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The Nepal-India Water Relationship and Challenges

Dr.Yasharth Gautam (Assistant Professor)

Department Of Defence and Strategic Studies,

Bareilly College, Bareilly. U. P. (India).

"Despite geographic proximity, cultural intimacy, economic interdependence and shared political values, India has stumbled in Nepal…. India's record of project implementation in Nepal is awful."

C.Raju Mohan
Columnist

Abstract

The Karnali, Gandaki and Koshi are three major rivers of Nepal, account for most of the drainage area and river run off. Apart from being the main and most valuable source of water for Nepal, the rivers offer a vast, and as of yet untapped potential of hydropower and irrigation. The hydroelectric potential of Nepal is variously assessed from upwards of 40 Giga-Watt. As per assessment of Pokharel S in his paper 'Energy in Nepal' World Energy Council, 1998 this potential is as high as 83 Giga-Watt. While this vast source of water and power can be of much assistance in meeting the domestic needs and also supply India's giant energy-starved economy. Ironically this source of energy is almost entirely remains unharnessed.

Keyword: Energy, Potential, Hydropower, Economy, Irrigation

Background:

With five major and distinct river basins, Nepal has over 6000 snow-fed rivers most of which are perennial. Some of them being shallow invariably run dry during the lean season. Nepal's rivers contribute as much as 71 percent or Billion Cubic Meters 170 of water towards the country's total water availability of 237 Billion Cubic Meters. The Karnali, Gandaki and Koshi are three major rivers of Nepal, account for most of the drainage area and river run off. Apart from being the main and most valuable source of water for Nepal, the rivers offer a vast, and as of yet untapped potential of hydropower and irrigation. The

hydroelectric potential of Nepal is variously assessed from upwards of 40 Giga-Watt. As per assessment of Pokharel S in his paper 'Energy in Nepal' World Energy Council, 1998 this potential is as high as 83 Giga-Watt. While this vast source of water and power can be of much assistance in meeting the domestic needs and also supply India's giant energy-starved economy. Ironically this source of energy is almost entirely remains unharnessed. Presently Nepal is harnessing only about 600 Mega-Watt which is just about 1 percent of the potential. With recently concluded visit of the Indian Prime Minister to Nepal the country's political debate appears to have shifted towards the optimistic remarkably.

In relation to Nepal India is a lower riparian. Considering the abundance of water and energy potential in Nepal, there is considerable scope for cooperation in sharing water and energy. However, many of the joint projects between India and Nepal have been myopic and mismanaged. Nepal's mistrust, beside other factors, has been reinforced by what it perceives to be unequal treaties starting from the Sharada Dam construction (1927), Kosi Agreement (1954), Gandak Agreement (1959), Tanakpur Agreement (1991) and the Mahakali Treaty (1996). Nepal can generate an estimated US$ 8 billion per year by exporting hydro-electricity to India. India also needs water more crucially for irrigation, navigation and coordination in flood control during the peak of monsoon. If suitable bilateral agreements can be arrived at both countries would benefit and develop with remarkable results.

With visit of Indian Prime Minister to Nepal effort, cooperation and political will appears to be imminent to transform these benefits into reality. The initiative NDA government has taken to revive ties with Nepal presents an opportunity to reset the bilateral relationship. A reset will serve both sides well. It provides India an opportunity to neutralise a perception problem it suffers and simultaneously nudges Nepal to take a clear-headed approach on what it wants out of the relationship. Hopefully, on this occasion the stage has been set to move things forward, more so after Modi promised his hosts that India has no desire to interfere in Nepal's internal affairs. Even if Nepal reaps a disproportionate share of benefits from the existing 1950 treaty, Modi's offer to renegotiate it places the ball in Kathmandu's court.

If the two nations cooperate optimistically, the following projects that have been delayed or left pending for decades can be leveraged by both:-

(**a**) 10 GW Karnali Chisapani Multipurpose Project.

(**b**) The Mahakali Pancheswar Project.

(**c**) Upper-Karnali Hydro-electric Project.

