

Blue Gold for whom? Multi-level games in the development of Himalayan hydropower

Paula Hanasz

Australian National University

E-mail: paula.hanasz@anu.edu.au

The development of hydropower projects that bring about transboundary benefits is contingent on more than just an alignment of interests in direct negotiations. Factors exogenous to the negotiation process influence the positions each actor develops, and the priority it places on these positions *vis-a-vis* other national interests. States play multi-level games and are thus subject to the influence of domestic concerns, non-water related interests, global trends, pressures from non-state actors, and dynamics of transnational networks. In the case of India's pursuit of energy security through the development of hydropower capacity in Nepal and Bhutan, the possibility of positive-sum outcomes has been affected by considerations on multiple socio-political levels. Both Nepal and Bhutan see the sale of their 'blue gold' to energy-hungry India as the key to socio-economic prosperity. Yet the alignment of interests between these three players has not created an even spread of mutual benefits. While Bhutan has strong domestic support for hydropower development and has succeeded in establishing a pattern of non-zero-sum thinking with India, Nepal's water interactions with the hydro-hegemon remain mired by lack of domestic consensus, socio-political instability, and lack of political trust between the two countries.

Keywords: hydropower, politics, India, Nepal, Bhutan

1. Introduction

The process of developing hydropower projects on transboundary rivers is complex. Direct negotiations over such projects are enmeshed in intricate water interactions that are themselves set within the construct of a multi-faceted and shifting political environment. Competing interests at local, national and international levels influence these water interactions and create dynamics that may undermine – or, indeed, precipitate – the progress of such projects, irrespective of the official positions taken in the negotiation process.

Understanding the effects of these dynamics on multiple levels is important for measuring the progress of transboundary hydropower projects and assessing which interests have been addressed. An illuminating example of this can be found in the Himalayas. Nepal and Bhutan share an interest in socio-economic growth and have taken the same position on leveraging the development of their hydropower potential for this purpose. Water could be 'blue gold' for these two Himalayan states because their mountainous geography

creates favourable conditions for hydropower production and there is a keen and growing market immediately downstream – India.

India has pursued its own interests in Himalayan hydropower for many decades now, and those interests align – on one level, at least – with the interests of Nepal and Bhutan. Where the non-zero-sum thinking falls apart, however, is in the quality of transboundary water interactions Nepal and Bhutan have with India. Those interactions are determined to a certain extent by factors endogenous to the negotiations over the hydropower projects in question, but they are also influenced by exogenous factor.

How dynamics on various social, political and economic levels promote or hinder the development of transboundary hydropower projects in the Himalayas is the subject of this article. The purpose here is neither to develop a negotiations strategy nor to analyse the endogenous factors of water interactions between India-Nepal and India-Bhutan. Entering into the broader discourse about how (in-) equitable dams are is also out of scope, as is a discussion of the prevailing paradigm of development through economic growth.

The purpose of this article is merely to elucidate the complexity of the issues through a constructivist prism, that is, one that neither considers water's status nor actors' rationality as a given, and that sees transboundary water management as simultaneously conflictual and cooperative in nature (Julien, 2012, p. 58). Although constructivism does not see the state as the sole or even the primary actor in international relations (Dinar, 2002, p. 244), it is nonetheless critical to use the state as a starting point if we are to examine the out-of-basin drivers of transboundary water management – transboundary does, after all, refer to state boundaries. Thus in order to understand the form and quality of hydropolitical interactions between India, Nepal and Bhutan it is therefore important to open up the 'black box' of the state to determine what water means for these specific societies and how that, in turn, is incorporated into general international political dynamics (Julien, 2012, p. 61). In short, we need to understand how water is conceived and actioned at different political levels.

This article begins by establishing the concepts relevant to interest-based negotiations and multi-level games. It then goes on to apply these concepts to the transboundary water interactions between India, Nepal and Bhutan in regards to the development of hydropower capacity. The first section will show that while India has an interest in ensuring energy security to address growing demand, there is domestic opposition hinders expansion of local dam projects. India therefore has turned to its Himalayan neighbours, Nepal and Bhutan, which have vast and largely untapped hydropower potential. India's position on importing electricity from these two countries creates an opportunity for non-zero-sum thinking in the pursuit of their national interests.

The section on Nepal will discuss some of the reasons why domestic considerations have undermined the opportunity for using hydropower exports to India as a means of boosting socio-economic prosperity. Complacency in the water sector, combined with opposition to dams on environmental grounds, is partly responsible for the stifled development of hydropower capacity. At the same time, Nepal is a socially and politically unstable country. Security matters take priority over long term development.

The Kingdom of Bhutan provides contrasting case to that of Nepal, and this is discussed in the final section of this paper. Bhutan has been able to lead interest-based negotiations with India and generate positive sum outcomes from the development and sale of its hydropower. The kingdom's position on environmental sustainability, however, may clash with the temptation of economic prosperity and this in turn will have implications for transboundary water interactions with India.

