



## Collective Action on South Asia's 'Wicked Problems'

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**ABSTRACT** The problems of water, energy, climate change, and urbanisation, are all intertwined; they are, also, all 'wicked'. There is little consensus on how to effectively navigate these problems, let alone, how to solve them. Of these, water is key: the threat of climatic changes is primarily manifested in water, its dwindling supply, and the conflicts that may potentially arise. It also encompasses so-called 'toad's eye' concerns of the grassroots, often informal economy, as well as the 'eagle's eye' perspectives of national and global managers. In South Asia, regional cooperation in managing water has not been successful for various reasons. While there are nascent regional instruments in the form of SAARC chartered institutions, they are weak and in need of greater push if they are to be of any use to furthering regional integration.

### INTRODUCTION

Water, energy, and climate change are all what analysts call, 'wicked problems': there is no consensus on their definition, much less on solutions that are effective and sustainable. They become even more problematic when societies attempt to address all three for a highly urbanising city—then they become 'super wicked' problems. Water, energy and climate change are intertwined: while climate change and the global warming associated with it were set in motion with excessive fossil fuel burning to meet new and increased energy needs since the Industrial Revolution, the phenomenon is affecting

civilisations primarily through water. Increasing atmospheric temperatures mean more water evaporation from the earth's surface which, in turn, means less 'green water', i.e., soil moisture on which is dependent much of dryland agriculture. Warmer atmosphere means more storage therein as clouds and vapour – and heavier precipitation in geographic locations least expecting such extremes as well as crippling scarcity in other places.

The world is already beginning to witness a greater frequency and severity of floods and droughts, higher incidence of unseasonal rainfall

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or failure of the rains, and more migration of plant and animal diseases to cooler climates where they had never been previously seen. And while the state-of-the-art climate-change science provides a fair degree of certainty about average global temperatures rising inexorably even with mitigation measures agreed to in Paris at COP21, it only highlights great uncertainty regarding precipitation. Will it increase or decrease? And by how much will it do so, when, and with what consequences? And ultimately, precipitation is what the security of households and nations within which those households are located are going to depend upon as they go about living their present and planning their future.

It is within this and many more envelopes of uncertainties – global oil prices and their volatility, financial risks, rise of non-state actors and their coercive policies of violence, declining clout of Bretton Woods development agencies and institutions – that the international community has to discuss, devise and carry out regional, transboundary, transdisciplinary collaborations to allay fear and generate confidence of those within shared regions facing common threats. One such region is South Asia, hanging down as it were from the Hindukush-Himalaya cordillera, having one of the largest population concentrations on the planet, facing the threat of changing patterns of the South Asian monsoon due to climate change, and coping with unforeseen challenges of industrialisation, global trade—indeed, modernisation with its discontents in their broader sense and consequences.

Given that water is the key to understanding the entwined predicaments of all three of the critically wicked problems, and given that the world's success—or failure—in dealing with it will also determine the overall collective future, it is necessary to reflect on how the international community has fared so far on this front. Regional collaboration on water in South Asia has been hamstrung both in terms of scale and its interdisciplinary nature. Water issues are beset with contradictions: It is life-giving since nothing, not individual humans, not environment, not society, survives without it; yet it is also death-dealing as floods and droughts continue to claim

lives. Water is pervasive on this planet, but also scarce even where it is supposedly (on average) abundant, such as on the Himalaya-Ganga. Human society and its economy use water in all its properties: water is a universal solvent, absolutely necessary for both life processes as well as industrial ones; it is fluid and its flow properties are harnessed to flush away wastes or to transport bulk goods; its three states as solid, liquid and gas are all capable of being used for meeting different ends, from cooling drinks and other products to using steam for energy transfer in thermal turbines. And as happens, the excessive use of one property, e.g., flow property to flush our toilets, process leather and carry away the wastes, would harm other properties that need to be used (e.g. drinking or irrigation water)—and create disharmony.