Important Treaties with Nepal :

Koshi Treaty:

It brings massive disaster by floods each year in the border of both India and Nepal. The 1954 agreement to regulate the flow of the river and ensure flood management included the following:-

(**a**) A barrage was constructed between the border of India and Nepal to hold the river water and embankments were raised on either side. Power generation and irrigation were also part of the project. Total irrigation capacity was estimated at 1.5 million acres, of which around 29,000 acres lay in Nepal. 20 MW of power was to be generated from the Eastern canal, of which around 50 percent was to be sold to Nepal. Complete cost of the project of Rs.450 million was to be borne by India entirely.

(**b**) Elaborated by 16 articles and in spite of its revision in 1960 and 1980 the Koshi agreement has not gone smoothly and affected the two countries relationship. Issue of providing reparation by India both for the land and damages during construction a key factor. The design, construction and operation of the project were India's responsibility. Here again Nepal contended that the agreement was skewed in terms of the benefits that accrued to the two countries. In terms of irrigation, for instances, only 29,000 acres in Nepal benefited whereas the barrage had the capacity to irrigate 1.5 million acres. Submergence of territory with resultant displacement of people without compensation was also an issue. India's control and management of the barrage was also considered as a violation on Nepal's territorial sovereignty.

(**c**) Clause of leasing the land to India for 199 years was also not convincing to the Nepalese as they contended that since the overall lifespan of the barrage would not be more than 50 years.

(**d**) Similarly the issue of alternate site at Sapt-Koshi proposed in 1980; sharing of power in terms of tariff etc remained insufficient mostly to Nepal. The relations further deteriorated in 2008 when both sides blamed each other for inability to control the devastating floods.

Gandak Treaty:

The Gandak Treaty too was for the purpose of mutual interests of flood control, irrigation and power generation. The agreement was signed in Dec 1959 and revised in 1964 with following details:-

(**a**) All issues pertaining to riparian rights, control over water, royalty for quarry, ownership, operation and maintenance, sovereignty and jurisdiction were laid out in the 13 articles of the treaty. A clause for arbitration was also specified.

(**b**) In 1969 the Gandak Barrage was constructed to facilitate irrigation of both countries agricultural land. Simultaneously two power projects of 10 MW each were constructed, one each on either countries territory.

(**c**) Total cost of the project estimated at Rs.505 million was to be paid by India. Nepal was also to receive power at actual cost of production and the power plan on its territory was to be gifted to Nepal.

(**d**) Most issues of the treaty were addressed by the Indo-Nepal Gandak Coordination Committee form in 1961. The issue regarding payment of compensation for land and royalty for quarrying materials for the project was settled with the revision of the treaty in 1964 and payment of the dues made. However, the aspect of rights of water continued to persist. Nepal continued to utilise the Gandak water from February to April which was not part of the treaty.

Mahakali Treaty:

Called the Pancheswar Project the treaty is provides for establishment of a giant multipurpose project on the Mahakali River signed since 1928 when the British entered into a treaty with Nepal for sharing of water this river by constructing the Sharda Barrage at Banbasa. Nepal in lieu was given water to irrigate its agricultural land in the Tarai Region. A power project in the barrage also generates 40 MW of electricity. Important details of the treaty are as under:-

(**a**) The prime purpose being integration and development of water resources the project includes the Sharda Barrage, the Tanakpur Barrage and the planned Pancheswar project. The treaty also offers benefit of regulated water for irrigation to a vast area of agricultural land both in Nepal and India along with benefit of flood control.

(**b**) Power generation of nearly 6500 MW through equal sizes of underground power house (3230 MW) are to be constructed on each side of Mahakali River in India and Nepal.

(**c**) The Treaty has been widely criticized by the Nepalese environmentalist groups on the basis of non-viability of large-scale water infrastructure projects. The agreement has failed to addressed the associated social and environmental factors and has not involved ordinary people in the management of shared water resources, despite being the most affected party. Following protests by the local people led by activists, work on the project was suspended. The activists are of the view that the Purnagiri Dam, if constructed, would submerge the fertile land in Nepal and affect more than 50,000 people on the Nepali side.

