Discussion Paper

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Casus belli or Hydrodiplomacy: Emerging themes of water partnership for achieving SDGs in South Asia

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Abstract

Transboundary water negotiations in South Asia have now transcended into a *casus belli* which means an act of war. Recently Pakistan and Nepal have raised alarms on India's biased role in water treaties and hydropower generation. Research by the Millennium Ecosystem Assessment delineates that the ecosystem services involving water have transitioned to new partnerships in the past decade alone.

Agriculture and industries remain the top contenders for majority of the water resources in South Asia. However, there are themes such as cross border energy trade, inland water transport and virtual water trade, which are increasingly becoming the center of legal and regulatory discourse in water partnerships.

While South Asia is waking up to the myriad of ecosystem services provided by freshwater sources (and the hydrologic circle), the region is also realising the various legal and regulatory challenges associated with these services.

This Discussion Paper aims to collate the emerging themes of water partnerships and identify the need for a legal and regulatory discourse concerning avenues of hydrodiplomacy to attain the SDGs.

Water as an Economic Good

The Dublin Principles, 1992 established that a natural resource like water - which is quantifiable, scarce and varies in value depending on usage – should be treated as a commercial economic good. The Principles also acknowledged that water is a universal right, however treating it as a personal right would also make the user treat its scarcity at an individual level. For example, water for sanitation could be a personal right but water used for irrigation of crops is a state subject. Hence, the mandates of water conservation and judicious use also vary among individuals and regions, along with its appearance as a tradable good.

Assigning an economic parameter to water does what water policy over the decades has not been able to do. It highlights the value of assigning water security. As an economic good, water and related ecosystem services are available to users for an economic price. Hence, from a localised concept of water, water security transcends to the globalised concept of water – where transboundary water resources like rivers are shared and used prudently to benefit more than one nation and even region.

A positive correlation between water availability and water demand is a false assumption, hence countries have to come together and figure out a better plan to ensure water security for the future generations. Given their geo-political history several nations are already in conflict over transboundary water sharing issues. There is, thus, an urgent need for nations to come together and converge on strategies for utilisation of common benefits arising from water as an economic good.

Casus belli or Hydrodiplomacy

In 2010, Pakistan took India to the Permanent Court of Arbitration (PCA) for diversion of the Kishanganga water for the 330 MW Kishanganga hydel project in Jammu & Kashmir, but had to settle the case in 2013 when the PCA recognised India's rights over the river (PCA, 2010). When this research paper was being authored, Pakistan was again gearing to approach PCA to take up the issue of the design of the dams on Kishanganga and Ratle river projects which may reduce the water that flows into the lower riparian region of Pakistan. Both these cases have been filed by Pakistan against India as violations of the 1960 Indus Water Treaty.

Hydrohegemony of India in South Asia is not a new topic of arbitration. The above mentioned cases of disputes are a clear evidence of the decades-old, well-thumped threats of water wars in South Asia. Presently, reeling under water scarcity in the Indus basin, Pakistan has mustered the legal capacity to point India as the regional bully. It is this conflict which has been highlighted as *casus belli* – an act or situation that provokes or justifies a war – in this case a water war.

India has tried to mend its domineering image by transitioning from its previously prevalent hydrohegemony to the newly emerging strategy of hydrodiplomacy. Hydrodiplomacy in South Asia has evolved over a long period from the 'pacifier' model of the Indus treaty in 1960s to the contemporary 'partnership' model of hydroenergy cooperation between India and Bhutan. Unlike 'pacifier' models which employed mutual agreements and respect among nations for cooperation, current 'partnership' models are built on mutual economic and social dividends for the concerned countries.

A key difference between the two models is that while global governance agencies like the World Bank had to broker for the 'pacifier' models of hydrodiplomacy, the current era of 'partnership' models are initiated and implemented by South Asian countries themselves. This exhibits a scenario which has eliminated the need, and autarchy, for global governance actors in regional water issues. This also highlights that, even in the absence of mediator entities, South Asian countries have come together to discuss hydrodiplomacy as an instrument to achieve the Sustainable Development Goals (SDGs).

