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FOREWORD

Water as an engine for regional development

One of the important reasons as to why water has not been high up in the political agendas of nearly all nations is because of how the water profession has framed its discussion in the past. For the profession, water development is all about issues like supply and demand, efficiency of use, good planning and management, risks and uncertainties and other similar technical and governance-related issues. Unfortunately, policymakers, generally have only limited interest in such issues on a long-term basis. Thus, for centuries, senior policymakers have been mostly interested in water only when there are crises due to extreme hydrological events like heavy floods or prolonged droughts which could seriously affect a large number of their populations because of major adverse impacts on their lives and livelihoods. These extreme hydrological events, unless the policymakers show that they are seriously concerned, generally have adverse impacts on their electoral possibilities.

Such interests, because of the very nature of the extreme hydrological events, are invariably transitory. As soon as the droughts or the floods are over, political interests mostly evaporate. Unfortunately, sustainable water management cannot be achieved with only transitory high-level political interests. Planning, design and then construction of water projects often take decades. For example, discussions and initial planning for China's South-North Water Transfer Project started during the 1970s. After nearly half a century, this project is now coming nearer to completion. Accordingly, for major water development projects, it is essential to have long-term sustained interest and support of policymakers so that they could be completed within the planned timeframe. This is highly unlikely to happen unless water remains high up in the national political agendas for a prolonged period of time. This, unfortunately, seldom happens.

An important lesson I learnt early in my career was from one of my mentors, Indira Gandhi, a former Prime Minister of India. An important lesson I learnt from her is how water issues should be framed so that these would attract sustained attention of very high-level politicians like herself. In 1973, when I was a Director in the Canadian Ministry of the Environment, I visited her, as was my standard practice whenever I was in India. During a friendly discussion over tea, she gently chided me for thinking 'the sun and the moon revolve around water'. I responded with the standard view of all water professionals which we are brainwashed with from the beginning of our careers. That is, human beings and ecosystems cannot survive without water, and food or energy cannot be produced without water. She candidly told me that as a Prime Minister she did not have much interest in water per se. She then went on to explain that from her vantage point natural resources like water and energy are means to an end. As a Prime Minister looking after a nation's welfare, she did not have time to focus on such means: they are primarily responsibilities of her various Ministers. Her focus was on ends. The ends, from her

perspective, were how economic growth could be increased so that it could result in poverty alleviation, employment generation, and better quality of life for all Indians.

Following this discussion and further reflections, I started to frame water issues very differently, not only to her but also to all senior policymakers in other countries whom I had the privilege to advise. I changed my framing of water issues to retain the interest of senior politicians so that they would consider my views and advice seriously, and then, hopefully, implement them. My focus after this interaction with Mrs Gandhi changed radically from how to improve water policies and management practices to how water can be used as an engine for economic growth and social development which could generate additional employments, alleviate poverty and hunger, and thus improve the standard of living of millions of people (Biswas, 2019).

The current special issue would have undoubtedly pleased my late mentor. Its focus is how hydropower dams are facilitating generation of electricity in the four countries of South Asia: Bangladesh, Bhutan, India and Nepal, and how electricity trade between these countries, however generated, are improving the standard of living and quality of life in this entire region. The special issue also discusses how the excess electricity generated is being exported to the neighbouring countries. Sales of electricity to the neighbouring countries not only contribute to further social and economic developments of the exporting countries but also advances the quality of life in the importing countries. These practices are benefitting the people in all the four countries.

The special issue also unambiguously shows that the benefits of cooperation in development activities between neighbouring countries can be quite significant, especially when compared to the high costs of non-cooperation. Consider Bhutan and India, and the benefits each country has derived for their remarkable decision to collaborate in developing their water resources in Bhutan during the post-1980 period. This decision alone has had stunning impacts on the socio-economic development of Bhutan in recent decades, especially as it is a small land-locked country. India also has benefitted but since it is a very large country, the benefits have not been of the same order as witnessed by its northern neighbour.

In 1961, when Bhutan formulated its first development plan, it had by far the lowest per capita income of all the South Asian countries, and one of the lowest in the entire world. Primarily through its collaboration with India in terms of hydropower development projects and constructing them with Indian funding support, both as grants and loans, Bhutan has transformed its social and economic landscape in an extraordinary fashion over the past three decades (Biswas, 2011).

The electricity generated by these hydropower projects constructed with Indian collaboration is first used by Bhutan for its own social and economic development activities. The excess electricity that is not used by Bhutan is then sold to its southern energy-hungry neighbour, India, at a predetermined rate which is adjusted upwards from time to time with mutual agreement.

So successful has been this cooperation between India and Bhutan on hydropower development and electricity trade that Bhutan's social and economic indicators are now by far the highest in South Asia. Consider per capita income. In 2020, per capita income in Bhutan was $3,050, compared to $1,900 in India, $1,250 in Bangladesh, and $830 in Nepal. If per capita annual electricity consumption is considered, Bhutan again comes out on top. In 2019, the figures were 3126 kWh for Bhutan, but significantly less for India (935 kWh),

Bangladesh (433 kWh) or Nepal (229 kWh). It should be noted that per capita electricity consumption is a good proxy for quality of life of any country. Thus, by any standard, Bhutan's performance in improving the quality of life of its people has thus far exceeded its other South Asian neighbours, as well as most other developing countries. None of this would have been possible without hydropower development in collaboration with India and electricity trade with it.

The collaborative and partnership approach between Bhutan and India over the past 40 years has been one of the best examples in the world where water developments and electricity export have contributed to improving the living standards of the people very significantly.

In contrast, last 30 years have proved to be a missed opportunity for Nepal, India and Bangladesh because of continuing mistrust, and perception of big brother-small brother syndrome (Biswas, Unver & Tortajada, 2004). It should also be noted that minerals, oil or natural gas, if not used, remains in the ground for possible use in the future. In contrast, if hydropower is not generated, its loss is permanent and countries lose its economic and social benefits forever. These benefits can never be recovered.

This special issue makes an excellent case as to how proper water developments and good regional cooperation can contribute to improvements in the quality of life of the people in all South Asian countries. There is no reason why this model cannot be successfully used not only in other south Asian countries but also in other regions of the world, but with appropriate modifications to account for local conditions.

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Asit K. Biswas
Distinguished Visiting Professor, University of Glasgow, Glasgow, UK
prof.asit.k.biswas@gmail.com http://orcid.org/0000-0001-9332-4298