2. Out-of-basin drivers: interests, positions, and multi-level games

There is an important but often misunderstood difference between the interests of negotiating parties and their stated positions. The crux of any negotiation lies not in conflicting positions, but rather in exploring ways of addressing and accommodating interests. An interest is the need, desire, concern or fear that drives an actor to formulate its position (idealised solution) on the issue; "*Your position is something you have decided upon. Your interests are what caused you to so decide.*" (Fisher and Ury, 1999, pp. 41–42). Interests define the problem, and positions are dynamic responses to that problem. Positions shift according to changing circumstances and in light of new options for resolving the issue at hand.

Understanding the distinction between a position and an interest is critical to every negotiation, no matter how large or small, or what form it takes. In the case of transboundary water management, a negotiation for the resolution of a dispute could involve bilateral talks, diplomatic correspondence, or an international conference (Cosgrove, 2003, p. 37). If it is an interest-based negotiation, the focus of discussions will move away from positions and towards interests. Because there are many interests underlying any position, a transparent and open dialogue about interests opens up a range of possibilities and creative options (Cosgrove, 2003, p. 37).

A joint problem-solving framework that assumes outcomes favourable to one party are not necessarily detrimental to another is also known as a non-zero-sum-negotiation (Islam & Susskind, 2013, p. 320). In transboundary water management, the drivers of such negotiation can be strictly 'in-basin' (such as benefit-sharing, reduction of uncertainty and economic or development goals) or be based on broader interests (such as issue-linkage, or a tilting of the overall power balance) (Zeitoun & Mirumachi, 2008, p. 311).

The result of interest-based negotiations can be more effective cooperation between riparians, or cooperation on equal terms, and may be encouraged from external forces (Zeitoun & Mirumachi, 2008, p. 311). But parties do not always adopt this approach. Negotiations are often 'power-based' (Cosgrove, 2003, p. 37) and driven, in the case of transboundary water management, by a desire to gain or maintain control of a transboundary water resource or a historical distrust of riparian neighbours (Zeitoun & Mirumachi, 2008, p. 311).

Interests and positions driver transboundary water management, but they in turn are shaped by out-of-basin drivers. International negotiations of any kind do not occur in a hermetically sealed space, rather, they are subject to the influence of domestic politics on

foreign policy. Positions change as a country's domestic political and economic conditions change (Dash, 2008, p. 32). Yet domestic politics and international relations tend to be formally separated in the current literature on transboundary water management.

It is clear, however, that if political interactions are considered as games, then even powerful riparian states, such as India along the Ganges basin, cannot content themselves with playing at one level (say, the domestic) while ignoring the other (Warner & Zawahari, 2012, p. 216). Because domestic and international politics do strongly influence each other, decision-makers aim to simultaneously reconcile domestic and international imperatives. Moves that may be rational for an actor at one level may be impolitic at another (Warner & Zawahari, 2012, p. 221).

The concept of 'two-level games' was developed by Robert Putnam and has come to mean that national governments try to maximise domestic satisfaction, while minimising the adverse consequences of foreign developments (Putnam, cited in Carraro et al., 2005, pp. 26–27). In international negotiations, therefore, the larger the range of benefits that address domestic interests, the greater the possibility of a successful international agreement (Dash, 2008, p. 40). In short, domestic water politics influences international cooperation, which is not necessarily water related (Chokkakula, 2012, p. 22).

Yet this understanding has not been widely adopted into the practice or the literature of transboundary water management. The question of how domestic constituencies, sub-national institutions, and national or international non-state actors can move states towards transboundary cooperation is considered only infrequently (Julien, 2012, p. 46). In part this can be explained by the pervasive belief that riparian states behave as unitary actors that are relatively unconstrained by domestic dynamics (Warner and Zawahari, 2012, p. 217). It is often forgotten that hydropolitics is first and foremost about politics, not water, it is therefore political dynamics that drives transboundary water management. These political dynamics cannot and must not be reduced merely to interstate power ratios or economic calculation, but must factor in the multiple levels of culture, history and ideology that interplay at local, regional, state and international levels (Julien, 2012, p. 62).

While appreciating the interaction of domestic and international interests is important, these are not the only two arenas in which interactions occur, and the state is not the sole actor. There are a multitude of other actors involved in negotiations at multiple levels; multinational companies, international NGOs, transboundary criminals and terrorists face domestic and international others in horizontal, vertical and diagonal interactions (Warner & Zawahari, 2012, p. 224). Then there is the influence of trans-national institutions that facilitate water sharing arrangements (Chokkakula, 2012, p. 22) and epistemic communities which are knowledge-based networks that develop, apply and reinforce ideologies and interpretive frameworks (Dinar et al., 2007, p. 152).

All these actors and factors combine in a complex dynamic of out-of-basin drivers for transboundary water management. For the sake of simplicity, the three broadest categories of official interactions can be defined as transgovernmental (involving government officials), transnational (involving actors outside the executive branch), and cross-level

exchanges (involving two different types of actors) (Warner & Zawahari, 2012, p. 222). These are the main levels on which the analysis of this article hinges.