However, the lack of uniform legal and regulatory mechanisms across all bilateral treaties for the same theme (e.g. hydroenergy) has created a ripple effect. India, being a multi-country buyer of water ecosystem services, will soon have to adjust to these ripple effects. For example, India's symbiotic energy cooperation with Bhutan is different from its autocratic energy cooperation with Nepal. This remains as the sole chink in the armour for South Asian hydrodiplomacy.

With a burgeoning population of around 1.74 billion (UNDESA, 2017) spread over 3.4% of the world's land surface area (UNSD, 2017), South Asia's dependence on limited water resources has reached critical limits. Among the South Asian countries, Afghanistan, Bangladesh, Bhutan, India, Pakistan and Nepal alone hold the chunk of freshwater resources spread across the Indus and Ganges-Brahmaputra-Meghna river basins (Table 1).

India, being the major shareholder in these four river basins, has utilised its position for establishing a hydrohegemony in South Asia. This has caused multiple water conflicts at upper and lower riparian stretches of the four river basins. India also shares almost 13400 km (GoI, 2016) of its land borders with Afghanistan, Bangladesh, Bhutan, China, Nepal and Pakistan increasing its diplomatic interests in the region for various security and economic motives.

In the next few decades, a 'developing' country like India will need the help of its 'least developed' neighbours to attain most of the SDGs, especially in trans-boundary water partnerships. As India progresses economically and socially, it is an imperative to design the institutional, legal and policy framework for the emerging themes of water partnerships that it will employ with its neighbours as part of its hydrodiplomacy.

Table 1: Country Areas in the Transboundary River Basins of South Asia

Basin	Area		Countries included	Areas of country in basin (km. sq.)	As % of total area of the basin	As % of total area of the country
	km. sq.	% of the Southeast Asia				
Indus	1120000	5.4	Afghanistan	72000	6	11
			China	88000	8	1
			India	440000	39	14
			Pakistan	520000	47	65
Ganges	1087300	5.2	Bangladesh	46300	4	32
			Bhutan	-	-	-
			China	33500	3	0.3
			India	860000	79	26
			Nepal	147500	14	100
Brahmaputra	543400	2.7	Bangladesh	39100	7	27
			Bhutan	38400	7	100
			China	270900	50	3
			India	195000	36	6
			Nepal	-	-	-
Meghna	82000	0.4	Bangladesh	35000	43	24
			Bhutan	-	-	-
			China	-	-	-
			India	47000	57	1
			Nepal	-	-	-
Total	2832700	13.7	Afghanistan	72000	6	11
			Bangladesh	120400	54	83
			Bhutan	38400	7	100
			China	392400	61	4.3
			India	1542000	211	47
			Pakistan	520000	47	65
			Nepal	147500	14	100

Source: AQUASTAT, 2011
Indus: http://www.fao.org/nr/water/aquastat/basins/indus/tables.htm
Ganges-Brahmaputra-Meghna: http://www.fao.org/nr/water/aquastat/basins/gbm/tables.htm

Therefore, the discussions in the succeeding sections of this paper will aim to collate the emerging themes of water partnerships and create a case for legal and regulatory discourse concerning avenues of hydrodiplomacy.

In this scenario it is essential to strategise and move ahead to ensure that India's international diplomacy in South Asia also includes hydrodiplomacy – i.e. strategic dealings in transboundary water resources with its neighbours for social and economic development, thereby contributing to the SDGs.

Linking Hydrodiplomacy with SDGs

International water laws are not sufficient to address water security issues in South Asia. This is due to two reasons:

- Absence of a codified (written agreement) or customary (adherence to a certain conduct) regional water law; and
- States are not bound to comply with a regional water law if it does not work in their favour or hampers their sovereignty.

It is important to mention that, over 3600 treaties relating to the use of the world's 276 transboundary surface waters have been catalogued. However, out of the 600 or so transboundary aquifers (4 from South Asia), only six of them have a formal agreement in force (IGRAC & UNESCO-IHP, 2015) and South Asia is not one of them. Hence, to attain SDGs through water security, South Asian countries need to develop a customised legal and regulatory framework.

