), p. 231. It will not be fully operational, though, until Kambarata-I is in place. Crisis Group interview, energy expert, Bishkek, September 2013.

<sup>42</sup> Alexander Cooley and Marlene Laruelle, “The Changing Logic of Russian Strategy in Central Asia: From Privileged Sphere to Divide and Rule?”, PONARS Eurasia, Policy Memo 261, George Washington University, July 2013.

istan's Rogun dam, though it has not made a firm commitment.<sup>43</sup> Uzbekistan resolutely opposes both projects, citing environmental concerns.<sup>44</sup> Specifically, it trusts neither Kyrgyzstan nor Tajikistan to release the water when it is needed for irrigation, and it resents and fears the opportunity the dams would enable both to withhold water for political and economic coercion.<sup>45</sup>

### E. *Climate Change*

Climate change will almost certainly compound Ferghana Valley water problems, though specialists are not yet quite sure how. A number of factors – among them weak institutions and the politicisation of water resources – make Central Asia particularly vulnerable, and there is considerable agreement that regional water management will become more difficult. New projects like Kambarata I and II in Kyrgyzstan and Rogun in Tajikistan provoke anger in Tashkent, though some experts argue they could improve management, as they will collect and store water that could be released for irrigation.<sup>46</sup> Nearly ten million people in Uzbekistan depend on irrigated agriculture for their livelihood,<sup>47</sup> and international efforts at water management have had limited success.<sup>48</sup> The FAO warns of “increasing concern about climate change, especially because climate change affects the Central Asia region's water and energy security. This may lead to political tension between the countries unless they collaborate in careful management of their resources”.<sup>49</sup>

In 2012, researchers who developed a climate, land-ice and rainfall-run-off model for the Syr Darya concluded that climate change is likely to seriously affect the river's run-off regime: snow will melt earlier, due to increasing run-off from melting glaciers; as a consequence, less water will be accumulated and available for summer irrigation because the downstream tributaries lack sufficient storage facilities. The area at highest risk is the densely populated Ferghana Valley, especially the Uzbek part. A gamble that melting glaciers and snow might mean increased water availability, at least in the short term, would be risky.<sup>50</sup> The FAO says water supplies could decline catastrophically by the end of the century.<sup>51</sup> However, climate change will likely not

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<sup>43</sup> Crisis Group interview, Russian official, 2014. Gregory Gleason, “Russian Companies Propose Debt-Equity Swaps in Central Asia”, *Jamestown Eurasia Daily Monitor*, vol. 1, no. 103 (2004).

<sup>44</sup> See Section V below.

<sup>45</sup> Crisis Group interview, UN official, Bishkek, January 2013. See also Gaisa Altynbaeva, “Каримов призвал Таджикистан не блокировать ни грамма воды в Амударье” [“Karimov urged Tajikistan to not block a single gram of water in the Amu Darya”], *Radio Azzatyk*, 12 October 2010.

<sup>46</sup> A Swiss water specialist said, “the need of more dams is urgent, and there are ways to manage them in order to satisfy the needs of all, but there is a lack of political will”. Crisis Group email correspondence interview, June 2014.

<sup>47</sup> “Uzbekistan Climate Change and Agriculture”, *op. cit.*

<sup>48</sup> Siegfried et al., “Will climate change exacerbate water stress in Central Asia?”, *op. cit.*

<sup>49</sup> “General summary Central Asia region”, FAO, 2013.

<sup>50</sup> Siegfried et al., “Will climate change exacerbate water stress in Central Asia?”, *op. cit.* Tobias Siegfried of Hydrosolutions Ltd led the researchers.

<sup>51</sup> “Most of the flow of the Amu Darya and Syr Darya comes from rainfall and snow melt in the mountains. It is estimated that reduced contribution of glacier melt could reduce flows in the Amu Darya basin by 5-15 per cent by 2085 and in the driest years this could be as much as 35 per cent of current discharge. Although there is a high degree of statistical uncertainty, this is clearly a very real threat that cannot be ignored in any future plans for the basin's water resources. Thus, in the worst case in 80 years time, it is possible that in extreme years it may only be possible to meet half the current demand for water.” “General summary Central Asia region”, *op. cit.*

constitute the principal challenge; the researcher who led the effort to produce the model distinguished between the threats:

We shouldn't minimise the potential challenges due to climate change – it can be that the mountain slopes become unstable because permafrost melts, which could lead to all sorts of added problems and pose new threats to infrastructure, or that summer heat increases requirements for irrigation on the one hand and causes increasing heat stress on crops on the other– a whole host of different problems. But it's definitely not correct that the primary threat in the region is climate change. Rather it is the mismanagement of water resources and the slow, but gradual degradation of infrastructure.<sup>52</sup>

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<sup>52</sup> Crisis Group phone interview, Dr Tobias Siegfried, partner, Hydrosolutions Ltd., June 2014.

### III. Water and Borders

Kyrgyzstan, Tajikistan and Uzbekistan share 3,681km of borders, of which 961km are disputed. Many of the disputed sectors are in the Ferghana Valley.<sup>53</sup> The annual cycle of competition for water is exacerbated not only by management and infrastructure problems, but also by issues of border delimitation and demarcation. In 2012-2013, there were 38 security incidents on the Kyrgyz-Uzbek border and 37 on the Kyrgyz-Tajik border, with four deaths resulting from the former.<sup>54</sup> Officially, the Kyrgyz Border Service says the number has decreased on a year-to-year basis since 2010, but officials on the ground say the figures do not reflect the real number of violent disputes. They also note that pressure on water and land resources is intensifying.<sup>55</sup>

The general political situation has likewise left its mark: inter-ethnic tension in the Ferghana Valley has grown considerably since the June 2010 ethnic violence – principally anti-Uzbek pogroms – in Osh, Kyrgyzstan’s second city, which left some 470 dead.<sup>56</sup> Though donors can partially ameliorate some of the technical issues facing rural border communities, their projects are not designed to address the underlying political ones. Nor have they been able to induce the three governments – inhibited by nationalism and mistrust – to pursue a cross-border approach to water problems.<sup>57</sup>

#### A. *Batken: A Triangular Struggle*

A typical example of this failure is the situation in Batken, Kyrgyzstan’s southernmost province, located in the Ferghana Valley and sharing borders with Uzbekistan and Tajikistan. Remote – the nearest major town, Osh, is about 250km away – largely agricultural and famous for its fruit, Batken is strategically important for all three states. Afghanistan is approximately 150km from the Kyrgyz border. Drug traffickers and guerrillas from the now pan-regional Islamic Movement of Uzbekistan (IMU), trained in north-western Pakistan and operating in northern Afghanistan, regularly pass through, local officials maintain.<sup>58</sup> The province’s political geography is complicated by three small enclaves, each no more than several villages with a few dozen families and surrounded by Kyrgyz territory though belonging to Tajikistan or Uzbekistan.<sup>59</sup> These were created by the Soviet Union between 1918 and 1936.<sup>60</sup> Sokh

<sup>53</sup> The Kyrgyz-Uzbek border is 1,378km, with 371km in dispute; the Kyrgyz-Tajik border is 970km, with 403km in dispute; the Tajik-Uzbek border is 1,333km, with 187km in dispute.

<sup>54</sup> Darya Mamontova, “В 2013 году на участках кыргызско-таджикской границы произошло 19 конфликтов” [“Nineteen conflicts occurred on Kyrgyz-Tajik border in 2013”], K-News, 13 January 2014. Rustam Kadyrov, “Это переходит все границы” [“That’s the limit”], Kyrgyz Press, 14 August 2013.

<sup>55</sup> Crisis Group interview, official, Batken, 14 March 2014.

<sup>56</sup> “Report of the Independent International Commission of Inquiry into the Events in Southern Kyrgyzstan”, Kyrgyzstan Inquiry Commission, June 2010. Crisis Group Asia Report N°193, *The Pogroms in Kyrgyzstan*, 23 August 2010.

<sup>57</sup> Crisis Group interview, Bishkek, 2013.

<sup>58</sup> Crisis Group interview, security official, Bishkek, October 2013.

<sup>59</sup> Kyrgyzstan has seven enclaves within its territory, two Tajik and five Uzbek. It has one enclave of its own, Barak, surrounded by Uzbek territory.

<sup>60</sup> Maria Merkulova, “Enclaves of Central Asia”, *The Washington Review of Turkish and Eurasian Affairs*, November 2013.

and Shahimardan belong to Uzbekistan; Vorukh belongs to Tajikistan. Shahimardan is populated mostly by ethnic Uzbeks. The majority of Sokh and Vorukh residents are ethnic Tajiks, often engaged in farming and fruit trading.