How, then, does an understanding of conflicting interests and positions on multiple levels in a complex network of actors relate to Himalayan hydropower? In the case study that is the focus of this article, India's interest vis-à-vis Himalayan rivers lies in flood control, irrigation and, of course, hydropower production – especially peak power supply. India's position in addressing these interests is to pursue the construction of dams in Nepal and Bhutan. For the purposes of this International Journal of Water Governance special issue on energy, this article will focus primarily on the hydropower aspects of India's interests in Himalayan rivers.

Nepal and Bhutan both have a national interest in capitalising on their hydropower potential and using it for socio-economic growth. Nepal, however, does not have a consistent position on how to go about this; there is a schism between those who wish to sell hydropower to India (and/or China) and use the revenues to boost the economy, while others wish to do so by developing hydropower for domestic consumption only. Bhutan, in contrast, has had a consistent position of accommodating India and channelling money from hydropower sales into social and economic developments domestically. How these interests and positions are affected by dynamics on multiple political levels is the subject of the following sections.

3. India

Water and energy pose the biggest constraints on India's growth because demand for water and energy is increasing at a rate faster than current capacity can provide (Kumar & Furlong, 2012, p. 8). India is targeting a Gross Domestic Product (GDP) growth rate of 8%, meaning that its present installed generation capacity of 123 GW would need to increase by 90-120 GW in the coming years (Bharadwaj et al., 2006, p. 1203). Coal accounts for over 50% of India's installed capacity, with hydropower constituting approximately a quarter of installed capacity and natural gas providing 10% (Bharadwaj et al., 2006, p. 1203). Coal could provide additional electricity supply considering India's significant coal reserves. India's interest, however, also lies in enhancing its energy security. An over-reliance on one sector is not conducive to this objective (Pandey, 2006, p. 303). Moreover, the prevailing international trend is for 'clean' sources of energy. As part of this trend hydropower is becoming increasingly desirable and viable in South Asia.

Part of India's energy shortfall can be addressed through domestic hydropower generation potential. Arunachal Pradesh state in particular has untapped hydropower reserves of at least 57,000 MW, which the federal government is seeking to develop to provide electricity to other parts of northeast India (Chellaney, 2011, p. 178). Indeed, India is one of the world's major dam builders (Hill, 2009, p. 96), and in 2009 had 4,710 completed large dams (i.e., more than 15 meters tall) (Kumar and Furlong, 2012, p. 8). The further development of India's hydropower potential, however, is complicated by diverging interests and, indeed, outright domestic opposition.

India is not 'India' in the sense of a unitary, cohesive actor. India is the sum of numerous actors and interests, such as the states. There is also a decentralised approach to resource management in India, even at the federal level. Likewise, there is little holistic planning within the different ministries at the federal and state levels, which grant permissions for big highways, dams, thermal power plants, mining, steel plants and other infrastructure projects (Kumar & Furlong, 2012, p. 16). India thus presents the paradox of a long-standing democracy with an active civil society but few institutional mechanisms for inclusive water resources governance (Mollinga, 2006, p. 28). This makes for a complicated playing field on which the international interests of the federal government compete not just with one set of domestic interests, but with a multitude of them.

Despite the efforts of the federal government to reinvigorate a shrinking hydropower sector, the interests of the anti-dam lobby have been powerfully expressed. Grass-roots protests, environmental concerns, protracted litigation over land acquisition and advance premiums on projects sought by state governments have shelved many dam building plans in the country, especially in the states of Uttarakhand and Sikkim (Chellaney, 2011, p. 213). Many non-governmental organisations (NGOs) have called for a moratorium on the approval of any more thermal power plants, big dams and mining in ecologically sensitive areas. Furthermore, this stakeholder group aims to put a hold on major infrastructure projects that have already got clearance, but have high social and ecological costs (Kumar & Furlong, 2012, p. 16). Through the power and popularity of these domestic interests, the federal government's position on domestic hydropower production is undermined. This, however, has not deterred India from continuing to pursue its energy security interests in the hydropower potential of Nepal and Bhutan, especially for electricity supply during peak consumption times, despite the modest returns this has so far yielded (Chellaney, 2011, p. 282).

India has for a long time sought to address its energy needs by turning to the vast and largely untapped hydropower potential of its Himalayan neighbours. Nepal and Bhutan are both poor, landlocked countries with mountainous geography, upstream of a large, energy-hungry market. Producing hydropower for the Indian market could thus address India's energy interests and have the positive-sum outcome of improving Nepal and Bhutan's GDP. It is in the interest of the latter two countries to do so, however, as will be discussed below, their water interactions with India vary greatly. This, in conjunction with political tensions, the effects of power asymmetry between Nepal and Bhutan and the hydro-hegemon India, as well as the influence of non-state actors on multiple levels stands in the way of non-zero-sum negotiations. It is possible this may begin to shift with the apparent effort of the new Narendra Modi government in India to increase multilateral approaches to transboundary water governance in the region.

