

WATER SECURITY – VITAL TO PEACE, VITAL TO PROGRESS



October 2014

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Water Security – Vital to Peace, Vital to Progress

The Global Water Security Challenge

At present, more than 2 billion people lack access to a steady supply of clean water. Over the next two years this figure will rise to 3.5 billion, encompassing almost half of the world's population. A little less than a decade thereafter, in 2025, 5.5 billion people, or two-thirds of the world's population, will be facing water shortages. Global demand for drinking water has increased eight-fold over the past 60 years and is set to grow exponentially in coming decades. As such, clean water is one of our planet's scarcest and most precious resources and, as with any major resource, will impact the prospects for economic growth as either a catalyst of conflict or cause for cooperation.¹

Most importantly, access to water is fundamentally a human right - as recognised with the adoption, in July 2010, of the UN General Assembly Resolution 64/292 on the Human Right to Water and Sanitation.² Water security can thus be defined as the right of every individual to have reliable access to safe water at an affordable price, and the capacity of a population to preserve ecosystems and safeguard adequate quantities of water of acceptable quality.³

The United Nations Conference on Sustainable Development in Rio in 2012 concluded that water security is the nexus of sustainable development since poverty and inequalities will persist without healthy freshwater systems.⁴ Water security is also an integral part of the Millennium Development Goals (MDGs), which aim to halve by 2015 the proportion of people without access to safe drinking water.

Beyond that date, the UN Post-2015 Development Agenda and UN-Water have set five main targets to be reached, with goals for each state being adjusted to particular national circumstances: Achieve universal access to safe drinking water, sanitation and hygiene; improve the sustainable use and development of water resources; strengthen equitable, participatory and accountable water governance; reduce wastewater pollution and improve water quality; and reduce mortality from natural and human-induced water-related disasters.⁵

The global water security challenge will require multi-faceted solutions, diverse policy instruments, and solidarity across borders. Ultimately, however, it rests upon national governments to tackle the problem by pursuing responsible policies at home, and collaborative policies abroad. Kazakhstan is attuned to the global water challenge and the urgency of policy responses. Water security is a key component of

¹http://www.akorda.kz/en/page_poslanie-prezidenta-respubliki-kazakhstan-lidera-natsii-nursultana-nazarbaeva-narodu-kazakhstana- and <http://www.kazakhstanunsc.com/>

²<http://www.un.org/es/comun/docs/?symbol=A/RES/64/292&lang=E>

³<http://www.unwater.org/topics/water-security/en/>

⁴http://www.unwater.org/fileadmin/user_upload/unwater_new/docs/Topics/UNWater_technical_advice_post_2015_global_goal_ES_final_highres.pdf

⁵<http://www.unwater.org/topics/water-in-the-post-2015-development-agenda/targets-and-indicators/en/>

Kazakhstan's 2050 Strategy, and the country has undertaken several measures to meet the MDGs and conform to the Post-2015 Development Agenda.

Kazakhstan's commitment to the MDGs is, perhaps, best expressed by the fact that it was the first country in Eastern Europe and the CIS area to publish a Millennium Development Report, as early as 2002. That Kazakhstan adopted an MDG+ agenda with more ambitious goals than those prescribed, at such an early stage, further attests to Astana's progress in tackling problems related to development.⁶

Water security is a special challenge, however, because of numerous factors: Kazakhstan's geography, its dependence on trans-boundary rivers, environmental degradation in the Soviet period and local climate change. The Kazakh government has therefore redoubled existing efforts to promote water security by launching a Green Economy Concept and a State Programme on Management of Water Resources 2014-2020, among other initiatives. This paper summarises the threats to Kazakhstan's water security and outlines its policy responses, nationally and internationally.