Hydrodiplomacy is the answer to transboundary water governance in the above mentioned conundrum. Two distinct characters of hydrodiplomacy ensure dispute-free governance of transboundary water resources:

- Economic and social benefits to all the parties; and
- Holistic alignment of the benefits to achievement of the SDGs.

The SDGs aim to develop water partnerships through SDG 6 (Clean water and sanitation), SDG 13 (Climate action), SDG 14 (Life below water) along with the overall SDG 17 (Partnerships for the goals). However, these goals have multiple targets, yet to be executed, especially in South Asia, given the diversity of water usage patterns in the region.

The Millennium Ecosystem Assessment shows that the ecosystem services provided by fresh water and the hydrologic cycle by extension provide multiple services to humans under four themes – provisioning, regulatory, cultural and supporting services (Table 2).

Aligning the Millennium Ecosystem Assessment to the SDGs will require multi-faceted hydrodiplomacy. It is evident that the emerging themes of water partnerships in South Asia cannot be categorised under a single SDG or a single ecosystem service. For example, navigation is an

ecosystem service which also facilitates silt management for preventing flood as well as providing livelihood options.

Hence, these new themes cannot be governed using traditional laws or regulatory mechanisms. Since most of the South Asian countries are young nations as compared to the 'developed West', this is an opportune moment to create such a discourse to protect and promote national interests in ensuring water security for the growth of the region.

Table 2: Ecosystem Services Provided by Fresh Water and the Hydrologic Cycle

Provisioning Services	Regulatory Services	Cultural Services	Supporting Services
• Water (quantity and quality) for consumptive use (for drinking, domestic use, and agriculture and industrial use) • Water for non-consumptive use (for generating power and transport/navigation) • Aquatic organisms for food and medicines	• Maintenance of water quality (natural filtration and water treatment) • Buffering of flood flows, erosion control through water/and interactions and flood control infrastructure	• Recreation (river rafting, kayaking, hiking, and fishing as a sport) • Tourism (river viewing) • Existence values (personal satisfaction from free flowing rivers)	• Role in nutrient cycling (role in maintenance of floodplain fertility), primary production • Predator/prey relationships and ecosystem resilience

Source: Aylward, et al., 2005

Emerging Themes of Water Partnerships in South Asia

Transboundary water resources and their governance are points of dispute across the world. Some of these disputes also date back to deep-seated confrontations regarding the scale of water resources like coverage area of river basin, depth of the water table, level of flood water collected and so on. However, nature follows its own rules and hence some of these disputes are redundant; debates need to move beyond these disputes. There are multiple approaches which are less confrontational, solution-oriented and provide mutual benefits to all the concerned parties in these situations.

Water partnerships have been propelled into the focus of mainstream discussions by the realisation that transboundary water resources are scarce and cannot be governed by one nation. All parties need to come together with the common aim of judiciously using these transboundary water resources. This section will elaborate such evolving themes of water partnerships in South Asia, in addition to the significance of legal and regulatory models which can be utilised by India.

Cross Border Energy Trade

The high potential of generating hydropower and thereby engaging in cross border energy trading is a key step to ensuring utilisation of renewable energy resources in South Asia. India leads in South Asia with an estimate of hydropower generation potential of 150000 MW (Shrestha, 2016). Considering India's growing urban demand for uninterrupted electricity supply, the need for cross border energy trade is quite clear.

In comparison, Nepal and Bhutan have a combined potential of 113000 MW which can be traded with countries like Bangladesh, India and Pakistan who are struggling to meet their electricity demand. Nepal and Bhutan – blessed with natural infrastructure for hydropower generation - can play a significant role in helping South Asia and India to reduce carbon emissions in the region (GoI, 2017).

A closer look at the legal framework compiled in Table 3 shows that in Bhutan, Bhutan Electricity Authority (BEA) has specific regulations in place for promoting open access and in India, regulations exist for open access as well as third party access. Nepal has a comparatively new hydropower policy which does recognise the scope of regional and bilateral energy trade. More recently, India has also stipulated a set of guidelines for cross border trade of electricity with Bangladesh, Bhutan and Nepal under the bilateral Memorandum of Understanding (MoU) and the Power Trade Agreement (PTA) (GoI, 2016).