Nepal's enormous hydropower potential could provide a convenient and significant supply of 'clean' energy for India's growing needs (Onta, 2001, p. 110). Nepal's theoretical hydropower potential is enormous. It is estimated to be as high as 83,000 MW (Onta, 2001, p. 107). The total average runoff from Nepal is over 200bcm and is distributed through four major rivers, seven medium rivers, and a large number of small rivers (Onta,

2001, p. 104). Overall, the rivers of Nepal contribute more than 40% of their total flow to the Ganges, and over 70% of this is dry-season flow (Onta, 2001, p. 110; Dixit & Gyawali 2010, p. 107). It is in these headwaters of the Ganges that Nepal's hydropower potential lies. Why this has not happened is the focus of the following section.

Bhutan, in contrast, has adopted a different position to India's interest in its hydropower potential. The insular kingdom is keenly aware of the positive sum outcomes that are possible from selling hydropower to India. In 2003, King Jigme Singye Wangchuck expressed this when he said "*Water is to us what oil is to the Arabs*" (Chellaney, 2011, p. 285). Bhutan's hydropower resources are estimated at about 20,000 MW (Chellaney, 2011, p. 285). It also has an installed micro-hydro capacity 0.38 MW (Mitra, 2010, p. 196). Bhutan's hydropower is sold to India's Eastern Regional Electric Grid, which covers the states of Bengal, Orissa, Bihar and Sikkim (Mitra, 2010, p. 196).

Bhutan is conscious of its potential for producing hydropower as a means of generating large revenues, and is not exempt from the aspirations that other countries entertain for economic development and prosperity (Iyer, 2008b, pp. 16–17). The kingdom's national water policy establishes that hydropower shall continue to be the backbone of the Bhutanese economy providing adequate energy for growth, and that the development of hydropower will support the national vision of providing electricity for all by 2020 (Royal Government of Bhutan, 2003, p. 9). At the same time, Bhutan has a clearly stated position on achieving socio-economic development without compromising its environment and cultural heritage (Iyer, 2008b, pp. 16–17). Because of this 'middle path' position Bhutan is bound to face conflicts and dilemmas from time to time (Iyer, 2007, p. 189). These are the focus of the final section of this paper.

4. Nepal

The development of Nepal's water resources could provide multiple other benefits. Nepal's water storage potential, estimated at 88bcm, could assist the region with flood control during the monsoon, navigation, water supply and flow augmentation for downstream irrigation during the lean season (Onta, 2001, pp. 106, 110). This non-zero-sum thinking is an example of value creation, whereby the one source of water is used to simultaneously address different interests of different parties. Moreover, revenues from hydropower sales could multiply the growth rate in several Nepalese sectors, including industry, agriculture and tourism (Kayastha, 2001, p. 141).

In terms of hydropower specifically, Nepalese electricity is particularly valuable because it is what is called 'peak power' – electricity that is needed at the time of maximum demand for grid stabilisation. This is important for India because the more thermal and nuclear power in the north Indian grid, the bigger the need for flexible electricity generation to balance the system and prevent its blackout (Gyawali, 2013, pp. 7–8).

The interests of India and Nepal in regards to Himalayan hydropower development are far from mutually exclusive. Indeed, there is obvious scope for value-creation. Why, then, has Nepal not benefited as much from selling its hydropower to India as it could? In

large part, the answer has to do with the quality of water interactions between India and Nepal. For example, negotiations over the pricing of peak power have stalled with both camps firmly entrenched in their positions; India refuses to pay more than about three cents per unit, while Nepal feels aggrieved that in return India proposes selling electricity to Nepal during its hour of load-shedding at double that cost (Gyawali, 2013, pp. 5, 6).

But India has also leveraged power asymmetry between the two countries to establish a status quo in the transboundary water management that, from Nepal's perspective, does not adequately address its interests. Unlike Bhutan, Nepal has not adapted to India's hydro-hegemony in a way that engenders non-zero-sum thinking.

Nepal and (British) India began cooperating over water resources in 1920 (Shah, 2001, pp. 24–25), but the early Indo-Nepal water resources projects, though considered reasonable from India's viewpoint, were seen as a 'sell out' by many in Nepal (Onta, 2001, pp. 109–110). For instance, the failure of the Koshi and Gandak river treaties of the 1950s to live up to their promise (even following amendments in the 1960s) has left a bad legacy weighing down bilateral cooperation (Chellaney, 2011, p. 283). Nepal continues to feel cheated over the Koshi and Gandak agreements (Bhattarai, 2005, p. 15), and the bitterness generated by these experiences has coloured all subsequent dealings between the two countries. Suspicion and mistrust have grown on both sides, though the Indian handling of that difficult and complex situation can hardly be said to have been wise or sensitive (Iyer, 2008a, p. 39). This may, however, soon begin to change; in August 2014 the newly elected Narendra Modi was the first Indian Prime Minister to visit Nepal in 17 years. His promises of improving ties with the Himalayan neighbour, including on hydropower issues, were warmly welcomed although it remains too early to tell whether this will have a lasting effect.

