Briefing Note No. 12

Tajikistan Climate-Fragility Risk Brief
July 2015

This brief draws information from field research conducted by International Alert and from International Alert's Tajikistan case study, Climate Change, Complexity and Resilient communities (2013).

Although Tajikistan has made huge progress on poverty reduction, it is still the poorest country in Central Asia. A difficult post-Soviet transition, the 1993-1997 civil war and recurring natural disasters such as floods, landslides and drought have contributed to widespread poverty, particularly among rural people. Tajikistan is highly vulnerable to the impacts of climate change. Its vulnerability derives from limited institutional capacity, decades of underinvestment in water and sanitation infrastructure, and the legacy of Soviet central planning of natural resource management. By reducing water availability and land productivity in Central Asia, climate change poses a threat to the region's agro-ecosystems, with a risk of crop failures and increased insecurity of food, water, energy and livelihoods. These insecurities are likely to further increase the risk of instability and conflict in the region, as riparian countries will compete more and more to secure their water access in order to achieve their development goals. Transboundary water cooperation and sustainable water management within individual countries are key to regional peace and national food, water and energy security. "Development as usual" therefore poses fragility risks in Tajikistan. Enhancing local resilience and building capacity for sustainable natural resource management in Central Asia will be critical to achieving long-term development objectives and preventing compound climate and fragility risks in the region.

Climate projections in Tajikistan

The limited climate projections available for Tajikistan suggest that it will experience higher temperatures, reduced rainfall and greater evapotranspiration, as well as increased frequency of extreme events such as floods, droughts and storms. Six percent of the country's total area is covered by glaciers. Over the 20th century, Tajikistan's glaciers have retreated by around 20 percent, and some have already disappeared, which can have major repercussions on river basins fed by glacial run-off that supply hydro power and water for irrigation. Climate trends will exacerbate the melting and retreat of glaciers. During this process, the risk of floods from glacial lake outbursts will increase. In the medium term, the combined effects of glacial retreat, reduction of snow pack and more severe and frequent droughts are likely to cause severe water shortages, posing threats to food-water-energy security and ecosystems (World Bank 2015).

Compound risks: Links between climate change, fragility and security

1. Climate change, water mismanagement and waste, and conflict over access to land

Agriculture is a crucial economic sector, accounting for 20 percent of Tajikistan's GDP and providing 53 percent of employment (World Bank 2015). As the primary consumer of water in the region, agriculture is one of the sectors most at risk from water and land degradation. The economy's orientation toward water-intensive agriculture (as seen in cotton cultivation), when coupled with faulty irrigation infrastructure, poor administration of water allocation systems and a naturally arid climate, is drying up water resources in the country. Tajikistan's irrigation system, inherited from the Soviet era and put in place to cultivate arid lands, is decaying. Irrigation canals and pumps are steadily deteriorating, leaving some villages without direct access to water. As a result of evaporation, siltation of canals and leaking pipes, it is estimated that less than 40 percent of the water diverted from rivers actually reaches the fields (Renner, 2010). Cultivating water-intensive, export-oriented crops such as cotton, the country has not only neglected the long-term environmental impacts of dwindling water reserves, but has also impaired Tajiks' ability to diversify their livelihoods. In the cotton-cultivating region of Tajikistan, there are few jobs outside of the cotton industry, making it difficult to find an alternative source of livelihood. Even within the cotton producing profession, the majority of incomes are, at best, at subsistence levels (International Alert 2013).

In a country where arable land is scarce and water access is inequitable, climate change impacts may exacerbate tensions over access to these resources. The Fergana Valley (situated in Kyrgyzstan, Tajikistan, and Uzbekistan) illustrates how deteriorating environmental conditions are exacerbating

ethnically-based, land-related tensions, particularly along border areas where the demarcation of land has been contested (UNEP et al. 2005). Tensions that escalate into open conflict between ethnic Kyrgyz and Tajiks at the border are frequent, as illustrated by the recent violent clashes between Kyrgyz and Tajik border guard troops in January 2014, the largest border incident in the region for years. The conflict drivers were multiple, involving border delimitation of the Tajik enclave of Vorukh and the disagreement over the construction of a road that would hinder Tajiks citizens' access to grazing land (Fabio Belafatti 2014). Those recurrent border conflicts weaken the region's overall stability. This valley is the region's most important agricultural area and is the most densely populated. Demographic pressures on land, combined with deforestation, overgrazing and unsustainable agricultural practices, rapid soil degradation and salinisation as a result of poorly managed irrigation, have limited economic prospects in the region. The result is a region that is particularly vulnerable to climate change and prone to conflicts (World Bank 2015).

One of the key factors in the outbreak of the civil war in Tajikistan (1992–1997) was conflict between native and resettled populations in cotton-growing areas over access to water, land and other resources. As the root causes of the civil war continue to exist today, understanding how climate change exacerbates ongoing pressures on land and water resources becomes all the more essential.