Table 3: Mapping of Framework for Cross Border Energy Trading

Country	Institutional Framework	Legal/Regulatory Framework	Policy Framework
Bhutan	• Department of Energy, Ministry of Economic Affairs • Bhutan Electricity Authority (BEA) • Bhutan Power Corporation Limited	The Electricity Act of Bhutan, 2001	• Hydropower Policy on Foreign Direct Investment (draft stage)
Nepal	• Department of Electricity Development, Ministry of Water and Resources • National Electricity Authority • Water and Energy Commission	Electricity Act, 1992	• Hydropower Development Policy, 2001
India	• State Electricity Boards / Department of Power, Ministry of Power • Central Electricity Regulatory Commission • Central Electricity Authority • Central Power Sector Corporations	Electricity Act, 2003	• Hydropower Policy, 2008 • National Electricity Policy, 2005 • National Water Policy, 2005 • National Tariff Policy, 2006

Source: Compiled by author from public domain

Multiple hydropower projects in Bhutan and Nepal (e.g. Rahughat, Budhigandaki, Chukha, Kurichu, Dagachu, Basochhu, and Tala) have been built with economic assistance from India within the mandates of power purchase agreements. However, these power purchase agreements do not create a legal framework for the parties to 'behave'. For example, India has a National Rehabilitation and Resettlement Policy, 2007 to not just compensate project affected persons, but also to improve their standard and quality of life. However, such provisions are not accounted for in bilateral power trade agreements that India signs with other parties. By extension, allotment of water quantity at river basin levels is also an arena of conflict for bilateral hydropower trade agreements. Interestingly, in the near future Bangladesh is expected to engage with India to access the hydropower of Bhutan and India, thereby creating the first real example of trilateral trade in cross border energy trade (Pillai & Prasai, 2018).

While Bhutan, Nepal and India have clear objectives and mandates for energy trade at bilateral and national levels, a regional policy is absent. Ideally, such a policy has to be framed within the jurisdiction of a regional inter-governmental body like the South Asian Association for Regional Cooperation (SAARC). Despite the scope and potential of cross border energy trade, the sole legal development in this matter has been the SAARC Framework Agreement on Energy Cooperation (Electricity) (SAARC, 2014). However, the agreement seeks to accomplish what all weak regional agreements do – agree to disagree in vague terms and the reason that it has been ratified only by the Bangladesh, Bhutan, India and Nepal.

In this context, the 'change agent' SAARC is currently non-functional, hence deciding on a regional energy framework is probably going to end up as another bureaucratic hustle. Multiple studies have captured the importance of such a regional policy or treaty which would ensure that this would be helpful for attaining SDGs and promoting regional growth (SAARC, 2010; Wijayatunga, Chattopadhayay, & Fernando, 2015). There are also emerging talks of expanding South Asia's energy trading potential to the South Asia Sub-regional Economic Cooperation (SASEC) and the Association of Southeast Asian Nations (ASEAN) to ensure a collective energy trade and power pooling strategy.

Inland Water Transport

South Asia is blessed with multiple large and varied river systems which form a network of inland waterways in the region. Some of these waterways were the lifeline of connectivity in pre-colonial India before the emergence of railways and roadways. In the last decade, inland water transport (IWT) is being hailed as part of the multi-modal regional connectivity for India as well as its land-locked neighbours[1]. Add to it the low carbon footprints and ease of transporting over dimensional

[1]CUTS International is working on multiple themes of regional connectivity among BBIN countries – one of which is on 'Expanding tradable benefits of transboundary water: Promoting navigational usage of inland waterways in Ganga and Brahmaputra basins'. More details: http://www.cuts-citee.org/IW/

cargos, waterways in India is an emerging theme of hydrodiplomacy and a means of contributing to the SDGs.