Sporadic clashes in Sokh and Vorukh in 2013-2014 have involved several thousand people, hostage-taking, serious injuries, arson and extensive property damage.<sup>61</sup> The tensions are caused by unresolved borders and disputes over access to water and land. Positions have hardened along ethnic lines since the 2010 violence, a Western diplomat working frequently in Batken observed.<sup>62</sup>

Many disputes are unreported outside the province, but the resulting road closures and protests have further damaged economically vital cross-border relations, and the border and enclave problems, essentially a legacy from the Soviet era, are still no closer to resolution.<sup>63</sup> While the incidents so far have been relatively minor, they indicate how quickly even a small dispute can take on a potentially dangerous ethnic dimension. Since the Osh 2010 violence projected a small group of little-known figures onto centre stage, some Kyrgyz politicians rarely resist playing the ethnic card. Others may also be tempted to exploit the issue: criminal and jihadi groups, for example, may wish to strengthen their foothold along an important transit route; or Uzbekistan, increasingly intolerant of its neighbours and keen to position itself as a defender of ethnic Uzbeks, may become involved.

Water is nearly always an element in such conflicts, whether as prime cause or conflict multiplier. A well-designed and implemented effort to address wastage, shortages and broken infrastructure could mitigate or solve some potential conflicts.<sup>64</sup> It is vital to cope with the issues Batken and the enclaves face before they are cast exclusively as inter-ethnic disputes, potentially destabilise larger swathes of southern Kyrgyzstan and the Ferghana Valley and perhaps prompt Uzbekistan to take an

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<sup>61</sup> One of the most violent and prolonged disputes was in December 2012, when the Kyrgyz Border Service started to build a border post near the Uzbek village of Khushyar in Sokh. On 5 January 2013, private contractors began installing power lines, allegedly without notifying the Uzbeks. Sokh residents saw this as an illegal attempt to seize part of their territory and began harassing the border guards and contractors. Power lines were torn down and cars burnt. A large group of Khushyar residents went to Charbak, a nearby Kyrgyz village, took more than 30 hostages, including women and children, and cut water and electricity. Some hostages were severely beaten, and a Kyrgyz policeman who tried to mediate was attacked. Local officials from both sides secured the hostages' release on 7 January. Uzbekistan blamed Kyrgyz border officials for provoking the violence. Bishkek let the Batken governor handle the issue. Instead of restarting negotiations over disputed areas, Kyrgyzstan on 17 January put barbed wire along the border with Sokh. A Charbak resident told the Institute for War and Peace Reporting, "the Kyrgyz authorities should build water mains and power lines that bypass the Uzbek village of Khushyar so that we aren't reliant on them. Every year when conflicts occur, the Uzbeks destroy the water pipe. This isn't the first conflict – there have been confrontations over pastures, water, land and the use of roads". Aldynai Myrzabekova, Inga Sikorskaya, and Anvar Khaldarov, "Kyrgyzstan Enclave in Turmoil", IWPR, 11 January 2013.

<sup>62</sup> Crisis Group interview, Bishkek, October 2013.

<sup>63</sup> "Kyrgyzstan Enclave in Turmoil", op. cit. The Intergovernmental Commission on delimitation and demarcation of the borders between Tajikistan and Kyrgyzstan is unlikely to reach agreement any time soon, in part due to the documents the sides use to support their territorial claims. Thus, Tajikistan uses a map from 1924-1927 that shows Vorukh as part of the Tajik district of Isfara, not an enclave. Kyrgyzstan uses a 1989 map that identifies Vorukh as an enclave on Kyrgyz territory. "Как Хаев отдал 350 га земель Воруха Киргизстану?" ["How did Khaev gave away 350 ha of Vorukh land to Kyrgyzstan?"], Radio Ozodi, 24 January 2014.

<sup>64</sup> This is not to minimise the urgency of high-level, comprehensive efforts by the Tajik and Kyrgyz governments to address border delimitation and demarcation. So far they have not done this.

overtly aggressive approach to Kyrgyzstan.<sup>65</sup> Short of an official demarcation agreement, a specialist remarked, satisfaction of basic water needs would be the “most important contribution” to maintaining peace in the border areas and “would take the sting out of inter-ethnic and cross-border relations”.<sup>66</sup>

Scope for misunderstanding, including over water, is great. The militarisation of the borders around the enclaves has isolated and antagonised residents on both sides, and new Kyrgyz border posts and roads near Sokh and Vorukh exacerbate the risks.<sup>67</sup> There is also a lack of communication between Bishkek and Batken.<sup>68</sup> Tensions ostensibly peaked over a road Kyrgyzstan had begun building to bypass Vorukh on 11 January 2014, when Tajik forces fired grenades and mortars into Kyrgyz territory.<sup>69</sup> A senior Kyrgyz defence official said they were aimed at a Tortkul reservoir pumping station two km west of the Tajik border and 35 km north east of the Vorukh enclave that pumps drinking and irrigation water to Batken town and surrounding areas. He predicted there would be further strikes on water facilities along the disputed border, and increasingly violent incidents did occur.<sup>70</sup> On 10 July, Kyrgyz border guards attempted to disperse 30 Vorukh Tajiks building a water pipe on disputed territory by shooting into the air. One Tajik was killed and eight injured. The Tajik Border Service responded by firing mortars at a Kyrgyz border post.<sup>71</sup>

In border localities where there is a risk of conflict or conflict has already taken place, senior border, customs and police officers should meet regularly to review the situation and engage with residents. Local governments should introduce and enforce a brief moratorium on construction in disputed areas. A tripartite intra-regional council should be formed to oversee day-to-day management of water and land resources parallel to high-level border delimitation negotiations. At the same time, governments should strive to facilitate cross-border movement and trade between Batken and the enclaves and the surrounding Uzbek and Tajik provinces. If Uzbekistan does not cooperate, Bishkek and Dushanbe should push ahead with bilateral solutions on their borders.

## B. *Trouble Elsewhere in the Ferghana Valley*

Tajik-Uzbek relations, already strained by Tashkent’s objection to upstream hydro-power projects, are complicated by a long dispute over the Farkhad reservoir in northern Tajikistan that Tajikistan seized in 2002.<sup>72</sup> Originally part of the Tajik SSR,

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<sup>65</sup> Uzbekistan officially denies this, but some diplomats suggest that hawkish elements in the Uzbek armed forces view Kyrgyzstan as a target. Crisis Group interview, Bishkek, November 2013.

<sup>66</sup> Crisis Group interview, Swiss official, Bishkek, July 2013.

<sup>67</sup> Almas Isman, “Ситуация вокруг анклава Ворух под контролем” [“The situation around the Vorukh enclave is under control”], Radio Azattyk, 29 April 2013.

<sup>68</sup> Crisis Group interview, senior government official, Batken, 24 September 2013.

<sup>69</sup> Nazgul Begaliyeva, “Мамытов: Применение минометов Таджикистаном – нарушение конвенции ООН” [“Mamytov: The use of mortars by Tajikistan – a violation of UN Conventions”], *Vecherniy Bishkek*, 12 January 2014.

<sup>70</sup> Crisis Group interview, Bishkek, January 2014. Mark Vinson, “Border Clashes With Kyrgyzstan Threaten Tajikistan’s Regional Integration”, *Jamestown Eurasia Daily Monitor*, vol. 11, no. 94 (2014).

<sup>71</sup> Avaz Yuldashev, “Киргизские пограничники открыли огонь по таджикским дехканам” [“Kyrgyz border guards opened fire at Tajik farmers”], *Asia Plus*, 10 July 2014.