The implementation of the more recent Mahakali Treaty (1996) has also been impeded by differing Nepalese and Indian interpretations of its terms. Indeed, it has been argued that the saga of the Mahakali Treaty presents itself as a case in point of Nepali polity and its relationship with its big southern neighbour (Gyawali & Dixit, 1999, p. 561). It certainly provides an interesting illustration of how India has used its hydro-hegemony to securitise water issues between the two countries, especially in the Tanakpur Barrage controversy (Mirumachi, 2013).

It is not, however, within the scope of this article to further explore how power asymmetry has affected the water interactions between India and Nepal. That lies in the realm of direct negotiations, rather than the influence of political dynamics on various levels. The influence of dynamics at the sub-national (and, indeed, global) level also contain part of the answer as to why Nepal has not benefited more from exporting hydropower to India.

Nepal's desire to significantly improve its socio-economic development through hydropower exports is self-defeating. Since the 1950s, it has been a political truism in Nepal that the country's greatest problem is poverty and its greatest asset is its enormous hydropower potential. The phrase 'Nepal's vast unutilised water resources potential' remains unquestioned even though the scientific basis for this claim is not unequivocal (Gyawali, 2001, p. 3748). Yet in more than half a century of effort by various Nepali governments,

its powerful neighbours and international aid agencies, the nirvana of hydro-dollar fuelled development has not been realised. Indeed, wags have turned the truism around, joking that poverty is Nepal's biggest asset (since it seems to attract so much foreign aid) and hydropower its biggest problem (since it has led to so much conflict and bad political blood) (Dixit & Gyawali, 2010, p. 107).

Nepal's relationship with its hydropower potential is a conflicted one: the Nepalese feel entitled to reap the benefits of this potential, but are unable to capitalise on it. Indeed, the crux of the problem lies in the lack of political consensus on any projects, big or small (Shakya, 2009, p. 72). This means that there is not enough electricity produced domestically to satisfy demand, and results in massive daily power cuts, even in the capital city Kathmandu (Dixit & Gyawali, 2010, p. 107). Individuals and businesses have figured out a work-around – decentralised electricity production through privately owned and operated diesel-run generators (Gyawali, 2013, pp. 5, 6) – but that is not viable solution to endemic problems of weak governance. The weakness of the domestic polity lies in the pervasive and naive belief that foreign aid should drive the hydropower development and electricity sales to India, from which the Nepalese could be as rich as the sheikhs of Arabia (Gyawali & Dixit, 1999, pp. 561, 562).

Nepal's economy relied heavily on foreign aid since the 1950s, and over the years, foreign aid became an integral aspect of Nepal's political and social landscapes, to the extent that little can be achieved in the country without it (Tamang, 2009, p. 49). The over-reliance on foreign aid has bred complacency and learned helplessness in the water sector in Nepal. Nepal's water development has been aid-led rather than domestic enterprise led, which has led to a ceding of the driver's seat to experts from aid agencies and Nepali taking on a liaison role (Gyawali, 2013, p. 9). This not only leaves Nepal ill-prepared for autonomous negotiations and fortitude in the face of market forces, but will lead it to a perpetual *post facto* feeling of having always received a raw deal (Gyawali & Dixit, 1999, pp. 561, 562).

The domestic discourse about water resource management has, furthermore, fallen into a solipsism which does not see as utilisation anything that was not 'aided', 'official' or 'modern'. Similarly, the word 'national' is confused with 'governmental' when, in reality, national efforts in water utilisation are the sum total of official and non-official efforts, the latter often being the silent majority (Gyawali, 2001, p. 3750). This makes for limited domestic impetus, or political will, for actively pursuing the national position of socio-economic development through hydropower development and sale to India.

At the same time, domestically there is increasing civil society opposition to dam building. The 2001 World Commission on Dams (WCD) report into Dams and Development galvanised collective engagement among a triangle of hydropower actors – the state, the market and civil society – as to the future of dam-building in Nepal. Since Nepal's national interest lies in development, which requires some dam building, the opposition line is not 'no dams' but rather, 'no bad dams' (Dixit & Gyawali, 2010, p. 108). The Water and Energy Users' Federation-Nepal (WAFED), for example, is an important activist group challenging the official development agenda in Nepal, whether that agenda is of

the Nepali government, its partner aid agencies or India (Dixit & Gyawali, 2010, p. 113). Opposition on environmental grounds is still mostly driven by international interests (Iyer, 2008b, p. 15).

In large part this sort of movement is part of a global paradigm shift. It is not the purpose of this article to engage in the pro- and anti-dam discourse on socio-economic growth, but it can be said that such narratives influence the Nepalese domestic position on hydropower development. There is certainly a growing international trend of acknowledging that dams sometimes give rise to distributional conflicts and increase political tensions as downstream and upstream communities receive unequal benefits, or as one community benefits at the expense of another (National Research Council of the National Academies, 2012, p. 87).