In India, the National Waterways on Ganga (NW-1) and Brahmaputra (NW-2) are the proposed navigation routes for connecting India with Bangladesh and possibly all the way till Nepal and Bhutan through multi-modal means of connectivity. Inland waterway connectivity between India and Bangladesh will also substantially improve foreign and private investments in North East India – a prospect long overdue. Currently there are 10 points as ports of call to ferry goods – Ashuganj, Narayanganj, Mongla, Khulna and Sirajganj for India, and Kolkata, Haldia, Karimganj, Silghat and Pandu for Bangladesh. The Indo-Bangladesh routes have been studied for their trade, transport and tourism potential extensively through multiple studies (Nishat & Faisal, 2000; Sarker, Shampa, Nair, Akter, & Hossain, 2014; De & Iyengar, 2014; World Bank, 2017).

Table 4 shows the legal framework for promoting mutual benefits for Bangladesh and India by utilising inland waterways. This framework has been quite helpful for promoting mutual economic benefits for the two countries. Cargo volume has increased from 1.85 MT on 2011-12 to 6.23 MT in 2015-16 (IWAI, 2016) on the Indo-Bangladesh Protocol Route through NW1 in the last 5 years.

Table 4: Mapping of Framework for Cooperation on Inland Waterways between Bangladesh and India

Countries	Institutional Framework	MoUs/Treaties/Agreements
Bangladesh	• Bangladesh Inland Water Transport Authority, Ministry of Shipping and Inland Water Transport	• Standard Operating Procedure of MoU on passenger and cruise services on the coastal and protocol route between India and Bangladesh, 2018 • MoU between India and Bangladesh concerning cooperation on aids to navigation, 2017 • MoU between India and Bangladesh on passenger and cruise services on the coastal and protocol routes, 2017 • Addendum to the 2015 protocol on inland water transit and trade between Bangladesh and India, 2017 • MoU between India and Bangladesh on development of fairway from Sirajganj to Daikhawa and Ashuganj to Zakiganj on Indo-Bangladesh protocol route, 2017 • Protocol on inland water transit between India and Bangladesh, 2015
India	• Department of Inland Water Transport, State Government • Inland Waterway Authority of India, Ministry of Shipping	

Source: Compiled by author

India claims to have the infrastructural and regulatory framework in place to connect the Bangladesh, Bhutan, India and Nepal countries to the sea. However, it seems Bangladesh is the critical decision making body for enhancing 'river-to-bay' connectivity in BBIN as well as Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) region (BBIN plus Myanmar, Sri Lanka and Thailand).

For example, Bhutan has a Memorandum of Understanding with Bangladesh on the use of inland waterways for transport of bilateral trade and transit cargoes using Narayanganj river port as the Port of Call (RGoB, 2017). The MoU aims to use both the coastal and the inland water transport routes (Chittagong to Daikhawa and Mongla to Daikhawa) so as to facilitate services for international sea-borne trade of land-locked Bhutan.

The legal and regulatory models forming the base of this MoU include:
- Trade agreement between Bangladesh and Bhutan, 2014;
- Protocol on transit and trade between Bangladesh and India, 1972 (renewed in 2015);
- General Agreement on Tariffs and Trade (GATT) by World Trade Organisation, 1947: and
- UN Convention on transit trade of landlocked states, 1965

The MoU does have many points of arbitration – e.g. the tariffs and charges for the coastal and the inland water transport routes are currently same, and this is permitted under the 1965 convention but 1947 GATT advises against this. Considering Bhutan as an observer nation and not a member of the WTO, the UN convention naturally takes accession. Bangladesh also realises the loss that it is incurring in this game. Yet, the coastal nation is willing to incur this loss in order to gain relaxation for a critically important construction material that it can get from the mountainous country of Bhutan i.e. stone boulders.

India remains a bystander in such bilateral agreements in South Asia as well as the BIMSTEC region where it does not have an economic stake; yet it has a geo-political stance to maintain. Concurrently, transboundary navigation in inland waterways and eventual connectivity to the sea remains a case of strategic cooperation for India as well as for Nepal and Bhutan, primarily due to the water boundaries that India shares with these countries. The first step in this direction would be to align India's domestic water laws with international water laws. The domestic laws might cease to exert authority beyond the respective boundaries but alignment with international water laws will ensure that water is treated as an economic good and hence attract considerations for riparian rights.