<sup>72</sup> Akmal Mannopov, “Как Таджикистан вернул ‘Плотину’ и Фарходское водохранилище” [“How Tajikistan took back the ‘Plotina’ (dam) and the Farkhad reservoir”], *Asia Plus*, 19 August 2011.

the area was leased to Uzbekistan in 1933 for 40 years.<sup>73</sup> Dushanbe maintains that it had to take the area back because, after the lease expired, Uzbekistan refused to vacate it. Tashkent says a land swap had been agreed in 1944. The reservoir supplies water to the cotton fields of Matchin and Zafarabad districts, which produce 60 per cent of all the cotton grown in Tajikistan's Soghd province. A hydropower station connected to the reservoir operates on Uzbek territory.<sup>74</sup>

In November 2011, the Uzbek army massed in Bekabad district bordering Soghd province after a border guard was killed during a skirmish with Tajik counterparts. Fears grew that Uzbekistan was preparing to retake the reservoir.<sup>75</sup> A few days later Uzbekistan closed the rail line connecting Termez on its Afghan border to Qurghonteppa in Khatlon province, Tajikistan. The authorities claimed it had been damaged by a terrorist explosion, but Tajikistan suspected sabotage and accused Uzbekistan of an economic blockade meant to destabilise the country.<sup>76</sup>

Localised conflicts over water are common in rural areas, especially near borders.<sup>77</sup> The risk is that what once might have been only a standoff between rival farming families or villages is increasingly defined as an inter-ethnic dispute that, when also involving national border differences, can threaten to spill out of control.<sup>78</sup> On the border between Jalalabad province in Kyrgyzstan and Uzbekistan, the authorities cooperate in a limited way to keep irrigation canals operational. According to Kyrgyz government officials and engineers there, Uzbekistan will sometimes provide machinery to help clear the canals, but this has not calmed anger in the province over Tashkent's perceived sense of entitlement to "free water". Nor does it address the underlying problem of worn-out infrastructure.<sup>79</sup> Some donor projects have engaged local communities in canal cleaning with a view to easing ethnic tensions.<sup>80</sup> Local water management officials, however, remain pessimistic, "We still have conflicts among people during the summer, as there is not enough water to share."<sup>81</sup>

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<sup>73</sup> Azamat Murodov, "Таджико-узбекский пограничный спор. Узбекские махалли против "таджикизации" ["Tajik-Uzbek border dispute. Uzbek mahallas are against "Tajikization"]", Mahallya, 17 November 2011.

<sup>74</sup> The Farkhad Hydroelectric Power Plant, also known as Dam-16, is on the Syr Darya in Uzbekistan's Sirdaryo province. Completed in 1949, it created the Farkhad reservoir, with a volume of 350 million cubic metres, in Tajikistan's Soghd Province. <http://globalenergyobservatory.org/geoid/41803>.

<sup>75</sup> "Uzbekistan blockading Tajikistan over dam", Uznews.net, 6 April 2012.

<sup>76</sup> Sergei Medrea, "New round of tensions in Uzbek-Tajik relations", Central Asia-Caucasus Institute Analyst, 25 January 2012. Pairav Chorshanbiyev, "Таджикистан обвиняет Узбекистан" ["Tajikistan is accusing Uzbekistan"], Asia Plus, 3 April 2012.

<sup>77</sup> Crisis Group interview, Bazarbai Maseitov, coordinator, Foundation for Tolerance International, Batken, 23 September 2013.

<sup>78</sup> A European diplomat said the growing trend for those involved in a dispute, and the media, to home in on ethnic differences seriously undermines conflict prevention in the Ferghana Valley and southern Kyrgyzstan. Crisis Group interview, Bishkek, November 2013.

<sup>79</sup> Crisis Group interview, senior engineer, Jalalabad, December 2013.

<sup>80</sup> "Kyrgyz Republic Program Update", U.S. Agency for International Development (USAID), 28 March 2011. See also the Integrated Water Resource Management (IWRM) project, sponsored by the Swiss Agency for Development and Cooperation (SDC), [www.swiss-cooperation.admin.ch/centralasia/en/Home/Regional\\_Activities/Integrated\\_Water\\_Resources\\_Management](http://www.swiss-cooperation.admin.ch/centralasia/en/Home/Regional_Activities/Integrated_Water_Resources_Management).

<sup>81</sup> Crisis Group interview, Jalalabad, December 2013.

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## IV. Pressure on Domestic Water Supplies

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The failure in Kyrgyzstan, Tajikistan and Uzbekistan to provide basic services greatly increases the perception that their governments are weak and corrupt and provides a rallying point for opposition movements that seek to oust them. Water supply, along with energy (itself mostly produced by hydropower), is among the most sensitive and significant public services.

Approximately 7.5 million of the 28.9 million people in Uzbekistan and 4.8 million of the 8.05 million in Tajikistan lack adequate access to clean drinking water.<sup>82</sup> Roughly two million of Kyrgyzstan's 5.6 million also lack such access.<sup>83</sup> The World Health Organisation (WHO) notes some growth in "improved access to water" in Central Asia since 1990.<sup>84</sup> But debate exists among water experts about what qualifies as this improvement – it could mean as little as one public tap serving an entire village.<sup>85</sup> The Swiss Agency for Development and Cooperation (SDC), which began working in the three countries in the early 1990s, observes that since the collapse of the Soviet Union, "fewer and fewer people have access to clean water because the budgets of the newly independent states contain very limited funds to build new water infrastructures for the rapidly growing population. Existing systems fall into disrepair or break down altogether because no funds are available to maintain them".<sup>86</sup>

In many urban areas, water infrastructure has not been modernised since the 1950s. Loss and wastage are significant. In Jalalabad, a southern Kyrgyzstan city of 89,000, 70 per cent of drinking water disappears through leaky pipes and household losses. "People leave their taps open", an official explained.<sup>87</sup> An official in Batken's Kadamjay district added:

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<sup>82</sup> Olivier Normand, "Regional Rural Water Supply and Sanitation Project Ferghana Valley", Towards the 6th World Water Forum – Cooperative Actions for Water Security, International Conference, Tashkent, 12-13 May 2011, [www.cawater-info.net/6wwf/conference\\_tashkent2011/files/normand\\_paper\\_r.pdf](http://www.cawater-info.net/6wwf/conference_tashkent2011/files/normand_paper_r.pdf).

<sup>83</sup> Almaz Isman and Mirlan Toktaliev, "Кыргызстан без воды" ["Kyrgyzstan without water"], Radio Free Europe/RadioAzattyk, 13 December 2012. The socio-economic impact of unsafe water is significant. The World Bank attributes Kyrgyzstan's worsening health indicators to poor sanitation and hygiene. "Implementation completion and results on a credit in the amount of SDR 12 million (US \$ 15 million equivalent) to the Kyrgyz Republic for a Rural Water Supply and Sanitation Project", Report (IDA-35790), World Bank, 15 May 2009.

<sup>84</sup> "Proportion of population using improved drinking-water sources", WHO, [http://gamapserv.who.int/gho/interactive\\_charts/mdg7/atlas.html?indicator=io](http://gamapserv.who.int/gho/interactive_charts/mdg7/atlas.html?indicator=io).

<sup>85</sup> According to the CIA World Factbook, improved drinking water includes "piped water into dwelling, yard, or plot; public tap or standpipe; tubewell or borehole; protected dug well; protected spring; or rainwater collection". Unimproved drinking water includes an "unprotected dug well; unprotected spring; cart with small tank or drum; tanker truck; surface water, which includes rivers, dams, lakes, ponds, streams, canals or irrigation channels; or bottled water". [www.cia.gov/library/publications/the-world-factbook/fields/print\\_2216.html](http://www.cia.gov/library/publications/the-world-factbook/fields/print_2216.html). WHO/UNICEF's Joint Monitoring Programme (JMP) for Water Supply and Sanitation defines an "improved" drinking-water source as one that "adequately protects the source from outside contamination, particularly faecal matter"; an "improved" sanitation facility is one that hygienically separates human excreta from human contact"; the JMP notes that its definitions are "often different from those used by national governments". [www.wssinfo.org/definitions-methods/watsan-categories](http://www.wssinfo.org/definitions-methods/watsan-categories).

<sup>86</sup> SDC project "Clean Water in Central Asia, taking the water supply into their own hands", [www.deza.admin.ch/en/Home/Projects/Selected\\_projects/Clean\\_Water\\_in\\_Central\\_Asia](http://www.deza.admin.ch/en/Home/Projects/Selected_projects/Clean_Water_in_Central_Asia).