A further domestic complication to Nepal's position on developing its hydropower for export is the convention of International Labour Organisation (ILO 169) that protects indigenous tribal rights. Nepal is a signatory to this convention, and local political workers, especially from indigenous ethnic groups, claim the right to control the resources in their area, which means no central government can decide on a project without their prior and informed consent (Dixit & Gyawali, 2010, p. 121).

Concurrent to these drivers of domestic opposition, there is enormous political pressure within Nepal to harness water resources *vis-a-vis* India, particularly through mega projects, which are believed to bring more economic benefit and political kudos than more moderately sized undertakings (Gyawali & Dixit, 1999, p. 563). Moreover, Nepali party functionaries fear political allegations that a project, any project, is not moving forward due to their action or inaction regardless of technical, economic or developmental demerits of such projects, and so they prefer to be seen 'for' projects rather than questioning them (Gyawali & Dixit, 1999, pp. 559, 560).

This is also the case for Nepal's relationship with China, though currently China has a limited interest in Nepalese hydropower. The Chinese have invested in the West Seti hydropower plant, and are increasing investment in strategically important infrastructure projects like airports and highways in Nepal (Daly, 2012). But China's primary concern is that insecurity and instability in Nepal might strengthen anti-China elements along its own borders (Bhattarai, 2005, p. 9). This is driving Chinese influence over Nepal's strategic position, and China's aid to Nepal's military is progressively undermining traditional Nepalese-Indian relations (Reeves, 2014, p. 15), but these dynamics are beyond the scope of this article on hydropower.

Security on the domestic level, however, is highly relevant to why Nepal has failed to maximise the value-creation potential of its hydropower. Decades of political and social instability have detracted from the political will and attention to address transboundary water management issues (Chellaney, 2011, p. 283). Nepal has been wracked by severe political flux since the early 1990s (Chellaney, 2011, p. 283) and it is now caught up in a cycle of insecurity and instability. The state's failure to initiate socio-economic development has been one of the factors of the conflict that has led Nepal to its current state of chaos and violence, which in turn hinders its ability to initiate socio-economic

development (Bhattarai, 2005, p. 28). Most development activities have halted in rural Nepal, and the government has slashed development funds, diverting them to security expenditures. Moreover, rebel attacks on hydropower plants, access facilities, communication networks and development projects have caused substantial economic losses and general devastation (Baral & Heinen, 2005, p. 3). The point here is not that security concerns have stymied hydropower development, but rather that they have divided political attention.

There have been many grand plans for hydropower development but few beneficial outcomes. The Maoist-led government that came to power after Nepal was declared a republic formed a task force of prominent water experts to see how the existing capacity for generating electricity of approximately 600 MW could be increased to 10,000 MW in ten years. When the Maoist government fell and a coalition of Marxists and democratic socialists formed the subsequent government, the target, expected to be reached in 20 years, was increased to 25,000 MW. No real effort, however, has been made to encourage small- and medium-scale Nepali developers, who are capable of increasing production by 30 to 60 MW a year, and the large projects required to fulfil the visions of these grand schemes, however, are not moving ahead purposefully (Dixit & Gyawali, 2010, pp. 120, 121).

5. Bhutan

The quality of water interactions between India and Bhutan provides an interesting juxtaposition to those between India and Nepal. Of course there is no meaningful comparison between the two countries; Bhutan is one fiftieth the size of Nepal, has no Terai lowlands to irrigate (Gyawali, 2013, pp. 7–9), and is governed by a stable central government. The ‘Bhutanese model’, if there is one, is therefore not appropriate for the Nepal case. The core water issue between Bhutan and India is hydropower as Bhutan is upstream of the water-rich state of Assam (fed by the Brahmaputra river), while Nepal is upstream of the water-scarce and populous states of Bihar and Uttar Pradesh thus making irrigation and flood control significant issues to resolve with India (Gyawali, 2013, pp. 7–9). The purpose of juxtaposing Nepal and Bhutan, then, is to illustrate that water interactions are complex and determined by different factors on different levels, and not just riparian position vis-a-vis the hydro-hegemon.

Bhutan’s hydroelectric dam projects have been developed with foreign aid, primarily from India, and India is the largest customer of Bhutanese hydropower (Nexant SARI/ Energy, 2002, p. xiii). India is connected to Bhutanese hydropower through the 336 MW Chukha project, as well as the Kurichu, Chukha Stage II projects, and the 1,000 MW Tala dam (Shah, 2001, pp. 28, 29). The India-financed Chukka projects are widely regarded as an example of successful bilateral cooperation for mutual benefit, and the revenues from the sale of electricity to India have been so large in proportion to Bhutan’s GDP that they have made the country prosperous (Iyer, 2007, p. 190).

