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Title: Regional Cooperation to Mitigate Water Related Disasters: The Case of the Ganges

Abstract:

The Ganges is one of the major eastern Himalayan Rivers that support livelihoods of over 300 million people of South Asia. The catchment of the river system is spread over four countries: Bangladesh, China, India and Nepal. A number of tributaries – most of them originated in the upper Himalayan reaches – contribute to the flows of the Ganges. The river eventually falls into the Bay of Bengal through the flat terrain of the delta. Melting of snow and permafrost constitute the majority of the flow in the Ganges system during summer. During monsoon the majority of the flow is constituted by rainfall runoff. Monsoon causes a huge temporal variation for availability of water in the river basin by contributing two-thirds of the flow-volume [1]. Abundance of water exhibited in wet months leads to frequent floods, while shortage in dry months results in low-flow, leading to moisture stress, droughts and salinity intrusion along the coastal river. In various parts of the Ganges basin floods, salinity intrusion and droughts are frequently occurring water-related disasters, which are attributed to the incidence of large-scale poverty in the region [3]. The south-eastern part of the Ganges basin suffers from floods, while the western parts experience droughts. The tributaries of the Ganges flowing to the Bay of Bengal suffer from low-flows in the dry months, which cannot resist penetration of salt water from the seafront to the inland floodplains. The effect of flood is most prominently observed in Bangladesh, and in adjoining Indian states [4]. Drought is observed mainly in the Indian States of Uttar Pradesh, Bihar and West Bengal, as well as in Bangladesh. Salinity intrusion is mostly observed in the coastal areas of Bangladesh and West Bengal. The latter two are among the most vulnerable areas to water-related disasters. In recent decades there have been frequent calls by the civil society to engage respective governments into an effective regional cooperation. If regional waters are developed jointly, it is believed that the regional countries can accrue scale benefits not only in terms of disaster mitigation, but also for alleviation of poverty and conservation of environment [3]. Unfortunately, over the years there hasn't been any appreciable progress in regional cooperation. Lack of trust among and between countries, bureaucratic hindrances, weakness in political leadership – all dampened the spirit of regional cooperation in water and environment. Recently, the regional governments engaged in fruitful negotiations and signed bilateral cooperation treaties in relation to waters of the Ganges system. Two bilateral treaties, titled