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Peace and Security in Central Asia Linked to More Sustainable Management of Natural Resources Including the Waters of the Amu Darya River and its Tributaries

Hydropower Projects, Inefficient Irrigation Systems, Growing Populations and Climate Change Emerging as Key Challenges for Environmental Diplomacy

Geneva, 11 July 2011--Boosting cooperation between countries sharing the waters of the Amu Darya, Central Asia's longest river, could be key to future peace and security in the region a new report launched today by the United Nations Environment Programme (UNEP) says.

Big hydropower projects planned upstream, demand for irrigated agriculture downstream and growing concern that climate change is shifting weather patterns are emerging as major natural resource challenges for the four main nations involved—Afghanistan, Tajikistan, Turkmenistan and Uzbekistan.

The new report, prepared by UNEP on behalf of partners in the Environment and Security Initiative (ENVSEC), points out that water resources in the region are already impacted by decades of often unsustainable development dating back to the era of the Soviet Union.

Large-scale engineering projects dammed and diverted substantial flows from the Amu Darya river basin into activities such as cotton, wheat and fodder farming in arid and desert regions. Such projects have also contributed to increased land degradation and damage to soils.

The Aral Sea, which relies in part from water from the Amu Darya, remains severely degraded with the report's estimates indicating that "the volume and surface area of the sea have now decreased tenfold".

Water levels in the southern part have dropped by 26 meters and the shoreline there has now receded by several hundred kilometers, says the report *Environment and Security in the Amu Darya Basin*.

Across the Amu Darya basin there is growing concern over declining water quality with and implications for human health including increased incidence of kidney, thyroid and liver diseases. This is being linked with chemicals run off from cultivated land and the washing of soils in the winter to reduce salt levels.

The report notes that between 1960 and 1990 the average salt content of water in the lower Amu Darya basin more than doubled and “has not improved since”.

Pollution from mining, metals, petroleum and chemicals activities along the river system and air pollution in the form of dust and salt from dried out parts of the Aral Sea are also pinpointed as challenges to human health.

Achim Steiner, UN Under-Secretary General and UNEP Executive Director, said: “As early as 1994, research identified the Amu Darya delta as an environment and security hotspot and these concerns are increasing rather than receding”.

“From a security perspective climate change, water, energy and agriculture constitute the main areas of interest for this report as they reveal the potential for increasing instability and even confrontation as more flows are impounded upstream reducing those water availability and quality downstream,” he added.

“Trust building, re-thinking agricultural production including irrigation systems and fostering cooperation on shared resources and infrastructure will be key to sustainable development in this part of Central Asia. The report sets out clear recommendations on how this can be achieved in a partnership between the countries concerned and the international community,” said Mr Steiner.

The new report details persistent, new and emerging stresses which will require environmental diplomacy to boost cooperation, especially around flashpoints between the nations sharing the Amu Darya.

Climate Change

“Temperatures are projected to rise by 2-3 degrees C in the next 50 years. Such an increase in temperatures could lead to significant environmental changes, some of which are already happening,” says the report based on the special report of the Intergovernmental Panel on Climate Change, *The Regional Impacts of Climate Change: An Assessment of Vulnerability*.

For example there has been a significant loss of glaciers in the mountains of Central Asia since the latter part of the 20th century which is continuing. Many large glaciers have retreated by several hundred meters and hundreds of small glaciers have vanished altogether.

Along with snow melt and rainfall, the glaciers in locations such as the Pamir Mountains are key to river flows in the Amu Darya.

“With rapid population growth in Central Asia, rising demand for water in agriculture may produce a situation of water scarcity in rivers shared by several countries,” says the report, adding that reduced water flows could also lead to further challenges including impacts on biodiversity, increased silting up of reservoirs and more widespread land degradation.

Irrigated Agriculture

The report notes that water use, a great deal of which is used for irrigated agriculture, is high. Yet only a fraction of the 7,000-12,000 cubic meters per hectare is actually reaching the fields and crops.

Indeed it is estimated that more than half is lost due to, for example, leaks in canals and evaporation.

Countries are acting. Uzbekistan for example has launched several multi-million dollar projects to re-build its part of the irrigation network including pumping stations with the aim of improving the prospects for over 200,000 hectares of irrigated land.

Meanwhile the country is also drafting new water laws and investing in advanced irrigation systems and automated water management technologies to cut consumption.

The report suggests improved ‘hydro-meteorological’ monitoring and forecasting in the upper Amu Darya basin and closer ties in terms of water use between Afghanistan and the other key countries. Currently Afghanistan is outside the regional water management framework.

“Increasing land under irrigation by 20 per cent would increase total Afghan extraction to five-six cubic kilometers. The amount of water extracted –although still slight—is far from negligible particularly in the context of dry years,” says the report.

Meanwhile, part of Afghanistan’s long-term reconstruction plans involve increasing the amount and reliability of energy supplies via new hydropower developments with implications for water supplies downstream.

Hydropower

The report says that “recurrent extreme climatic conditions such as drought and extreme winter temperatures, combined with an increase in domestic and regional energy demand,

have convinced upstream countries that it is necessary to develop their energy resources, especially hydropower”.

Afghanistan and Tajikistan for example are discussing plans to build the large 4,000 MW Dusht-i-Jum hydropower station on the Panj River, a tributary of the Amu Darya.

Tajikistan has also resumed development of the Rogun dam on another tributary, the Vakhsh River, which will add 3,600 MW to the country’s installed energy capacity.

“These projects have prompted a strong reaction from downstream countries,’ says the report.

Recommendations

The report acknowledges that governments in the region are starting to move on many of the challenges but that a great deal more can be achieved to promote cooperative sustainable development and reduce tensions over finite natural resources.

It suggests that a good first step would be for relevant nations to ratify the UN Economic Commission for Europe’s Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

This would serve the objective of establishing a legal framework and accountability for the collective management of the Amu Darya basin’s resources.

The report also calls for more exchange of information between countries on proposed transboundary projects that may impact the Amu Darya as one important mechanism for building trust and promoting cooperation.

Countries in the region should consider burden sharing in terms of maintaining water infrastructure while also promoting water efficiency measures and technologies.

Consultation on the costs and principles underpinning a fair, properly operated and balanced water systems should be carried out by the riparian states.

Modernization of regional energy systems and electricity grids should continue which, backed by improved energy efficiency and the development of alternative energy sources could reduce the need for increased hydropower projects.

Notes to Editors

ENVSEC was launched in May 2003. Its members are UNEP, the UN Development Programme (UNDP), the Organization for Security and Co-Operation in Europe (OSCE); the UN Economic Commission for Europe, the Regional Environmental Centre for Central and Eastern Europe and the North Atlantic Treaty Organization (NATO)

www.envsec.org

The report *Environment and Security in the Amu Darya Basin* can be downloaded at <http://www.envsec.org/publications/AmuDarya-EN-Web.pdf>

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