Water Security in Kazakhstan

Kazakhstan has never taken water security for granted, for several reasons. First and foremost, Kazakhstan is the largest landlocked country in the world. The nearest ocean access point is the Iranian port of Bandar Abbas, located 2,500 kilometres away from central Kazakhstan. That most of Kazakhstan's territory comprises semi-desert areas further complicates matters.⁷

Second, the disintegration of the Soviet Union broke the system of water and energy exchange in place between the Soviet Central Asian republics, making regional cooperation in the post-Soviet era essential to assuring the common water security of all.⁸ Third, and related, almost 50% of Kazakhstan's water resources are unregulated trans-boundary runoff. In other words, close to half of its water supplies come from neighbouring countries, rendering water independence very difficult, if not impossible to achieve.⁹

Fourth, Kazakhstan's existing water resources are vulnerable to climate change. Large areas of present pastures and arable lands are forecasted to fall into the category of desert and semi-desert lands in the next 15-20 years, further reducing Kazakhstan's water security by a third.¹⁰

Taken together, these factors position Kazakhstan last among CIS countries in terms of water supply.¹¹ In the "business as usual" scenario, the national water deficit is expected to reach 14 billion cubic meters (bcm) by 2030 and 20 bcm two decades thereafter, which may add up to 70% of total water demand.

⁶<http://www.un.kz/en/pages/9.jsp>

⁷http://www.icwc-aral.uz/workshop_march08/pdf/ryabtsev_en.pdf

⁸http://www.kazakhembus.com/archived_article/news-bulletin-no-23-1

⁹<http://kazakhstan-president.com/progressive-policy/environmental-protection/>

¹⁰<http://www.bnews.kz/en/news/post/142621/>

¹¹http://www.un.kz/userfiles/mdgr2007_eng.pdf

The opportunity cost of inaction is high since the resulting economic losses from water shortages are estimated to reach \$6-7 billion per annum by 2030, according to Kazakhstan's Green Energy Concept.¹² In other words, water security is not only about assuring the human need; it is also imperative to safeguard Kazakhstan's economic development. These two goals are therefore inextricably intertwined.

Several steps have been identified and taken to remedy this situation. Between now and 2030, the Kazakh government has budgeted \$10 billion to improve water efficiency, together with \$1-2 billion to install and upgrade waste water treatment facilities. Broken down, the cost of transitioning from a water deficient economy to one that uses water resources more efficiently is expected to be around \$500 million to \$1 billion annually.¹³

Work in this sphere is progressing rapidly: water efficiency programmes involving agricultural, industrial and municipal water users have been implemented; standards to improve water quality and safety have been adopted corresponding to those of developed countries; and the basin-level Water Committees now wield executive power in preserving supply-demand balance.¹⁴ A Concept on Kazakhstan's Transition to Sustainable Development was adopted in 2005, an Environmental Code in 2007, and a Green Economy Concept in 2013.

All in all the Kazakhstan government's State Programme on Management of Water Resources involves a budget of more than \$8 billion over the period 2014-2020.¹⁵ According to President Nazarbayev's Decree, the tasks of this programme are threefold: to guarantee water supply to the population and sectors of the economy through water conservation and by increasing water volumes, to improve management of water resources, and to preserve aquatic eco-systems.¹⁶

To achieve a universal supply of drinking water the Kazakh government has, since the mid-2000s, constructed and restored water pipelines, refurbished water networks, drilled artesian wells, disinfected pipelines, among a dozen other measures specified in the State Programme Health of the Nation and the Sectoral Programme of Drinking Water for 2006-2010. As a result, 67% percent of population today have access to safe drinking water.¹⁷ The Government is also nearing completion on a three-year \$110 million programme, Ak Bulak, which has expanded water supply networks in cities, villages, and settlements in East Kazakhstan.¹⁸