## TRANSBOUNDARY CONUNDRUMS

With the exception of the Indus Water Treaty, transboundary collaboration on other major rivers of South Asia, including what are called 'marginalised rivers' have moved forward rather sluggishly, if at all. There are at least 54 transboundary rivers other than the Ganga, Brahmaputra and the Teesta between India and Bangladesh, and many more between Nepal and India other than the big four of Kosi, Gandak, Karnali, and Mahakali. Since on these less iconic rivers, no particular attention has been paid, the term 'marginalised rivers' is used to denote these rivers—almost forgotten—which collectively cause greater damage during floods and higher benefits during the lean season, but to which very little studies or programmes are dedicated, or none at all.

Moreover, various past efforts by Euro-American Universities in the 1960s, the Ford Foundation in the 1980s, or the World Bank in more recent decades have foundered despite initially raising hopes and providing valuable insights. They do not seem to have been able to graduate to creating real impact on policy framing and implementation. The Indus Treaty itself, though often mentioned as successful – “because, while India and Pakistan have fought several wars

since its signing, the Treaty has remained intact”— is really not a model that can be even remotely emulated in the Ganga or the Brahmaputra basins since that treaty is not about water sharing but of water partitioning: the British Raj lands were partitioned into India and Pakistan first, and then the rivers were subsequently partitioned. Sharing means jointly partaking the good times and the bad, the floods and droughts, whereas partition such as with the Indus tributaries does not require any future cooperation, only an adherence to what the 'divorce settlement' was, and arbitration in case disputes arise over interpretation.

There is a need to keep the Indus Treaty in mind while rethinking the transboundary water dialogue in South Asia, not the least because the World Bank was (successfully) engaged in the Indus, and Euro-American-led development agencies and INGOs continue to be engaged in promoting transboundary regional cooperation citing Indus as an example. These bodies do have valuable knowledge and experience of global practices and efforts that need to be absorbed by South Asians, but that is something that must follow more overt and palpable political and social commitments from within the region, lacking which such knowledge and engagement may result at best in ivory-tower sterility. These bodies that brokered the Indus Treaty also do not enjoy the same post-World War intellectual and organisational hegemony, let alone the political clout that comes with the kinds of resources that were then available, to cajole 'Third World' countries as they did from the 1950s till the end of the 20th century along their desired paths. It is important to keep in mind this changed global context of the intervening half-century. It is also important to realise that the Tennessee Valley Authority (TVA) model of dam building is no longer the iconic model, neither of water development nor of heroic veneration. The rise of Green and other social activist critiques of today are less enamoured of those achievements and demand that uncomfortable truths behind them should not be swept under the rug.

In this complex mix of government (Track 1) and business and civic (Track 2) initiatives around

water, there is need to reflect on the broader context within which these initiatives are set and then to examine the niche where a new one would be most effective. New concerns are emerging: for instance, the deemed 'successful' Indus Treaty is now seen as having a 'plains bias' that ignores the needs and interests of the highlands. Climate change is also seriously challenging the very methodology of the TVA model: hydro-technical structures need to be designed with projected future extreme flows in mind that are derived from statistical extrapolations of past records; but if climate change is saying that the future will certainly not be like the past, optimisations based on such projections of the past would be philosophically problematic, at best, and at worst, positively harmful for large investments. The following sections will examine the broader context of the chronic shortcomings that plague the riparian countries of the Ganga Basin.

## Nepal

While Nepal may not have the economic clout to influence downstream Indian development plans on the tributaries of the Ganga, as an upstream riparian having the only sites where regionally significant storage dams can be built, its consent is the *sine qua non* of any progress with plans and programs of the other neighbours. Given that it will have to bear the primary social and environmental costs of dam building through displacement and loss of agricultural valleys from submergence, it has been highly apprehensive on that count and on the failure of lower riparians to talk meaningfully of benefit sharing. From Nepal's viewpoint, while these dams will produce multiple benefits in addition to electricity, benefits such as dry season irrigation, flood control, fisheries as well as inland navigation will accrue mostly downstream while much of the social and environmental costs will be borne by it, being upstream. However, no effort has been made since the British left India (when they did among themselves talk about the “massive benefits to the United Provinces from dams in

Nepal”) to jointly assess these benefits and tally them with the costs as well as the means to pay for them from the different benefit shares.