<sup>87</sup> Crisis Group interview, Aitbai Musaev, head, Jalalabad city municipal water utility office,

Water conflicts appear not because we don't have enough water but because it is not effectively regulated. All the canals are old. I understand the water ministry does not have enough money, and their technology is old. But the canals have to be renovated. Otherwise we will continue to lose too much water, and we will create conflict situations because of that.<sup>88</sup>

#### A. *Bishkek: A Case Study*

On the fringes of Bishkek, residents in poor neighbourhoods daily spend hours carrying water home. People protest this state of affairs but say the government ignores them.<sup>89</sup> Ignoring popular grievances can have serious consequences in Kyrgyzstan, where two presidents have been ousted since 2005 by unrest. A key accusation levelled against President Kurmanbek Bakiyev in the most recent ouster (2010) was that members of his family had illegally sold water to Kazakhstan for personal gain.<sup>90</sup> Similar water supply problems exist in Dushanbe and are reported in Uzbekistan.<sup>91</sup>

Bishkek's situation is a microcosm of the region's.<sup>92</sup> Altyn-Kazyk, built next to the city's rubbish dump, is one of the poorest of its 48 *novostroiki*.<sup>93</sup> The village of 3,000 is not officially recognised, so residents cannot vote and do not appear in the census. They lack healthcare, and the state does not provide them infrastructure for water, electricity or transport. After seven years, Altyn-Kazyk's residents hired a private contractor to install electricity for 5,000 soms (\$102) per household. They have no access to water and must walk up to an hour daily to pumps in neighbouring Kalys-Ordo. But there is often not enough water for Kalys-Ordo's own villagers, who then sometimes close their pumps to outsiders. In 2013 Altyn-Kazyk villagers began negotiations with a company to drill a well for \$16,000, but the plan fell by the wayside when residents realised they could not afford it.<sup>94</sup>

Zamira Sagynaliyeva of Arysh, a Western-funded NGO that gives legal aid to *novostroika* residents, says donors or organisations could help improve conditions by partnering with local NGOs. "The government will never get round to building roads and water systems" in *novostroiki*, she says.<sup>95</sup> A successful precedent exists. The Transition and Rehabilitation Alliance for Southern Kyrgyzstan (TASK), a consortium of fifteen local and international NGOs, directs EU Commission funds into projects promoting

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Jalalabad, 2 December 2013. Similar rates of water loss are reported in other Kyrgyz towns; see "Water and Sewerage Utilities in the Kyrgyz Republic: Performance Indicators", Organization for Economic Co-operation and Development (OECD), 2007, p.12.

<sup>88</sup> Crisis Group interview, Batken, September 2013.

<sup>89</sup> Crisis Group interview, 33-year-old resident, Altyn-Kazyk settlement, Bishkek, 28 November 2013.

<sup>90</sup> Group Asia Report N°102, *Kyrgyzstan: A Hollow Regime Collapses*, 27 April 2010.

<sup>91</sup> Crisis Group interviews, Dushanbe, August 2013; Bishkek, April 2014.

<sup>92</sup> "A Dangerous Thirst", Crisis Group Blog, Across Eurasia, 28 January 2014.

<sup>93</sup> A *novostroika*, literally a new construction, is the term widely used in Kyrgyzstan for a new, informal city district, often one that has emerged spontaneously, without official planning permission and usually inhabited by people who have no official permission to live in the capital. The Bishkek mayor's office says there are 400,000 undocumented residents in the city of 1.3 million. Land rights and allocation under Kyrgyz law are complex, but under the constitution, each citizen is entitled to a plot for agriculture or housing where he or she is officially registered. Bermet Zhumakadyr Kyzy, "Development in Urbanized Settings: A Study of Novostroikas in Bishkek", American University of Central Asia, Bishkek, April 2012, p.8.

<sup>94</sup> Crisis Group interviews, Abdimanap Kokkozov, Altyn-Kazyk settlement resident, Bishkek, November 2013; Altyn-Kazyk settlement resident, Bishkek, August 2014.

<sup>95</sup> Crisis Group interview, Zamira Sagynaliyeva, Arysh NGO, Bishkek, 27 November 2013.

socio-economic development to offset potential security and conflict issues. In 2013, the Paris-based Agency for Technical Cooperation and Development (ACTED), at TASK's behest, completed a series of infrastructure projects in southern Kyrgyzstan including construction and rehabilitation of irrigation ditches and bridges.<sup>96</sup> Funding came from the EU's Instrument for Stability (IfS) program, which is permitted to work not only with governments but also with international organisations and local community groups.<sup>97</sup>

## B. *Efforts to Plug the Leak*

### 1. Khujand: getting what you pay for

In the early 2000s, 25 per cent of residents in Khujand, Tajikistan's second-largest city (population 165,000), had no access to water, while those who did received poor quality for only eight to twelve hours a day. Up to 80 per cent of drinking water was lost due to poor infrastructure. Residents were forced to boil water before use.<sup>98</sup> The Swiss State Secretariat for Economic Affairs (SECO) partnered with the European Bank of Reconstruction and Development (EBRD) to improve the situation.<sup>99</sup> They distributed 32,000 water metres to inhabitants and simultaneously began to improve infrastructure, rehabilitating water pumps and laying new pipes.

Ruslan Sadykov, the Swiss Cooperation Office's (SDC) program officer in Tajikistan, and Nicolas Guigas, its country deputy director, said the project decreased consumption from 680 to 465 litres per person between 2005 and 2013; payment collection rates in 2014 were upwards of 90 per cent; and water was provided throughout the city 24 hours a day.<sup>100</sup> Households that do not pay water bills are cut off, Guigas added. Some residents, however reported, that water is still cut off in Khujand at night, but they agreed supply had "improved drastically" since 2012.<sup>101</sup>

Payments allow the municipal water company to continue renovating Khujand's water distribution network and improve overall services. The project was initially undertaken at the behest of the Tajik government and enjoys its continued support, said Sadykov. Work is not yet complete: SDC and EBRD are dealing with a third phase of water-related projects, focusing on waste-water treatment that is to be completed in 2017.<sup>102</sup> The project in Khujand has been deemed successful, and the SDC has overseen its expansion into eleven other Tajik towns and cities. EBRD has expanded its project into 26 more localities.<sup>103</sup>

Guigas said nearly 60,000 in surrounding, largely rural regions have benefited from the projects, including a decrease in waterborne diseases: "The prevalence of

<sup>96</sup> "Irrigation rehabilitation supports peace in Southern Kyrgyzstan", ACTED, 17 December 2012.

<sup>97</sup> "Conflict Mitigation and Peace-Building in Kyrgyzstan", TASK, 2012.

<sup>98</sup> Crisis Group phone interview, Ilkhom Akilov, former head, Khujand city municipal water utility office, January 2014.

<sup>99</sup> "Khujand Water Supply", SECO, [www.swisscooperation.admin.ch/centralasia/en/Home/Activities\\_in\\_Tajikistan/SAFE\\_DRINKING\\_WATER\\_AND\\_SANITATION/Khujand\\_Water\\_Supply](http://www.swisscooperation.admin.ch/centralasia/en/Home/Activities_in_Tajikistan/SAFE_DRINKING_WATER_AND_SANITATION/Khujand_Water_Supply).

<sup>100</sup> Crisis Group phone interview, Swiss Cooperation Office Tajikistan, June 2014.

<sup>101</sup> Crisis Group telephone interviews, Khujand residents, August 2014.

<sup>102</sup> Khujand Water Supply Project, initiated by EBRD, jointly developed by SDC and SECO. Launched in 2004, it seeks to rehabilitate infrastructure and improve the attendant institutional capacity of the Khujand Water Company.

<sup>103</sup> SDC National Water Resources Management project, [www.sdc.admin.ch/en/Home/Projects/Project\\_Detail?projectdbID=231035#form2](http://www.sdc.admin.ch/en/Home/Projects/Project_Detail?projectdbID=231035#form2).

diseases like hepatitis A has fallen by 95 per cent, and the number of cases of chronic diarrhoea is down 65 per cent”.<sup>104</sup> Residents, though, said the prevalence of parasites remains high, especially among children.<sup>105</sup> The Tajikistan model has been applied in Kyrgyz cities and towns, including Osh, Jalalabad, Karabalta and Talas and may be extended to Bishkek,<sup>106</sup> where the EBRD has begun replacing Bishkek Water Company pipes, many of which are older than 30 years.<sup>107</sup>

## 2. Taza Suu: mansions from drinking water

Such projects illustrate that it is possible to improve water supply. Others, however, have been derailed because of weak government capacity and the absence of governmental will to challenge corruption.<sup>108</sup> One of the best documented is the Taza Suu project in Kyrgyzstan. Funded by the Asian Development Bank (ADB), the World Bank and the UK’s Department for International Development (DfID), it was intended to bring clean water to 730 villages nationwide by repairing and improving supply and sanitation systems. In 2000, the government created a rural water supply department within the agriculture ministry to monitor it and oversee tendering. Between 2000 and 2012, \$70 million was allocated, \$66 million from the ADB.<sup>109</sup> By 2007, the project reached some 367 villages and more than 600,000 people, but delays and unexpected construction costs limited its scope.<sup>110</sup>

Under pressure from local NGOs, the ADB opened an investigation into corruption allegations in 2008, and in June 2012 it cancelled the project.<sup>111</sup> The rural water supply department said \$52 million from donors was stolen (\$16 million was later recovered).<sup>112</sup> The public prosecutor has opened 31 cases, most of which are still under investigation.<sup>113</sup> Then-Vice Prime Minister Joomart Otorbayev admitted the money had been “literally pilfered.”<sup>114</sup> A legislator said, “people who carried out the project in Taza Suu became millionaires. They built their mansions with the money allocat-

<sup>104</sup> Crisis Group phone interview, Swiss Cooperation Office Tajikistan, June 2014.