Resuscitating the Aral Sea

¹²http://www.eco.gov.kz/files2/Green_Concept_En.pdf

¹³http://www.eco.gov.kz/files2/Green_Concept_En.pdf

¹⁴<http://apws2013.files.wordpress.com/2013/05/kazakhstan.pdf>

¹⁵<http://www.eco.gov.kz/files2/plan-mer-gpuvr-rus.htm>

¹⁶<http://www.eco.gov.kz/files2/plan-mer-gpuvr-rus.htm>

¹⁷<http://www.eco.gov.kz/files2/gp-14-04-2014-rus.htm>

¹⁸<http://bnews.kz/ru/news/post/184756/>

The environmental consequences of Soviet resource utilisation in Kazakhstan were devastating, and several regions of Kazakhstan have since faced chronic ecological crises, not least the areas surrounding the Aral Sea. Once the fourth largest inland sea, the surface area of the Aral Sea is today only 17% of that in 1961.¹⁹

The shrinking of the Aral Sea traces back to the 1930s, when the Soviet Union embarked on extensive cotton cultivation in Central Asia and used the rivers flowing into the Aral Sea for irrigation. The lasting environmental consequences of this ecological disaster are many: hotter and drier summers, drought, and water shortages throughout Central Asia. The problem is not only environmental, but financial. Estimates suggest that problems pertaining to the Aral Sea cut a staggering 5% off Central Asia's total GDP annually,²⁰ or approximately \$15 billion per year at present.

As the initiator of the International Fund for Saving the Aral Sea (IFAS), established in 1993, Kazakhstan has invested much time and effort in recovering the Aral Sea, cooperating with neighbours on the issue, and raising awareness internationally. As recently as 2013, the Kazakh government spent \$46.5 million from the national and local budgets to implement 20 water supply projects in the Aral Sea region.²¹ This was in addition to other comprehensive programmes undertaken in partnership with the World Bank, Asian Development Bank, and the European Bank for Reconstruction and Development.

Particularly noteworthy is a multi-year \$85.8 million project to improve the flow of the Syr Darya River and conserve Kazakhstan's northern section of the Aral Sea.²² As a result of this effort, the winter flow capacity of Syr Darya has increased from 350-400 m³/sec to 700 m³/sec, filling the Aral Sea's north sector, which also has been separated by a dam.²³ The water level in Kazakhstan's part has been raised from 39.9 metres to 42 metres and marine life is gradually returning.²⁴ A fish processing plant has even opened in Kazakhstan's section.

This development is encouraging but there is no room for complacency. An IFAS Action Programme has been agreed upon,²⁵ building on the Basic Directions of the Programme of Actions on Improvement of Ecological, Social and Economic Conditions in the Aral Sea Basin, which guided the work in 2003-2010. From 2015-2020, the Kazakh government has allocated more than \$120 million to the project regulating Syr Darya and preserving the northern part of the Aral Sea.²⁶

Kazakhstan has also successfully raised the issue internationally, through IFAS and bilaterally, to attract additional sources of funding. UN Secretary General Ban Ki-Moon even said in 2010 that Kazakhstan is likely to "become the leader of the

¹⁹http://www.kazakhembus.com/archived_article/news-bulletin-no-23-1

²⁰<http://www.ais.unwater.org/ais/aiscm/getprojectdoc.php?docid=3074>

²¹http://www.ooskanews.com/daily-water-briefing/kazakhstan-spend-465-million-water-projects-near-aral-sea_25859

²²<http://www.kazembassy.cz/en/news-block/871.html>

²³http://www.icwc-aral.uz/workshop_march08/pdf/ryabtsev_en.pdf

²⁴<http://www.bnews.kz/en/news/post/133441/>

²⁵http://www.kazakhembus.com/archived_article/news-bulletin-no-23-1

²⁶<http://www.eco.gov.kz/files2/plan-mer-gpuvr-rus.htm>

international efforts to solve this problem.”²⁷ Moreover, a Memorandum of Understanding on water security has been signed between IFAS and OSCE, including a project on integrated water management in Kazakhstan’s part of the Aral Sea Basin.