To make matters worse, Nepal has faced political instability over the last two decades, leading to impasse and procrastinations at best and short-sighted decisions at worst in matters related to water and energy. Agreements two decades old such as the Mahakali Treaty are in a state of limbo with contending interpretations, and new agreements are difficult to enter into, and impossible to implement if entered into, due to the still unfolding nature of Nepal's contentious politics and domestic concerns against a background of crippling energy shortages. The new Constitution envisions a federal structure of governance where, although major projects are to be within central purview, centripetal forces are certain to come into play in the as yet undefined and contested nature of state-province relations related to natural resources. A prime example is the failure to pass a new Electricity Act, even though a bill was introduced in 2008 and subsequently by three other prime ministers, since some 142 amendments were introduced from across the country's entire political spectrum.

Despite these failures, Nepal has introduced new initiatives in resource management at the national and local levels that have lessons for regional cooperation. Unfortunately, many transboundary regional collaboration efforts have been blind to them and consequently failed to build on them. Given that sedimentation in the Himalaya-Ganga is a crippling feature of dam building and its economics, Bangladesh rural development engineers have managed to build 'temporary' rubber dams that can be deflated and removed once the need for diversion is no longer there, allowing the river to follow its natural regime. In Nepal, 'disposable brushwood dams' have been the mainstay of hill irrigated agriculture: unfortunately, institutes preparing modern water managers have focused exclusively on ferro-cement technology and have not brought these sustainable traditional practices within their ken for both technical and institutional innovation and adaptation. Other innovations

include both farmer-managed irrigation systems and community electricity in Nepal. These institutional innovations have demonstrated, often against state and donor resistance or rejection, gains in the sectors in terms of both efficiency and equity that aid-industry supported parastatal and state monopolies have not managed.

### **Bangladesh**

Bangladesh would want to see dams in Nepal store flood waters during the monsoon and provide lean season augmentation. However, when asked what benefits Nepal is to get from 'importing' seasonal floods of Bangladesh as permanent features into its landscape to provide downstream benefits, no serious proposals have been put on the table. There seems to be a general impression in Bangladesh even among the intelligentsia that social or environmental costs are not entailed (or are negligibly minimal) in the upstream regions, that the valleys to be converted into reservoirs in Nepal are uninhabited, barren and just geological canyons. Bangladesh, however, has been agreeable to talking about navigation upstream, especially in the Kosi.

It is worth keeping in mind that no continent-scale region of the world has developed economically without developing inland navigation. Mississippi, Rhine, Danube, Volga-Don, and Mekong—all these rivers have been developed to carry bulk goods from the sea to the deep within the continent at a fraction of the cost of land transport. Indeed, the US Army Corps of Engineers is one of the world's biggest dam and embankment builder; but its primary mandate was to promote or facilitate interstate commerce by keeping the waterways navigable. Moreover, while these big rivers that form the backbone of multi-country transportation have never been 'wild and free-flowing', their use in navigation has been a primary driver pushing for river cleanup and not using the river as a sewer. Navigation requires water in the river, water that is relatively clean, and hence becomes a force for environmental improvement compared to the present situation where South Asian rivers see almost all waters that

would flow in the river extracted for consumptive irrigation while the stretches along major cities have mostly become drains carrying sewer backflows. Navigation access to the sea is also one item of tradeoff benefits that would encourage Nepal to build storage dams in the tributaries, and would certainly benefit landlocked Bihar (or the Indian North-East to extrapolate on the Brahmaputra) as much as Nepal.