<sup>105</sup> Crisis Group phone interview, Khujand resident, 21 August 2014.

<sup>106</sup> Projects include Jalalabad Water Rehabilitation; Karabalta Water Rehabilitation; Talas Water and Wastewater Rehabilitation; and Osh Water and Wastewater Rehabilitation, [www.ebrd.com/english/pages/project/psd/2012/42007.shtml](http://www.ebrd.com/english/pages/project/psd/2012/42007.shtml).

<sup>107</sup> Bishkek Water Supply Project, [www.ebrd.com/pages/project/psd/2008/38878.shtml](http://www.ebrd.com/pages/project/psd/2008/38878.shtml).

<sup>108</sup> Gulnaz Isabekova, Kubanychbek Ormushev, Toktobek Omokeev, Aled Williams and Natalia Zakharchenko, “Leaking projects: Corruption and local water management in Kyrgyzstan”, U4 Anti-Corruption Resource Center, U4 PRACTICE Insight, September 2013, no. 3, p. 4.

<sup>109</sup> Project Data Sheet (PDS): Details, 47020-003: Rural Water Supply and Sanitation Project, Projects, Asian Development Bank, [www.adb.org/projects/46350-001/details](http://www.adb.org/projects/46350-001/details).

<sup>110</sup> “Leaking projects”, *op. cit.*

<sup>111</sup> “ADB agrees to investigate the Taza Su water project in Kyrgyzstan”, press release, NGO Forum on ADB and Bureau for Human Rights and Rule of Law, 7 April 2008, [www.forum-adb.org/BACKUP/pdf/press%20releases/Press%20Release-TazaSu.pdf](http://www.forum-adb.org/BACKUP/pdf/press%20releases/Press%20Release-TazaSu.pdf).

<sup>112</sup> Zarina Saifudinova and Mashakbai Rakmankulov, “Масштабный проект ‘Таза-Суу’ приостановлен” [“Large scale project ‘Taza-Suu’ suspended”], *Time.kg*, 13 September 2012.

<sup>113</sup> Roza Almakunova, “Система водоснабжения Кыргызстана: курс на реабилитацию” [“The water supply system of Kyrgyzstan: a course toward rehabilitation”], *Kabar*, 23 May 2013. See also Guliza Chudubaeva and Svetlana Aksenenko, “Оторбаев: у меня нет информации и о том, что кредиты и гранты ‘оседают в карманах’” [“Otorbayev: I have no information about what loans and grants are ‘pocketed’”], *Tushtuk*, 21 May 2014.

<sup>114</sup> “Дж. Оторбаев: ‘Винные в провале проекта ‘Таза Суу’ понесут наказание’” [“J. Otorbayev: ‘Those responsible for the failure of the ‘Taza Suu’ project will be punished’”], *Novosti.kg*, 27 August 2012.

ed for drinking water. Even tractors that were bought for cleaning ditches became private property”.<sup>115</sup>

The ADB found that the project violated its anti-corruption policies and that the “improvements achieved by the Taza Suu program were short-lived. The new and rehabilitated systems are deteriorating because of poor construction, corruption in procurement and lack of maintenance”.<sup>116</sup> In June 2013, it committed \$750,000 in technical assistance to a new Water Supply and Sanitation Strategy (WSS) for Kyrgyzstan and noted: “The Taza Suu program managed to slow down and temporarily reverse the decline in service levels. However, due to lack of rural WSS policy, most of the rural WSS systems constructed or rehabilitated under the Taza Suu program are not sustainable, and many systems are already inoperable”.<sup>117</sup>

A detailed overview conducted by the Norway-based U4 Anti-Corruption Resource Centre compared the failed project against work carried out with Kyrgyzstan’s Water User Associations (WUA) – local, self-managing associations formed to keep irrigation and drainage networks operational. The report concluded that while they have their own problems, where community relations are well established, the WUA reinforce local accountability in such a way that it appears to help “mitigate corruption risks in an overall environment of weak governance”.<sup>118</sup>

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<sup>115</sup> Egemberdi Ermatov (Social Democratic Party), in Saifudinova and Rakmankulov, *op. cit.*

<sup>116</sup> Project Data Sheet (PDS): Details, 47020-003: Rural Water Supply and Sanitation Project, Projects, Asian Development Bank, *op. cit.*

<sup>117</sup> Project Data Sheet (PDS): Details, 46350-001: Water Supply and Sanitation Strategy, Projects, Asian Development Bank, [www.adb.org/projects/46350-001/details](http://www.adb.org/projects/46350-001/details).

<sup>118</sup> “Leaking projects”, *op. cit.*

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## V. Conflicting Energy Policies

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### A. Uzbekistan Says “No”

Under the Russian Empire and Soviet Union, Uzbekistan was the administrative, political and educational centre of Central Asia. President Islam Karimov considers that, with a population more than ten million greater than Kazakhstan’s, the next largest state, it should have a decisive voice in regional affairs – a position resented and rejected by his neighbours. Uzbekistan’s disruptive role in the region is particularly apparent in water issues.

The major bone of contention has been Uzbekistan’s long, at times virulent opposition to construction of large hydropower projects on rivers that run through its territory. These include the Vakhsh in Tajikistan, a main tributary of the Amu Darya, and the Naryn in Kyrgyzstan, which flows into the Syr Darya.<sup>119</sup> The Kambarata-I dam, is planned in Kyrgyzstan on the Naryn to generate nearly 2,000 MW, with substantial Russian investment.<sup>120</sup> The project began in 1986, but stalled after the Soviet collapse, and resumption has been slow.<sup>121</sup>

If completed, Tajikistan’s Rogun dam on the Vakhsh, 100km downstream of Dushanbe, will be up to 335 metres tall with a 3,600 MW capacity. Construction is suspended but may soon restart, as a recent World Bank draft paper essentially endorsed the project, concluding that “any of the Rogun design options ... is a lower cost option for meeting Tajikistan’s energy demands than the non-Rogun options”.<sup>122</sup>

In a speech rebuking the World Bank, Uzbekistan’s finance minister warned that the taller the dam, the more catastrophic the consequences should it collapse.<sup>123</sup> The World Bank findings were a major setback for Karimov, who has warned several times that such massive projects could trigger a war:

Water resources could become a problem in the future that could escalate tensions not only in our region, but on every continent. I won’t name specific countries,

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<sup>119</sup> Crisis Group Report, *Central Asia: Water and Conflict*, op. cit. According to Tashkent, Kambarata-I in Kyrgyzstan and Rogun HPP in Tajikistan will cause water shortages and environmental and economic damage to Uzbekistan, and they are being proposed in breach of international law. See letter from the economic ministry to Saroj Kumar Jha, World Bank Regional Director for Central Asia, 4 February 2013, <http://siteresources.worldbank.org/INTECA/Resources/257896-1313431899176/Comments-UZ-Govt-Feb-Mar-2013-en.pdf>; and “‘РусГидро’ хочет оставить Узбекистан и юг Казахстана без воды” [“RusHydro’ wants to leave Uzbekistan and south Kazakhstan without water”], 12news, 6 January 2014.

<sup>120</sup> Chris Rickleton, “Kyrgyzstan: Bishkek’s Hydropower Hopes Hinge on Putin’s Commitment”, EurasiaNet, 25 April 2013.

<sup>121</sup> Nazgul Begaliyeva, “Правительство Кыргызстана одобрило ТЭО Камбар-Атинской ГЭС-1” [“Government of Kyrgyzstan approved the feasibility study document of Kambarata-1 hydropower plant”], *Vecherniy Bishkek*, 19 July 2014.