Kazakhstan’s Chairmanship of the OSCE in 2010 enabled it to further elevate this problem on OSCE’s agenda, calling for the establishment of “mechanisms for monitoring and ensuring preventive response to environmental threats”.²⁸ A two-day roundtable discussion, co-organised by IFAS and the OSCE Astana Centre, was held in May 2010 to this effect, gathering more than 70 representatives from Embassies in Kazakhstan, NGOs, local and national government authorities, and international organisations.²⁹ Kazakhstan recognizes that every dollar spent on the Aral Sea will generate an exponential return, and is therefore pouring efforts into making others realize the opportunity costs involved.

Trans-Boundary Rivers and Regional Cooperation

Kazakhstan is dependent on a steady supply of water from neighbouring Russia, China, and Central Asian republics. In total, around 44km³ of Kazakhstan’s water stock is supplied by trans-boundary rivers (Ural, Black Irtysh, Ili, Chu, Talas, Syr Darya and others), which represents almost half of its total available water resources of 100.5 km³.³⁰ Cooperation and dialogue with neighbours on water security is therefore essential.

Several agreements regulate the use of trans-boundary rivers, including the Nukus Declaration of Central Asian States dating back to 1995 and the Agreement between the Governments of the Republic of Kazakhstan and the Kyrgyz Republic signed in 2000, among many others. A Kazakh-Chinese Joint Commission on the Use and Protection of Transboundary Rivers has been founded to regulate the use of water resources with China.³¹ A Transboundary Chu-Talas River Basin Council has also been established between Kazakhstan and Kyrgyzstan, following a regional OSCE meeting in 2007.

Some differences have surfaced among the states sharing trans-boundary rivers in Central Asia. But from Kazakhstan’s perspective, at least, these should be resolved in a spirit of friendship, which is why it has formed Strategic Partnerships with all states with which it shares trans-boundary rivers – China, Russia, Kyrgyzstan, and Uzbekistan. Kazakhstan has also been determined to bring a constructive spirit to the negotiating table. As noted by Lilian Darii, the Deputy Head of the OSCE Centre in Bishkek:

"Efficient and transparent management of trans-boundary water resources is a tool to eliminate potential tensions among Central Asian states. The excellent co-operation between Kazakhstan and Kyrgyzstan

²⁷ http://www.kazakhstan.org.sg/content/intro.php?act=news&c_id=713

²⁸ http://www.kazakhembus.com/archived_article/news-bulletin-no-23-1

²⁹ <http://kazworld.info/?p=7666>

³⁰ http://www.icwc-aral.uz/workshop_march08/pdf/ryabtsev_en.pdf

³¹ http://www.icwc-aral.uz/workshop_march08/pdf/ryabtsev_en.pdf

*on managing trans-boundary water flows proves the feasibility of mutually beneficial agreement between up- and downstream countries.*³²

Numerous conferences have been held to promote trans-boundary water dialogue. For example, the International Conference on "Integrated Water Resources Management in the Ile-Balkhash River Basin" organised in 2010 by the European Union, UNDP, OSCE, and the Water Resources Committee of the Ministry of Agriculture.³³ And even if Kazakhstan faces water scarcity at home, it has assisted regional states in coping with their problems. For example, from 2009–2011 Kazakhstan extended \$5 million in aid to Afghanistan, including funds earmarked to improve the country's water supply. During these years, Kazakhstan also extended 3,700 tons of diesel gas to support Kyrgyzstan's agriculture and spring sowing, worth approximately \$1.93 million.³⁴ This spirit of regional cooperation has informed Kazakhstan's strategy in managing the uncertainties involved with trans-boundary river flows.

Climate Change and the Green Economy

Kazakhstan's agriculture was severely hit by a heat wave in 2010. One should not exclude the possibility that the heat wave was a temporary blip, but two recent studies conclude, with 70-80% probability, that it was generated by a "long-term climatic warming trend".³⁵ Either way, climate change will have a profound impact on water security in Kazakhstan and Central Asia, where temperatures have been observed to rise faster than in other parts of the world. The Intergovernmental Panel on Climate Change warns that 93% of the impact of climate change will be felt in water-related sectors.³⁶ The Aral Sea problem further exacerbates this change. For example, salt dust from the Aral Sea bed has melted parts of the glaciers of Central Asia's mountains, causing floods and droughts.