Virtual Water Trade

The concept of virtual water trade (also known as trade in embedded or embodied water) impacting water security and thereby influencing SDGs is still in a nascent stage. Virtual water trade refers to the hidden flow of water if food or other commodities are traded from one

geographic location to another (Allan, 2003). The water that is used in the production process of an agricultural or industrial product is called the 'virtual water' contained in the product. For example, for producing a kilogram of grain, grown under rain-fed and favourable climatic conditions, 1000 to 2000 kg of water are required. However, growing the same amount of grain in an arid country, where the climatic conditions are not favourable (high temperature, high evapo-transpiration), requires up to 3000 to 5000 kg of water (Hoekstra & Hung, 2002).

The concept of virtual water trade is in-built in the concept of water as an economic good. As described in earlier sections, SDGs can be monitored and regulated if we understand the production, trade and consumption patterns of water in agricultural and industrial products.

It is interesting to note that the water footprint of producing ecosystem services through water such as irrigation, hydroelectricity, navigation, etc. can also be integrated in the emerging areas of virtual water trade. However, for the sake of brevity, this section will attempt to address legal and regulatory challenges regarding virtual water trade in agriculture. Since SDGs constitute a set of international goals, the section will stick to the international trade laws that are relevant to the Indian context (Table 5).

Table 5: Mapping of Framework for Virtual Water Trade in Agriculture

Treaties	Governance component for virtual water trade
General Agreement on Tariffs and Trade, 1994	Reduction of agricultural tariffs and other trade barriers
WTO Agreement on Agriculture, 1994	Reducing tariff protections for farmers in developing countries who are also producers of virtual water trade
WYO Agreement on subsidies and countervailing measures, 1994	Negotiations to optimise virtual water trade and preserve input resources like water
WTO Agreement on Technical Barriers to trade, 1994	Laying down terms and references for virtual water trade as a regulating and compensation tool for water-saving
WTO Committee on Trade and Environment, 1994	Enabling negotiations for virtual water trade labelling

Source: Compiled by author

Trade liberalisation in Indian agriculture is a much contested topic both for its protectionism as well as opportunism. While trade liberalisation in Indian agricultural markets is a substantial economic reform, it is an imperative to note that its impact on water resource has been shown to be detrimental, especially for export-driven and irrigation-intensive crops like rice (Gulati & Kelley, 1999). Research also shows that though trade liberalisation has increased the agriculture output, it has been for crops which are exported and have high water consumption (Cornish & Fernandez,

2005). Conclusively, trade liberalisation reforms alone cannot diminish virtual water trade and address depletion of fresh-water resources in the country.

While virtual water trade is increasingly used by developing countries as a means of compensation for use of their freshwater resources by developed countries, the quantification of the water foot print can yield a meeting ground for the 'producer' and 'consumer' countries. Labelling for environmental purposes and by extension for virtual water trade label is a regulatory model that can be addressed and negotiated under the 'Trade and Environment' agenda of the WTO framework. Water labelling will ensure that virtual water content labels and thereby ratings for agricultural products based on their water footprint will impose a market cost for countries without a global virtual water trade label.

Building Consensus in South Asia

The preceding sections are instances of emerging themes in water security that will require a blue-print to enhance India's efforts to prevent future water wars in South Asia, while at the same time achieving sustainable development. Within these instances, one can also observe that there are avenues where international legal frameworks might work.

However, in such instances, South Asia and India need to propose home-grown legal and regulatory framework models. India has to advocate for hydrodiplomacy by building a consensus among its neighbours. The 'big brother' approach will not sustain in the realm of hydrodiplomacy. Building water security in South Asia demands a partnership approach on part of India with regard to its neighbours.

Increasingly bilateral and multi-lateral arrangements seem to be the crux of all legal and regulatory reforms for water partnerships in South Asia. Close to 3.2 billion people will experience increased water scarcity by 2080 as a result of climate change. This is a threat that cannot be easily mitigated in the next few decades. Hence, India should aim to encompass its strategies with transboundary reforms for achievement of SDGs and prevention of water wars.

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