<sup>122</sup> David Trilling, “Tajikistan: World Bank Begins Rogun Data Dump, Recommends Repairs”, EurasiaNet, 2 October 2013. “Key Issues for Consideration on the Proposed Rogun Hydropower Project”, World Bank, draft released 17 June 2014. [www.worldbank.org/content/dam/Worldbank/Event/ECA/central-asia/WB%20Rogun%20Key%20Issues.pdf](http://www.worldbank.org/content/dam/Worldbank/Event/ECA/central-asia/WB%20Rogun%20Key%20Issues.pdf). It said no substantial safety and environmental differences were dependent on the proposed height, and the tallest version would be most cost effective.

<sup>123</sup> Rustam Azimov, “Key issues for further consideration of the proposed Rogun Dam project and the use of transboundary water resources”, speech to Central Asian representatives regarding World Bank draft report on Rogun, Almaty, Kazakhstan, 18 July 2014, <http://gov.uz/ru/press/politics/25860>.

but all this could deteriorate to the point where not just serious confrontation but even wars could be the result .... [Tajikistan's planned Rogun dam is] going for the Guinness world record, it would seem, but we are talking here about the lives of millions of people who cannot live without water. These projects were devised in the '70s and '80s, when we were all living in the Soviet Union and suffering from megalomania, but times change. Hydropower structures today should be built on a different basis entirely.<sup>124</sup>

Tajikistan and Kyrgyzstan say their large and costly projects are crucial to economic development and will enable them to both meet domestic energy needs and create a surplus for export. Uzbek Foreign Minister Abdulaziz Kamilov argued to the UN General Assembly in 2013 that the Syr Darya and Amu Darya are common regional assets and requested a binding UN evaluation of Kambarata-I and Rogun. Karimov goes a step further, insisting upstream hydropower projects must not only be internationally assessed but also approved by Uzbekistan, which has a history of rejecting the former's findings.<sup>125</sup>

After the World Bank paper was released, Russian officials privately said Rogun would go ahead with Moscow's backing. A senior Russian diplomat said that if Uzbekistan threatens force against Tajikistan or Kyrgyzstan, the full weight of the Collective Security Treaty Organisation (CSTO), the Russia-led regional security bloc, would be used to defend its member states.<sup>126</sup>

Uzbekistan also objects to another major regional energy project, the Central Asia South Asia Electricity Transmission and Trade Project (CASA-1000), which aims to export up to 1,300 MW of surplus summer electricity from Kyrgyzstan and Tajikistan to Afghanistan and Pakistan.

CASA-1000, estimated to cost \$953 million, is supported by the World Bank, Islamic Development Bank, the U.S., UK and Australia.<sup>127</sup> Related infrastructure, still to be built, includes 1,307km of power lines from Kyrgyzstan to Pakistan and converter stations in Tajikistan, Afghanistan and Pakistan. According to a feasibility study conducted for the World Bank, Kyrgyzstan and Tajikistan, using existing hydropower plants, currently generate enough surplus energy in summer to profit from export, and CASA-1000 would be commercially viable without building more. Tajikistan President Emomali Rahmon claimed in 2013, however, that "the project is not profitable unless two units of Rogun [hydropower plant] are running". Kyrgyzstan insists that Kambarata-I is vital to CASA-1000, though the feasibility study disagrees.<sup>128</sup>

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<sup>124</sup> Raushan Nurshayeva, "Uzbek leader sounds warning over Central Asia water disputes", Reuters, 7 September 2012. Karimov was speaking in Kazakhstan's capital, Astana.

<sup>125</sup> Tashkent rejected three World Bank reports on Rogun published in 2012 as "premature and testif[ying] to [a] preconceived position", as well as having "serious omissions, distortions and mistakes that can lead to improper conclusions". Jha, letter, op. cit. The UN has not acted on the foreign minister's request. Crisis Group interview, Jean Rodriguez, information unit chief, UN Economic Commission for Europe, 24 June 2014.

<sup>126</sup> Crisis Group interview, Russian diplomat, 2014. The CSTO was formed in 1992. Current members are Armenia, Belarus, Kazakhstan, Kyrgyzstan, Russia and Tajikistan. Uzbekistan suspended its membership in 2012.

<sup>127</sup> "CASA-1000 Project List of FAQs", CASA-1000 Project, 6 June 2011.

<sup>128</sup> "Central Asia – South Asia Electricity Transmission and Trade (CASA-1000) Project Feasibility Study Update", SNC Lavalin, February 2011, [www.casa-1000.org/1/Techno-Economic Feasibility Study\\_MainRep\\_English.pdf](http://www.casa-1000.org/1/Techno-Economic%20Feasibility%20Study_MainRep_English.pdf). "President: Tajikistan hopes for Kyrgyzstan's solidarity in situation with Rogun HPP", *Trend*, 28 May 2013. "Ratification of agreements on new hydropower plants

Uzbekistan maintains that the feasibility study has “major errors”. In a risk assessment sent to the World Bank in December 2013, Uzbek experts said it overestimated the summer surplus, underestimated Kyrgyz and Tajik domestic energy consumption, and miscalculated costs for building the transmission system. They concluded that: “The implementation of the CASA-1000 Project is integral with the plans of the Tajik and Kyrgyz participants to construct gigantic hydro-engineering facilities – the Rogun HPP and the Kambarata HPP-I, which will catastrophically aggravate the already tense water management situation in the region”. Tashkent has urged the World Bank to abandon the project as it will “result in irreversible social and environmental consequences in the Central Asian region”.<sup>129</sup>

Uzbekistan’s position on upstream hydropower projects generates little sympathy from either neighbours or the wider international community. Its strident and often menacing protests need, however, to be addressed to avoid further regional tension.<sup>130</sup> Moreover, its suspicions that CASA-1000 could become reliant on power generated by Kambarata-I and Rogun are “not without merit”, an energy expert familiar with CASA-1000 said.<sup>131</sup>

Kyrgyzstan and Tajikistan also need to manage their resources better by eliminating energy sector corruption and improving administration. The Kyrgyz government routinely fails to act on information from whistleblowers.<sup>132</sup> According to the World Bank, Tajikistan’s only major industrial plant, the TALCO aluminium smelter, consumes about 40 per cent of the country’s electricity but inconsistently pays for what it uses.<sup>133</sup>

## B. *Uzbek Gas and Kyrgyz Water*

The collapse of Soviet-era barter deals stymied Kyrgyzstan’s ability to meet its domestic energy demands. In recent years its energy security, both in terms of electricity it can produce itself and gas it must import, has become ever more precarious and complicated by a combination of environmental factors, infrastructure decay and poor relations with Uzbekistan, the main supplier of gas to its south.

When Russia’s Gazprom bought Kyrgyzstan’s state-owned, deeply indebted Kyrgyzgaz in April 2014, Tashkent reacted by stopping the supply of gas to southern Kyrgyzstan.<sup>134</sup> Kyrgyz Prime Minister Otorbayev claimed that neither Uzbekistan’s

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gives great hope for implementation of CASA-1000 project”, *Kabar*, 15 February 2014. “Study Update”, op. cit.

<sup>129</sup> “CASA-1000 Project Risk Assessment”, World Bank, 11 December 2013. Letter sent by Uzbek economy minister to World Bank President H.E. Zim Yong Kim, 11 December 2013, [www.worldbank.org/content/dam/Worldbank/document/eca/central-asia/Main-Letter-Ms-G-Saidova-en.pdf](http://www.worldbank.org/content/dam/Worldbank/document/eca/central-asia/Main-Letter-Ms-G-Saidova-en.pdf).

<sup>130</sup> Crisis Group interview, Swiss water specialist, June 2013.

<sup>131</sup> “The original feasibility study assumed CASA-1000 would have broken ground in 2012 or so. Each year adds not just to [CASA-1000’s] cost but means there is less surplus from existing hydro plants in Kyrgyzstan and Tajikistan to fill the line [to Afghanistan and Pakistan], and thus more need for other new power sources in Kyrgyzstan and Tajikistan”. Crisis Group email correspondence, energy expert, July 2014.

<sup>132</sup> “Что такое ‘Ширшовские’ схемы” [“What is this ‘Shirshovskie’ schemes”], AKIpress, 25 April 2014.

<sup>133</sup> “TALCO Energy Audit: Improved Efficiency Could Help Solve Winter Electricity Shortages”, fact sheet, World Bank, December 2012; “Financial Assessment of Barki Tojik”, World Bank, October 2013, p. 6.