The collaborative and seemingly friendly nature of the relationship between Bhutan and India over transboundary water resource management can be attributed in large part to the kingdom’s far-sightedness and political savvy in fostering the non-zero-sum-thinking

that allows the interests of both Bhutan and India to be addressed through hydropower development. Bhutan's stance toward the hydro-hegemon can be said to be an instance of 'bandwaggoning', whereby weaker states in a regional system seek accommodation with the local hegemon in order to receive economic and military benefits (Dash, 2008, p. 117).

The flip-side of this accommodating stance is that Bhutan is arguably limiting its political sovereignty. India in essence dictates Bhutan's foreign policy, stations troops on Bhutan's northern border (i.e., with China, thus using Bhutan as a buffer) and under the 1949 Treaty of Friendship limits Bhutan to purchasing defence materiel exclusively from India (Mitra, 2010, pp. 27–29). Thus, while Bhutan has developed an overall symbiotic relationship with India, it has been at the cost of some political independence.

Bhutan has the distinction of achieving the highest per capita income in South Asia by exploiting its 'blue gold' environmentally sound projects, mostly small in scale and based on run-of-the-river technology. India has funded the majority of Bhutan's hydropower development and imports the electricity produced (Chellaney, 2011, p. 285). This arrangement is positive-sum and export revenues from hydropower transfers constitute more than half of Bhutan's total revenue (Nexant SARI/Energy, 2002, p. xiii). This financial boon has been diligently channelled into social development. For example, approximately 78% of the population has access to safe drinking water (Royal Government of Bhutan, 2003, p. 3), even in rural areas (Mukherjee, 2001, p. 148). This is a rare achievement in South Asia.

Although Bhutan has been developing its hydropower capacity since 1967, only a small fraction of the total estimated potential of 20,000 MW has so far been harnessed (Mukherjee, 2001, pp. 149, 150). The country is planning to realise half of this by 2020 (Chellaney, 2011, p. 285). The Royal Government of Bhutan has taken the position that "*Hydropower shall continue to be the backbone of the Bhutanese economy providing adequate energy for growth.*" (Royal Government of Bhutan, 2003, p. 9). In addition to the socio-economic benefits, shifting Bhutan's energy mix away from timber (the dominant fuel source) to electricity will reduce the rate of deforestation (Mukherjee, 2001, p. 158). This aligns with another of Bhutan's domestic positions, namely environmental sustainability.

Bhutan has a long-standing and well-articulated position on the preservation of its environment and natural resources. Its stance on water was developed through the Bhutan Water Partnership, which was established in August 2001 to coordinate the development of the water policy and prepare the Bhutan Water Vision for the next 25 years (Royal Government of Bhutan, 2003, p. 4). It stresses harmony and balance in the environmental, social, cultural and economic value and uses of water (Royal Government of Bhutan, 2003, p. 6). Bhutan is not only concerned about its own environment, but is building a reputation as a best-practice leader for the world in nature conservation (Mukherjee, 2001, p. 155). In a global polity increasingly embracing a paradigm of environmental sustainability, this is a clever strategy for international alliance making, but it is also disingenuous. Bhutan has not been in a position to develop heavy industry or other unsustainable practices that could jeopardise its unspoilt environment and therefore is a model that other countries cannot readily emulate.

As for transboundary water management, Bhutan's water policy calls for a whole-of-basin approach that respects "*the natural integrity of the rivers as well as the legitimate water needs of riparian states.*" (Royal Government of Bhutan, 2003, pp. 16–17). It is unusual for the upper riparian to voluntarily espouse the restricted sovereignty view of transboundary basins and lead the discussions on Integrated Water Resources Management (IWRM). This is because a whole-of-basin approach such as IWRM is collaborative and thus evens out some of the power asymmetry that is often (though not always) skewed in favour of upstream countries. Multilateral approaches tend to benefit weaker parties, while bilateral approaches tend to benefit the most powerful party (National Research Council of the National Academies, 2012, p. 91). In the case of Bhutan, India's hydro-hegemony far outweighs any upper riparian advantage the kingdom may have. Thus, Bhutan's position on whole-of-basin water resources management arises as much out of an interest in shifting the power balance with India as it does out of a sincere concern for the natural environment.

There is also a social justice component to the way most domestic issues are approached in Bhutan (with the notable exception of the treatment of ethnic minorities and refugees¹). This is also true of Bhutan's position on water resources management. In Bhutan, water for human consumption has direct links to poverty, so water related programs should have poverty alleviation as an objective and contribute to Gross National Happiness (GNH) (Royal Government of Bhutan, 2003, p. 7). Adopted in the late 1980s (World Food Programme, 2005, p. 2), the GNH is a philosophical approach to policy for equitable socio-economic development; conservation of environment; preservation of culture; and promotion of good governance (Ueda, 2009, p. 570). It is applied to water resources management (Royal Government of Bhutan, 2003, p. 11), and aligns with the principles of IWRM. How the honourable intentions of GNH and basin-wide management fare against the increasing temptations modernisation and development remains to be seen.