2. Climate change, food insecurity and instability in Tajikistan

The crops in Tajikistan that are most vulnerable to climate risks are rice, wheat, alfalfa, cotton, and other water-intensive cultivation (OSCE 2010). The risk of declining yields due to the effects of climate change will continue to threaten local food security, in part by reducing farm income. Access to food is already a major challenge in Tajikistan, with around one third of the population affected by food insecurity. Food shortages happen on a regular basis, particularly in winter when bad weather and natural disasters like floods or snowstorms impede the transport of goods and people's physical access to markets (WFP 2015).

Tajikistan is a net food importer, and the majority of the population spends between 60 to 80 percent of its income on food (WFP 2015). Because of this, the country is particularly vulnerable to a rise in food prices. The 2007-2008 food crisis in Tajikistan, which resulted from drought and a global rise in food and fuel prices, had a severe impact on food security, with the number of food insecure people reaching 2 million. The crisis peaked during the winter, which was particularly cold and plagued by damaged winter crops and reduced livestock herds (Granit et al. 2010). Food insecurity, especially when caused by higher food prices, is likely to heighten the risk of protests, rioting, civil conflict and democratic failure (Brinkman and Hendrix 2011). In the case of Tajikistan, although food price hikes did not result in public protests, already impoverished Tajiks were left feeling frustrated and angry.

Household food security in Tajikistan is highly dependent on remittances and Tajikistan is the world's most remittance-dependent state, with remittances contributing up to 49 percent of the GDP. Estimates of the number of Tajik migrants working in Russia go from 600,000 to over one million. Their remittances are the main source of income for almost 55 percent of rural households (WFP 2015), providing more income than cotton, the country's primary cash crop (Mitra and Vivekananda 2013). Because of the economic crisis in Russia, many Tajik migrants are returning home, with a corresponding reduction in remittances. The World Bank predicts that the downturn in Russia and the devalued rouble will push down Tajik labour migrants' remittance transfers by 40 percent this year (Eurasia net 2015). The combined effect of numerous unemployed young men returning home without economic opportunities, in addition to the associated reduction in the majority of Tajiks' household income, will further strain one of Central Asia's most fragile states. The lack of sustainable livelihood opportunities for young men returning home can become a specific conflict driver. The RBC newspaper has reported that more than 178,000 Tajik nationals left Russia in the last six months of 2014 (Eurasian Geopolitics).

3. Climate-water-energy security nexus exacerbating tensions

Hydropower generates about 98 percent of Tajikistan's domestically produced energy, further highlighting the country's economic dependence on the availability and usage of water resources (Granit et al. 2010). Although energy is relatively cheap, this dependence on water creates an energy deficit during the winter months, when river flows are reduced. More than 1 million people in Tajikistan's rural areas suffer frequent and prolonged blackouts each winter (UNDP 2011). Shortages of electricity dur-

ing very cold periods compel people to resort to wood-cutting, intensifying deforestation, which increases vulnerability to climate change effects. The insufficient winter energy supply to schools and hospitals limits access to health and education and raises the risk of infectious diseases, especially in rural areas (BTI 2014). For this reason, energy security is key for Tajikistan's poverty reduction strategy. When harsh winter conditions damage electricity and water infrastructure, populations blame the government's inefficient energy policy, especially for prioritising energy supply to the aluminium plant to the detriment of domestic consumption. The harsh 2008 winter, with temperatures plunging to -15°C in towns and up to -25°C in the countryside, precipitated a rise in tensions in some districts (Vivekananda and Mitra 2013).

The water interdependence of countries in the Central Asia region means climate change is likely to aggravate regional tensions over shared water resources. The energy security objectives of upstream countries, such as Tajikistan, may conflict with downstream countries' needs, which could result in regional tensions over the allocation of water. The downstream countries (Kazakhstan, Turkmenistan, and Uzbekistan) have growing populations and are heavy water consumers due to cotton production, whereas the upstream countries (Kyrgyzstan and Tajikistan) want to use more water for electricity generation and farming (World Bank 2015). Energy efficiency in Tajikistan is of the utmost importance for development objectives and also for peaceful transboundary cooperation. Because the Central Asia region has interconnected hydraulic infrastructure inherited from Soviet times, improving water management and infrastructure will necessitate a regional approach. Better cooperation and dialogue that takes into account upstream and downstream countries' interests will be key to reconciling diverging national interests, and will therefore foster peace in the region.

Conclusion

Climate change is not only an environmental issue in Tajikistan, as it compounds existing risks to people's livelihoods and wellbeing and also affects energy security and regional stability (International Alert 2013). Managing the interrelated risks of climate change, environmental degradation and poor governance is crucial for the country's peaceful and sustainable development. Cross sectoral collaboration within key sectors such as agriculture, trade, infrastructure and energy will be critical to promoting community resilience and to addressing these compound risks.

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