## **India**

India is the primary gravitational center of South Asia and much of the praise for any success or blame for any failure will accrue to it. In terms of transboundary collaboration in water resources development, India has historically followed strict bilateralism in water relations with both Nepal and Bangladesh, exhibiting what appear to be contrary doctrines of 'natural flow' with Nepal and 'absolute sovereignty' with Bangladesh. Given that water and electricity in India are state subjects, the contrary priority expectations of Bihar from water projects in Nepal are for flood control and from UP for irrigation, with the center in Delhi arguing only for electricity. India also has traditionally denied (or at least not allowed credible joint assessment of) downstream benefits (let alone sharing it) of irrigation, flood control, navigation and fisheries. In this regard, neither India nor Bangladesh or Nepal have really designed and implemented a national project as multipurpose, making the understanding and implementing of such transboundary, regional benefit sharing projects even more complicated. These elements of in-built contradictions between Delhi, Lucknow and Patna are far from resolved.

Further, in addition to strict bilateralism, India plans developments of water resources in tributaries within neighbouring countries as routine additions to its own system without first informing or seeking prior consent from the neighbours or involving them in the planning process. This happened on Tanakpur as well as Kosi/Gandak with Nepal as well as on Farakka and other projects with Bangladesh, and looks set to happen with the Himalayan portion of the River

Linking Project. When neighbours raise their concerns or even objections when finally approached at a late stage of planning or implementation, they are dismissed as 'anti-Indianism' and sought to be overcome by strong political pressure, requiring a huge expenditure of wholly unnecessary – and often counter productive – political and diplomatic capital. This approach has produced delays, time and resource lost as well as bad relations and even impasse.

## **International Agencies**

While international and multilateral agencies played catalytic roles since the middle of the last century with the Indus Treaty and other developments, they have increasingly retreated from investments in long-term infrastructure. Instead, they have chosen the role of 'macroeconomic financial managers' ever since the rise of the Washington Consensus post-Berlin Wall collapse, advocating the retreat of the state and the promotion of the private sector as the primary vehicle of economic development. Even in the realm of 'development software', there has been a failure to engage adequately with social and environmental critics of their approaches; and dialogues sponsored by them with properly domesticated NGOs have been often sterile. Indeed, effective dialogue is between contending views, not between those who think alike. Social and environmental critics (especially activist NGOs who challenge frameworks unlike service delivery NGOs who do not but fulfil the role of the market where none exists) have different views on the nature of development and harnessing of resources than do official hydrocracies. For fear of displeasing host governments, international development agencies have been toeing the path of least resistance with hydrocracies to the point of wasting resources on dialogues that lead to nowhere near a coming together of minds. Their single-focused pursuit of what is called neo-liberal, market-led, regionally integrated development leaves little space for pluralistic, alternative models, thus inviting continuing hostility from those who espouse alternative views, both locally and internationally.

## REINVIGORATING REGIONAL COOPERATION

The traditional approach to addressing these 'wicked' problems had been a *silo-ed* one, with bigger resources thrown in to answer more and more narrow and technical questions. As an alternative attempt, South Asia Water Dialogue has attempted to bridge the lacunae described above to some extent with a fresh approach. It takes four nexused and 'wicked' themes – cities, food-fisheries-navigation, climate change, and transboundary issues – and tries to re-think approaches to development within them through three key questions: ensuring participatory water institutions, ensuring justice to the marginalised, and bringing forth knowledge democracy as against knowledge hegemony.

When it comes to water—especially transboundary water—this approach would require the replacing of silo-thinking by a more nexused approach that draws from a larger perspective. The first is to transcend the hegemony of disciplinary knowledge (e.g. water resources development being mostly a civil engineering enterprise) by bringing in other previously ignored disciplines from hard science like atmospheric physics to soft science such as social anthropology, to re-define the problem by re-examining them through different lenses. The points where fruitful nexus approach can be applied are at not so much the production end of these subjects such as water and energy but at three 'choke points': storage, transport, and waste disposal. It would do this through the new accounting and auditing philosophy of not just efficiency but more importantly through concepts such as water and energy footprints and virtual water metrics. What this plural approach would do would be to move beyond just production to addressing the full life cycle of resource use, including their impact on the marginalised populations.