It is unclear how Bhutan's insistence on holistic, sustainable development and social justice will stand up to the growing pressures to modernise at a faster pace. The kingdom is still navigating the troubled waters of what 'development' and 'progress' should mean for this Buddhist state. To what extent is an intimate relationship with India beneficial and to what extent is it limiting? And how can the ideals of Gross National Happiness be balanced with the environmental toll and economic boon of hydropower generation? A Bhutanese idiom has it that the person who consumes the least is respected the most (Mukherjee, 2001, p. 156). But with the attractions of consumerism so close to hand, Bhutan may find it difficult to resist the temptation. The kingdom cannot isolate itself forever, and there is a political compulsion to develop more rapidly to meet the aspirations of its people (Mukherjee, 2001, p. 156).

As discussed, Bhutan is highly conscious of its 'blue gold' potential but also wants to achieve socio-economic development without compromising the preservation of its

¹ See for example Banki (2014, May 29). Finding a future for minorities in Bhutan's emerging democracy. *South East Asia Forum*.

environment and cultural heritage. This ambivalence toward large scale development of hydropower is evident in Bhutan's Water Policy. On one hand the document emphasises the need for a holistic ecological approach with sensitivity to human and social concerns. On the other, it is full of the language of economics, management, and the marketplace – the language of the global water establishment. Because of the 'middle path' that Bhutan has chosen to adopt, it is bound to face conflicts and dilemmas from time to time (Iyer, 2007, p. 189). Bhutan might find it difficult to reconcile the holistic and marketplace approaches (Iyer, 2008b, pp. 16, 17). Whatever position Bhutan takes on the domestic concerns regarding the pace of economic growth, it will certainly have repercussions for the development of hydropower capacity.

6. Conclusion

There is a significant difference between the interests of negotiating parties and their stated positions. Understanding that interests are driven by inherent fears or desires, while positions are context-specific and dynamic, is critical to every negotiation, no matter how large or small, or what form it takes. An interest-based negotiation opens up a range of possibilities and creative options for positive sum outcomes. In regards to transboundary hydropower projects, however, success is more complex than the mere alignment of interests and compatibility of positions. An illuminating illustration of this can be found in the India-Nepal and India-Bhutan water interactions over the development of Himalayan hydropower.

India's rapid population and economic growth is increasing demand for energy at a rate faster than current capacity can provide. Part of India's energy shortfall, especially for peak power, can be addressed through domestic hydropower generation potential, however, the efforts of the Indian federal government to reinvigorate a shrinking hydropower sector, the interests of the domestic anti-dam lobby have been powerfully expressed and stalled many dam building plans in the country. This has not deterred India from pursuing its energy interests by turning northward to the vast hydropower potential of Nepal and Bhutan. Both are both poor, landlocked countries with their upstream, water-abundant, mountainous geography providing the 'blue gold' of hydropower. Selling hydropower on the Indian market could satisfy India's peak power shortfall and have the positive-sum outcome of significantly boosting Nepal and Bhutan's GDP.

The interests of India and Nepal in regards to Himalayan hydropower development are not mutually exclusive, however, unlike Bhutan, Nepal has not responded to India's hydro-hegemony in a way that engenders non-zero-sum thinking. Nepal continues to feel cheated over existing hydropower project deals with India, even ones dating as far back as the 1950s, and the bitterness generated by these experiences has coloured all subsequent water interactions between the two countries. Another source of domestic frustration at the apparently failed promise of Nepal's 'blue gold' is the country's dependency on foreign aid, which is stifling political will for the proactive pursuit of positive sum outcomes. Development of hydropower capacity is also a secondary political priority because Nepal

is caught up in a cycle of instability and violence, making security is a more urgent consideration for the government. At the same time, the lack of political consensus about how best to capitalise on Nepal's vast hydropower potential is hindering its development. Furthermore, indigenous ethnic groups are upholding their right to control the resources in their areas, meaning no central government can decide on a project without their prior and informed consent.

Juxtaposed with the complexity of multi-level issues in Nepal is the alignment of Bhutan's domestic and international positions regarding the sale of hydropower to India. This arrangement is positive-sum and the export revenue is not only a major source of GDP but has also fuelled remarkable socio-economic growth. Indeed, the kingdom is planning to continue increasing its hydropower capacity in order to reap further socio-economic benefits, such as shifting the national energy mix away from timber to electricity in order to reduce the rate of deforestation. This accords well with Bhutan's position on balancing the environmental, social, cultural and economic value and uses of water, as well as taking a whole-of-basin approach to transboundary water resources management. The question remains, however, how the application of the principles of GNH will fare against the increasing temptations of modernisation and development. What is certain is that whatever direction domestic priorities take, they will have bearing on Bhutan's position *vis-a-vis* future hydropower projects.

Negotiations over transboundary hydropower projects do not occur in a vacuum but are subject to the influence of domestic politics on foreign policy. Decision-makers aim to simultaneously reconcile domestic and international imperatives. Therefore, negotiating positions change with a country's domestic political and economic conditions. The dynamics at multiple socio-political levels can hinder progress, even when the development of hydropower is seemingly in the interests of all parties involved.

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