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Water as an Embattled Resource?

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Water as an Embattled Resource?

Bonn, 21 March 2011. For 19 years now there has been a World Water Day (22 March). It was initiated by the United Nations Conference on Environment and Development in Rio in 1992 in order to remind the world of the importance of water for people and the economy: There is no life without water, no agricultural or industrial production, no generating of energy. This seemingly banal wisdom is still true – even after 19 years. Water resources also have international implications when rivers are shared between more than one country. On 18 January 2011 the *Süddeutsche Zeitung* (SZ) supposed that "climate change and growing world population … (would make) water an embattled resource". Many share this view: "Rebellion along the Nile. The adjacent countries react against Egypt and Sudan getting almost all its water" (SZ, 21 March 2010); "Struggle for water along the Yarlung Tsangpo. While China builds dams in Tibet, fear spreads throughout India" (*Frankfurter Rundschau*, 28 June 2010). And it has almost become a truism that one country cuts off the water supply of another.

Do dams endanger the water supply?

Of course there is competition for limited water resources. The supply of water for agricultural use can suffer greatly from its utilisation up-river, when certain countries use water to generate electricity in the winter and the countries down-river need that water for irrigation in the summer (which is at the heart of the conflict along the Amu and Syr Darya rivers in Central Asia); or when both upstream and downstream countries want to use water for irrigation (such as Turkey and Syria along the Euphrates).

However, the majority of conflicts along the 260 rivers shared among countries do not endanger the supply of fresh water for the roughly 40 per cent of the world's population who live along them – nor the supply of water for industry. If the people of India do not have enough drinking water, it is not because China or Nepal 'cut off' their supply. Rather, it is because the authorities in charge of the water supply fail to make necessary investments and thus create 'scarcity'.

Not water scarcity, but demand for energy

Along many shared rivers it is the rising demand for energy, and thus the construction of hydroelectric power stations that is causing conflicts. Hydroelectric power is the most advanced non-fossil fuel based method of generating electricity, and for many countries it is part of their strategy for combating climate change. In a report published in 2011, James P. Leape, Director General of the WWF, claims: "By 2050, we could get all the energy we need from renewable sources" – including hydroelectric. We are still far away from achieving that. The *World Energy Book* (2007) estimates that 1.6 billion people worldwide have no access to electricity and 2.5 billion still use traditional biomass for cooking and heating. According to the OECD's International Energy Agency, the rate of electrification in developing countries is below the global average – with the countries of Africa coming dead last. A survey of countries by Frost & Sullivan (2009) points out a largely unutilised potential: 2 to 4 per cent of hydropower has been developed in the Democratic Republic of Congo, Ethiopia, Gabon, and Madagascar; 17 in Mozambique; 7 in Nigeria; 20 in South Africa and 29 in Zambia. To make this potential available for economic and social development, according to a recent study by the Word Bank, Africa would have to install 7,000 megawatts per year – and most of that on rivers shared between countries.

Hydropower is not uncontroversial

Hydropower, especially when generated using dams, is anything if not controversial (see *The Current Column* of 22 November 2010). Because of the environmental and social implications, multilateral development banks and bilateral donors have been very hesitant in recent years and have only made few funding commitments. This has changed with the emergence of a new actor, China, who has yet to fully endorse international environmental and social standards in its business

performance. To avoid negative impacts on people and the environment, the countries themselves will have to take action – and that means all countries sharing a certain river. This is made harder by weak national legislation (for instance lacking regulation on minimal run-off to maintain river ecosystems). The planning and implementation of resettlement is less than satisfactory, the quality of environmental studies is deplorable and the local population is only marginally involved, if at all (see research on China: *Discussion Paper 4/2010*, India: *Discussion Paper 10/2010*, Brazil: *Discussion Paper 14/2010* as well as on Ghana: *Discussion Paper 3/2011*).

The uncertainties in developing the potential of hydropower are further enhanced by the hydrological variability and the forecast long-term implications of climate change on temperature (increased evaporation of reservoirs) and precipitation, as they reduce the amount of water that can be stored and utilised. The flipside of this is flooding and the failure of dams for flood control. The East African countries of Kenya, Tanzania and Zimbabwe, who depend heavily on hydroelectricity, have a tale to tell about this: the amount of electricity generated fell sharply as a result of persisting droughts. Hydropower alone is no solution, it has to be one of a range of options that can play an important role for a number of countries.

Hydroelectric power stations create opportunities for cooperation

If hydropower from shared rivers is to meet the rising demand for electricity, that would open up unprecedented opportunities for cooperation for the countries involved. Examples are the joint construction of hydroelectric power stations by Brazil and Paraguay on the Parana (Itaipu), by Zambia and Zimbabwe on the Zambezi (Cabora Bassa) and by Mali and Mauritania on the Senegal River (Manantali). Conflicts over utilisation will not dissolve into nothing; however, they can generate mutual benefit through joint planning, especially if they are part of developing regionally integrated energy networks (such as the already existing Southern African Power Pool, and the energy network of the East African countries that is currently being established). However: environmental and social standards have to be implemented by the relevant authorities and the companies involved. And that is easier said than done.

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