Kazakhstan's responses to this alarming development are varied. It has adopted voluntary commitments to reduce greenhouse gas emissions within the UN Framework Convention on Climate Change, and has become the first CIS country to implement a cap and trade policy on greenhouse gases. In total, Kazakhstan is a party to more than 30 international environmental conventions.³⁷

In 2013, Astana pioneered a Green Economy Concept, formulated in partnership with industry leaders, civil society representatives, and other stakeholders.³⁸ The Green Economy Concept is comprehensive and covers all areas of sustainable development and environmental protection. In the sphere of water security, the goal is to solve drinking water supply issues by 2020, agricultural water supply issues by

³²<http://www.osce.org/eea/51393>

³³http://centralasia.iwlearn.org/publications/projectdocuments/national-component-in-kazakhstan/resolution_lil-balkhash

³⁴http://www.kazembassy.gr/index.php?option=com_content&view=article&id=63&Itemid=42&lang=en

³⁵<http://climateandsecurity.org/2013/03/28/the-climate-water-energy-security-nexus-in-central-asia/>

³⁶<http://www.unescap.org/speeches/water-security-good-governance-and-sustainable-solutions>

³⁷<http://www.eco.gov.kz/new2012/activity-of-state-authority/international-organisation-cooperation/3220-00/>

³⁸<http://pubs.iied.org/pdfs/16559IIED.pdf>

2040, and the entire water resources problem by 2050. The quantity of water used in irrigation, for example, will be cut by almost one third between 2020 and 2030.³⁹ To succeed in this effort, Kazakhstan will adopt water-saving irrigation technologies, reduce losses associated with irrigation and transportation, improve water-efficiency in industry, modernise and construct new infrastructure and fix leakages, along with other conservatory measures.

The Green Economy Concept will be implemented through a number of separate programmes; for example, the Agro-Industrial Complex Programme for 2013-2020 ("Agribusiness 2020") and the State Programme for Management of Water Resources for 2014-2040. A Council for Transition to Green Economy, established under the President of the Republic of Kazakhstan, will be responsible for coordination and control.⁴⁰ Implemented at a cost of \$3.2 billion a year, the Green Economy Concept is nothing short of a deep systemic transformation.⁴¹

A similar commitment is in place on the international level. Kazakhstan was the first country to sign up for the EBRD's Sustainable Energy Action Plan, and agreements have been reached to jointly step up efforts in the water management sector.⁴² In April 2014, Astana initiated proceedings to join the UNECE's and WHO's Protocol on Water and Health.

Kazakhstan does not only seek to participate but to lead on these matters. In September 2011, for instance, President Nazarbayev proposed a Green Bridge environmental programme designed to facilitate international transfer of technology and environmental management expertise among interested countries, corporations, and organisations.⁴³ Kazakhstan has since called upon the EU to join the initiative to further promote innovation in green technology and water conservation in the Aral Sea.⁴⁴ Looking to the future, Astana will convene an international conference on water in 2015, and in 2017 the "EXPO: Future Energy" fair will assemble representatives from more than 100 nations.⁴⁵

A final word should be said about civil society, which is bound to play an indispensable role in Kazakhstan's transition to a Green Economy and water security. This engagement is not new but reaches back to the Nevada-Semipalatinsk movement, which stood up to Soviet authorities and called for an end to nuclear testing and the degradation of the Aral Sea. Ever since, "Globus", "Kaspiy Tabigaty", and other socio-environmental coalitions have raised awareness on these questions and others.