Given that risk and uncertainty are to a large extent socially constructed, constructively engaging the different organising styles of bureaucratic hierarchism, market individualism, and activist egalitarianism – styles that perceive

risk differently as risk managers, risk takers and risk sensitisers – would help different voices that define problems differently bring their particular solutions to the table. In terms of regional cooperation, where Track 1 processes are either barely crawling along or stuck in an impasse, and where Track 2 insights do not filter into Track 1 decision-making, there is a big need to introduce effective Track 1.5 initiatives. They would essentially be Track 2 but with the participation of Track 1 officials not having the obligation to commit themselves. The idea is to expose them to debates and solutions in the activist and business communities (issues that are serious but often cannot even be admitted onto the Track 1 agenda) and see the gradual osmosis of new thinking and comfort with the solutions emanating from such a constructive engagement.

By self-stating itself to be non-attributable and based on non-representative and non-formal participation, a Track 1.5 exercise, which is essentially Track 1 but in an informal setting with no obligation to have any formal understanding, would provide support to a Track 1 process to explore uncomfortable issues bedeviling them that they often cannot even openly admit or place on their agenda, e.g., inland navigation as a trade-off. More fundamentally, a Track 1.5 process absolutely requires that a Track 1 process be effectively in place and ongoing (even if impasse-ridden such as the Mahakali Treaty), because in its absence it will be backstopping against empty air. The issues of impasse and what exactly is holding progress back in South Asian regional cooperation cannot be found through current technical TAs and consultancy modes employed by the international development agencies but can be arrived at finessed indigenous hydro-diplomacy that gets behind the stated obvious.

The key question is: What are the stepping stones, the institutional vehicles for regional cooperation that can be exploited for the purpose? Creating new forums or platforms is a very long-term proposition, and even if formed, for them to gain legitimacy and get into action would take an even longer time.


This paper argues for using the SAARC chartered institutions which all South Asian

heads of government and states have signed on to. Admittedly, they may not have done much to win accolades so far, but they exist, have seen South Asian governments formally committed to them, and are the only regional engagement vehicles in existence. It is better to use existing vehicles and go somewhere than to wait while a new one is invented from scratch.

Invited to both the Track 1.5 as well as the Track 2 processes under way in many instances in South Asia should be the professional staff from the 11 official SAARC regional centers, of which at least five have a direct relevance to water and SAWD concerns: the meteorological center in Dhaka, the energy center in Islamabad, the disaster and agriculture centers in Delhi, the development fund in Thimpu, and the South Asian University in Delhi as well as the SAARC secretariat itself in Kathmandu. These centers are semi-autonomous in their charter, have separate funding and can operate independent programs. But they are essentially intergovernmental bodies and hence Track 1. Bringing them into both Track 1.5 and Track 2 processes might provide that dialogue bridge which has eluded South Asia so far. They do have the nascent capability of bringing about traction in Track 1 and the generation of relevant new and innovative ideas in Track 2. In this way initiatives such as SAWD might have both policy traction at the official regional level without losing the innovativeness and new ideas that come from the private sector and the NGOs.

Given that water is central to resolving the 'wickedness' inherent in other areas of energy,

cities and climate change, this paper argues that it serve as the entry point and metaphorical crowbar to pry open the black box of regional cooperation – and to address the 'wickedness' in sectors such as energy, cities, and climate change. Water allows addressing both 'toad's eye' concerns of the grassroots as well as the 'eagle's eye' perspectives of the global community such as climate change and Sustainable Development Goals (SDGs). Much of South Asian economy in all countries is in the informal sector which has been lost in debilitating lacunae within national and regional planning processes. One can live, albeit badly, without modern commercial energy and life goes on for most of the poor without giving a thought to climate change or SDGs. However, because it is of immediate and vital concern to everybody – rich or poor, urban or rural, formal or informal – unlike the other three issues which currently concern mostly 'eagle's eye' scientists and policymakers, water has an immediacy that forces action and allows little time for procrastination.

As the lifeblood of society, the healthiness of water is key to addressing the health of the rest; and the constellation of its wide range of stakeholders is assurance that solving water problems will to a large extent also solve the problems of climate change, cities, and energy. The capacity to deal with current levels of water stress makes the world better prepared and adapted to handle the increased intensity and frequency of extreme climate events that climate change—according to current, undeniable signs—has in store for the future. 

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