<sup>134</sup> Kubanychbek Zholdoshev, “Газпром пока не может разрешить газовый кризис в КР” [“Gazprom still cannot resolve the gas crisis in Kyrgyzstan”], Radio Azzatyk, 13 May 2014. “Загадки

state gas company nor senior Uzbek officials responded to his calls and letters, and by summer, protests against the Kyrgyz government were developing momentum.<sup>135</sup> The situation was further aggravated by critically low water levels in the Toktogul reservoir, which produces the bulk of Kyrgyzstan's electricity.<sup>136</sup> Minister of Energy and Industry Osmonbek Artykbaev warned that the country would not be able to export electricity in the coming year.<sup>137</sup> On 15 August 2014, Prime Minister Otorbayev asked citizens to prepare for a shortage during winter 2014-2015.<sup>138</sup> Senior officials privately fear that strain on the energy system from domestic demand may nudge it toward collapse.<sup>139</sup> Foreign observers warn that even if the system survives 2014, prospects for 2015 look equally grim: aside from generation problems caused by low water levels, infrastructure is worn out and money for repairs is lacking.<sup>140</sup>

The Kyrgyz government pledged to provide citizens with coal at a reasonable price, but for many households the cost will be prohibitive; in Batken, one of the provinces affected by the Uzbek gas stoppage, residents are cutting down trees and collecting dung in advance of winter. It is unclear how heating will be provided to the many Soviet high-rise apartment buildings in Osh that are dependent on the city's central heating system. Bishkek and the northern provinces of Chui and Issyk Kul will also face restrictions on electricity use.<sup>141</sup> Kyrgyz officials and the international community recognise that this is a formula for potential social unrest.<sup>142</sup>

To pressure Tashkent into resuming gas supplies, Kyrgyzstan threatened to withhold water at the height of the irrigation season. A parliamentary committee suggested limiting the supply from Toktogul to Uzbekistan during the summer so that water could be saved for electricity generation in the winter.<sup>143</sup> Such withholding would seriously undermine Kyrgyz-Uzbek relations. Tashkent did not officially respond to the threat, and on 9 June Kyrgyz officials mooted closing the Big Namangan canal for repairs. The canal, which flows from Jalalabad province in Kyrgyzstan into Naman-

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Токтогульского водохранилища: запасы воды иссякли, казахам отказано" ["The riddles of the Toktogul reservoir: water supplies dried up, Kazakhs denied"], *Vesti.kg*, 4 March 2014.

<sup>135</sup> *KyrTag*, 20 May 2014. Bruce Pannier, "Kyrgyz Ask, 'Where's the Gas? Won't You Have Some Dung?'" , Radio Free Europe/Radio Liberty, 10 June 2014.

<sup>136</sup> Julia Kostenko, "Winter.kg: to whom light, to whom dry dung?" , *24.kg*, 30 July 2014.

<sup>137</sup> "The Riddles of the Toktogul Reservoir" , *op. cit.*

<sup>138</sup> "Обращение Премьер-министра КР Джомарта Оторбаева к населению Кыргызской Республики" ["Address of the Prime-Minister of the Kyrgyz Republic, Joomart Otorbayev, to the population of Kyrgyzstan"], 15 August 2014, [www.gov.kg/?p=40058](http://www.gov.kg/?p=40058).

<sup>139</sup> Crisis Group interview, senior Kyrgyz official, Bishkek, July 2014. Julia Kostenko, "Electricity consumption in upcoming winter to grow by 20 percent because of gas absence in southern Kyrgyzstan", *24.kg*, 31 July 2014, [www.eng.24.kg/community/171637-news24.html](http://www.eng.24.kg/community/171637-news24.html).

<sup>140</sup> "If there is another dry season, the turbines at Toktogul will have to be shut down; we should be praying for rain", said a Western diplomat. Crisis Group interview, Bishkek, August, 2014.

<sup>141</sup> "В Баткенской области дефицита угля не ожидается, но из-за высокой цены на него население вынуждено рубить фруктовые деревья и собирать кизяк" ["In Batken province a coal shortage is not expected, but due to high prices the population is forced to cut down fruit trees and collect dung"], *Turmush*, AKIpress, 13 August 2014. "Предстоящей зимой особо уязвимыми останутся Бишкек и часть Иссык-Кульской области" ["Bishkek and part of the Issyk-Kul region will be especially vulnerable in the coming winter"], *Novosti.kg*, 15 July 2014.

<sup>142</sup> Crisis Group interviews, Bishkek, July, August, 2014.

<sup>143</sup> "Kyrgyz parliamentary committee recommends government consider restrictions in irrigation water supply to Uzbekistan over lack of water in Toktogul dam", AKIpress, 20 May 2014. Dmitri Denisenko, "Кыргызстан решил импортировать электричество из Таджикистана" ["Kyrgyzstan decided to import electricity from Tajikistan"], *Vecherniy Bishkek*, 29 April 2014.

gan in eastern Uzbekistan, provides water at a crucial time in the growing season to a densely populated part of the Ferghana Valley.<sup>144</sup> On 17 June, the head of the Kyrgyz agency for border demarcation, Kurbanbai Iskandarov, asserted Uzbekistan had said it would resume gas supplies to the south if Kyrgyzstan opened a land corridor to the Uzbek enclave of Sokh and agreed to stop building Russian-funded hydropower plants (HPP) on the Naryn River.<sup>145</sup> Uzbekistan neither confirmed nor denied this. Such conditions, though, are unacceptable to Kyrgyzstan.<sup>146</sup>

Analysts warn that both the Uzbek government and Uzbek citizens in the area affected would see the proposed water stoppage as a provocation. “This has stopped being an economic issue and is now political”, said a European diplomat in Bishkek.<sup>147</sup> As summer draws to a close, Kyrgyzstan has not closed the Big Namangan canal, but neither has Uzbekistan resumed gas supplies to southern Kyrgyzstan. On 31 August 2014, Kyrgyz President Almazbek Atambayev said Gazprom would provide gas to southern Kyrgyzstan in 2016. He did not offer an alternative to the Russian company for two winters without gas in the interim.<sup>148</sup>

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<sup>144</sup> Zamir Ibraev, “Ни капли воды, ни кубометра газа” [“Neither a drop of water, nor a cubic metre of gas”], KNews, 12 June 2014.

<sup>145</sup> Kubanychbek Zholdoshev, “Узбекистан вновь требует коридор в анклав Сох” [“Uzbekistan demands the corridor to the enclave Sokh again”], Radio Azattyk, 17 June 2014.

<sup>146</sup> “We will not sell our land to get gas. There will be temporary difficulties. We will prove the power of our state sovereignty”, said Osh Mayor Aitmamat Kadyrbaev. “Узбекистан взамен возобновления подачи природного газа требует передачи ряда участков территории Кыргызстана, а также открытие коридора в анклав Сох, – мэр Оша А. Кадырбаев (дополнено)” [“Uzbekistan, in exchange to renewal of the gas deliveries, demands several plots of territories of Kyrgyzstan, also opening the corridor to the Sokh enclave, – mayor of Osh, A. Kadyrbaev (updated)”], *Turmush*, AKIpress, 21 August 2014.

<sup>147</sup> Crisis Group interview, Bishkek, June 2014. See also Mars Sariev, “Марс Сариев: Закрытие Наманганского Канала Создаст Опасный Прецедент” [“Mars Sariev: Closing the Namangan Channel Will Create a Dangerous Precedent”], *Vzglyad*, 12 June 2014.

<sup>148</sup> Shirin Torogeldieva, “На юге Кыргызстана планируют построить завод по производству газа из угля – Президент КР” [“There are plans to build a plant for production of gas from coal in the south of Kyrgyzstan – President of the Kyrgyz Republic”], *Kabar*, 31 August 2014, [www.kabar.kg/rus/economics/full/81854](http://www.kabar.kg/rus/economics/full/81854).

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## VI. Toward a Regional Mechanism

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While the political and social legacy of the Soviet Union and subsequent developments are complex, Kyrgyzstan, Tajikistan and Uzbekistan should recognise that the resulting water issues are perhaps the most easily addressed. They should also realise that water management and improvement schemes garner local and national support if carefully rolled out, not to mention the costs saved for the health system. Solving such issues at local level, especially in border areas, might provide a building block for better community and cross-border relations and modestly improve security in the Ferghana Valley, allowing them to focus on broader mutual challenges like ethnic tensions and radicalisation. Donors are well-placed to support such projects and, while remaining aware of the pressing need to build anti-corruption measures into them, should persist with their initiatives.<sup>149</sup> So far, however, little is happening in any of the key areas.