The Kazakh government provides a platform for many of these organisations, even if they operate autonomously from the state. In 2012, for example, thirty-five representatives of civil society organisations from Kazakhstan, Kyrgyzstan,

³⁹http://www.eco.gov.kz/files2/Green_Concept_En.pdf

⁴⁰http://www.eco.gov.kz/files2/Green_Concept_En.pdf

⁴¹<http://www.businessweek.com/news/2014-06-13/kazakhstan-sets-prices-for-energy-from-renewable-sources>

⁴²<http://www.ebrd.com/pages/news/press/2013/130524.shtml>

⁴³<http://apws2013.files.wordpress.com/2013/05/kazakhstan.pdf>

⁴⁴<http://www.bnews.kz/en/news/post/172282/>

⁴⁵<http://www.usatoday.com/story/opinion/2014/06/10/environment-fossil-fuels-kazakhstan-oil-gas-column/10248297/>

Uzbekistan, Ukraine, Switzerland and Germany came together in Almaty to create the network of Central Asian non-governmental organisations (NGOs) on “Climate, Water, Energy, and Health”.⁴⁶ A “Green Academy” has recently been launched, which is the first of its kind in the post-Soviet space. At the time of writing, this scientific establishment holds a training workshop on “Effective Water Management and Water Conservation”, bringing together international experts, staff of the Water Resources Committee, and other agencies.⁴⁷ The National Geographic Society (KNGS), set up in Kazakhstan in 2013, is another example of civil society engagement.⁴⁸ That civil society was part of the stakeholder process that pioneered the Green Economy Concept is indicative of the Kazakh government’s commitment to having all parties on board.

Water Security: The Lynchpin of Economic and Human Development

Kazakhstan is an integral player in the global water security challenge, and has wrestled with these questions since independence. Both geography and history have imposed significant limitations on the availability of water resources in Kazakhstan, and it has pro-actively sought to address these constraints.

This work has been particularly intense over the past few years. The domestic Green Economy Concept, the international Green Bridge, the adoption of a multi-billion dollar programme on water resources 2014-2020, the successful resuscitation of the Aral Sea’s northern sector, the organisation of numerous international conferences on water security, and the formation of strategic partnerships with neighbours sharing trans-boundary rivers are only a few of Kazakhstan’s initiatives. As a result of these efforts, Kazakhstan has made significant progress on each of the five targets established by UN Water and towards meeting the MDGs. Not limited to this, Kazakhstan has played the role of a CIS leader on the Aral Sea question, green technology, the establishment of a Green Academy, cap and trade policy, on meeting the MDGs, and cooperation with the EBRD’s sustainability programme.

All of these steps represent investments in Kazakhstan’s future, enshrined and conceptualised in Kazakhstan’s 2050 Strategy Programme. Kazakhstan is thinking ahead, and has made water security the lynchpin of future economic and human development.

⁴⁶<http://www.unece.org/?id=30921&type=111>

⁴⁷<http://www.eco.gov.kz/new2012/category/news/>

⁴⁸<http://www.inform.kz/eng/article/2576757>

ABOUT

Kazakhstan's Bid to Secure a Non-Permanent Seat on the United Nations Security Council for 2017/18

www.kazakhstanunsc.com

In September 2013, Kazakhstan announced its bid to secure a seat as a non-permanent member of the United Nations Security Council in the years 2017/18.

As a regional leader and global partner in matters of energy security, and a valuable contributor to international peacekeeping missions, Kazakhstan wishes to bring its unique experience and expertise to bear on some of the pressing challenges currently facing the UNSC.

Its bid is based on four central pillars: [food security](#), [water security](#), [energy security](#) and [nuclear security](#).

KazakhstanUNSC.com, its publications, and its occasional newsletters and bulletins aim to set out, in clear and concise terms, the main policy priorities of Kazakhstan's UNSC bid. The multilingual website also supplies details of political, economic and social developments inside Kazakhstan and about its international foreign policy initiatives.

Kazakhstan has the experience, political will and resources to make a valuable contribution to the global challenges faced by the UNSC. It is fully engaged in its commitment to assume such responsibilities on the Security Council.

Home to over 130 different ethnic groups, Kazakhstan is nothing less than a microcosm of the United Nations. In the spirit of a committed and principled partner in the family of nations, the Republic of Kazakhstan has announced its bid to become a non-permanent member of the UN Security Council in the years 2017/18.

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