In 2000, the three countries formed a series of bilateral intergovernmental commissions to work on border delimitation and demarcation, an issue intrinsically linked to water.<sup>150</sup> As noted above, they made little progress, as they were unable even to agree on the maps to be used as the basis of negotiation.<sup>151</sup> At best, the commissions “just sit there and exchange polite gestures”, a senior Kyrgyz official said.<sup>152</sup> The inability to resolve the territory issue underscores a general lack of capacity and political will as much as its complexity.<sup>153</sup>

Water issues are similarly deadlocked. The three states have failed to agree on allocating trans-boundary resources. Since the collapse of Soviet-era agreements to barter water for energy, Kyrgyzstan and Tajikistan can monetise water only by converting it to hydroelectricity. This requires huge investment and risks alienating a powerful neighbour. Uzbekistan has gas it can sell at market prices and export through relatively inexpensive pipelines without regional consultations.<sup>154</sup> This leaves the two weakest countries reliant on foreign investment and aid and subject to economic and, potentially, military pressure.<sup>155</sup>

While Uzbek officials privately recognise the need for a region-specific water convention, deeply suspicious Kyrgyzstan and Tajikistan are reluctant to face Tashkent at the negotiating table.<sup>156</sup> Their plans for large hydropower plants irritate Uzbeki-

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<sup>149</sup> “Corruptions Perceptions Index 2013”. Transparency International, 2013. Uzbekistan ranked 168th of 177 nations listed, Tajikistan 154th and Kyrgyzstan 150th.

<sup>150</sup> Crisis Group Report, *Central Asia: Border Disputes and Conflict Potential*, op. cit. See also “Tajik-Kyrgyz State Border”, Tajik foreign ministry, <http://mfa.tj/ru/pogranichnie-voprosi/tadzhikistan-kyrgyzstan-granitsa.html>.

<sup>151</sup> Crisis Group interview, Kyrgyz minister, Bishkek, January 2014; see also fn 63 above.

<sup>152</sup> Crisis Group interview, Batken, 24 September 2013.

<sup>153</sup> Crisis Group interview, OSCE official, Bishkek, October 2013.

<sup>154</sup> Crisis Group Report, *Central Asia: Water and Conflict*, op. cit. “Kyrgyz DCM Discusses Difficulties”, U.S. embassy Tashkent cable, 24 March 2006, as made public by WikiLeaks.

<sup>155</sup> Kyrgyzstan has borrowed more than \$1.6 billion to fund energy projects. China’s Export-Import bank is a major lender, and Chinese firms are the main contractors on projects funded by the bank. Russia also plans to disperse loans to fund projects that will be implemented by Russian companies. These include Kambarata-I. Dmitry Denisenko, “ТОП-6 кредитов, виновных в повышении тарифов на электроэнергию” [“TOP-6 credits responsible for increasing electricity tariffs”], *Vecherniy Bishkek*, 29 April 2014.

<sup>156</sup> Crisis Group interview, Bishkek, January 2014. See also Crisis Group Report, *Central Asia: Water and Conflict*, op. cit.

stan, thus further complicating search for agreement. The reluctance to negotiate is heightened by Uzbekistan's tendency to use what Kyrgyz officials sometimes describe as "rough power": cutting rail transit to both countries and reducing gas supplies without explanation or warning. High-level third-party mediation between the three countries is needed.

Corruption, hidden interests and inflexible positions in all three states hinder a mutually acceptable solution. A common development strategy focusing on reform of agricultural and energy sectors would be in their interest but such an initiative would require a radical shift in the way regional leaders think. There is little indication, however, that the leaderships in Kyrgyzstan, Tajikistan or Uzbekistan are prepared to back away from the them-or-us stance they have assumed since the collapse of the Soviet Union. In at least Tajikistan and Uzbekistan, water- and electricity-intensive industries prop up the regimes with hard currency.<sup>157</sup> Kyrgyzstan, meanwhile, is accused of turning a blind eye to corruption in the energy sector.<sup>158</sup>

"Sovereignty is the issue – shared management of cross-border resources doesn't make sense to men who grew up with a zero-sum mentality and now benefit as autocrats from that approach to all issues," an energy expert said. "If the region had real institutions and habits of democracy instead of autocrats and personality cults, then water and energy issues might get solved collaboratively. The fundamental physical issue is that the energy-water infrastructure was designed to be operated by one country – the USSR – as a wholly integrated system. But it is now being managed by four or five independent countries who know not much about real collaboration".<sup>159</sup>

Given this state of affairs, separate agreements on the Syr Darya and Amu Darya would at least give Kyrgyzstan and Uzbekistan a chance to negotiate free of the baggage between Uzbekistan and Tajikistan. Similarly, Tajikistan and Uzbekistan would stand a better chance of agreeing if their issues were discussed separate from Kyrgyz-Uzbek problems.<sup>160</sup> The region's international partners should also have a role. Encouragement and prodding is required from the UN, Russia, China and the West – all of whom have, to some degree, fuelled Uzbek anxieties by funding upstream hydropower projects and electricity export ambitions. Uzbek water-flow concerns should be addressed in any agreement, but Tashkent should also acknowledge and remedy its massive water wastage. The international community could assist through financing and technical support.

Kyrgyzstan, Tajikistan and Uzbekistan should develop a common development strategy for agriculture and energy and commit to demarcating their borders without using water or energy as a weapon. In the long run, they should work toward a legally binding Central Asian convention on water resources. In the shorter term though, it would be more feasible for them to negotiate bilateral agreements for sharing wa-

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<sup>157</sup> Catherine Ambler, "Palaces Won't Suffice: Corruption in Emomali Rahmon's Tajikistan", Center for Islamic Pluralism, 8 July 2013; "Hydropower in Tajikistan. Folie de grandeur. A president with an edifice complex is screwing the motherland", *The Economist*, 27 July 2013; "White Gold: The True Cost of Cotton", Environmental Justice Foundation, 2005. Crisis Group Asia Report N°93, *The Curse of Cotton: Central Asia's Destructive Monoculture*, op. cit., p. 5.

<sup>158</sup> Yulia Kostenko, "Серые кошки в темных комнатах Минпромэнерго" ["Grey cats in the dark rooms of the Ministry of Industry and Energy"], 24.kg, 21 April 2014, [www.24kg.org/economics/177277-.html](http://www.24kg.org/economics/177277-.html).

<sup>159</sup> Crisis Group interview, Bishkek, 2014.

<sup>160</sup> Crisis Group interview, UN official, Bishkek, June 2014.

ter from the Syr Darya and Amu Darya. The international community should facilitate both dialogue tracks as needed.

The international community should also urge Bishkek, Dushanbe and Tashkent to prioritise border delimitation so as to increase security, focusing their expertise and aid on border and enclave issues and preferably working with at least two of the three governments on any given project. Uzbekistan should be encouraged to negotiate on an equal footing with its neighbours to finalise the stalled delimitation process. Even better would be for the UN to engage the states on bilateral water agreements that might provide the eventual basis for a regional consensus.

## VII. Conclusion

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The inability of Bishkek, Dushanbe and Tashkent to resolve cross-border water problems has created instability in their common area. Strained ethnic relations and competition over water and land could be a deadly mix. Conflict in this volatile part of Central Asia risks rapid, possibly irreversible regional destabilisation.

The failure to ensure basic services such as adequate supplies of water for households, agriculture and electricity is crippling socio-economic development, feeding political resentment and endangering livelihoods. Donor aid should be targeted at mitigating this.

Energy insecurity and resentment are growing and have proved to be major catalysts in the downfall of successive Kyrgyz administrations. Only mass migration and police-state tactics have prevented similar upheavals in Uzbekistan and Tajikistan. Differences over upstream hydropower projects demand intensive attempts at resolution from all involved, lest the projects trigger a violent international dispute. Relations between Bishkek, Dushanbe and Tashkent may prohibit a regional agreement at this time, but there is more hope that bilateral accords between Uzbekistan and the other two could pave the way for greater future cooperation.

**Bishkek/Brussels, 11 September 2014**

Appendix A: Map of Central Asia



Map No. 3763 Rev. 7 UNITED NATIONS  
December 2011

Department of Field Support  
Cartographic Section

Appendix B: Map of Kyrgyzstan



Appendix C: Map of Tajikistan



Map No. 3765 Rev. 11 UNITED NATIONS October 2009

Department of Field Support Cartographic Section

Appendix D: Map of Uzbekistan