(**d**) As during the recent visit of the Indian Prime Minister of Nepal this project was prominently highlighted, there is renewed hope that the project will be executed expeditiously.

Apprehensions of Nepal :

Mistrust and Suspicious:

Nepal's deep-seated mistrust and grievance towards India on water cooperation are historically rooted in the Kosi and Gandak treaties of te 1950s. Politicians in Nepal are also worried that India would seek 'exclusive rights' over Nepal's water resources. China on the other hand is grappling with of its own. Its water issues water are sources, being heavily polluted has '***threatened to curtail economic***

growth and hurt food production'. In order to combat the issue it has picked seven provinces to be pilot markets for trading water rights.

NRLP:

Nepal is also concerned about India's National River Linking Plan. Five of the 14 river-links of the Himalaya are directly related to Nepal's 28 storage schemes. These are Kosi-Kechi; Kosi-Gandak; Gandak-Ganga; Sarada-Yamuna and Ghagra-Yamuna. These concerns will feature predominantly in any water discussion and cooperation with Nepal.

Unsatisfactory Cooperation:

Nepal considers the cooperation extended by India in various waters sharing issues as unsatisfactory. The following reasons can be considered responsible for the hitherto unsatisfactory cooperation on water resources.

(**a**) Variation in understanding of issues on treaties and unsatisfactory implementation of commitments and executing plans without consulting Nepal.

(**b**) Divergence between the two countries on a common methodology of cost sharing of the project in proportion to benefits and to apportion the benefits of energy, irrigation and flood control.

(**c**) The ineffectiveness of institutional mechanism like the India-Nepal Joint Group of Experts (JGE) in the case of the Mahakali Treaty and similar set up on the Sapta Kosi High Dam Multipurpose Project and Sun Kosi Storage cum Diversion for which a joint Project Office was set up in 2004.

(**d**) No dedicated institution which is fully responsible to implement the project. There are also unclear and overlapping roles and responsibilities of existing institutions.

(**e**) Many in Nepal are critical of selling hydro-electricity to India for hydro dollars and there is considerable opposition to following the similar path of the India-Bhutan hydro-cooperation. It is equally argued in Nepal that India should pay for the enormous benefits it will harvest from storage dams in Nepal.

India's Concerns :

Politics on Water Issues: India has mostly felt that the hurdles in effective execution and implementation of the agreement are more for political reasons rather than technical or any other valid reasons. The discord has more to do with Nepal's suspicion, mistrust and lack of political will to implement the treaties.

Lack of Support: Their authorities frequently fail to provide assistance and positive response to Indian technical teams when they visit barrages for their upkeep and maintenance. Though some part of the problem also rests with Bihar that has been most callous and casual response in maintaining barrages and other water works on the Indian side of the border.

What should India do?

Often a proactive approach is interpreted as being intrusive and interfering India's Nepal policy has been one of the river water developments without paying adequate attention to building political relations. Such a one track approach has created mistrust and led to setbacks that are hard to overcome. Failures on the water cooperation front are perceived as India's incapacity to forge solid relations with its neighbours. Nepal, a small country, will always feel smothered by excessive closeness and will always gain international sympathy whenever a treaty or an accord breaks down. India needs to bring about a turn around in the overall dysfunctional relationship with Nepal and invest in long-term political linkages.

The first step towards this is to rethink the entire riparian approach with Nepal which has largely been based on hydro-generation. This has always created misunderstandings and done more harm than good. Moreover seismic factors make the terrain unsuitable for building large dams and large storages. India's focus should be on flood management and control; prevention of sediment, inundation and soil erosion; and irrigation benefits for both. The devastation caused by the Kosi in December 2007 that affected 50,000 families in Nepal and three million in Bihar activated the two countries to resume bilateral water-sharing talks in January 2008 after a hiatus of four years. This new engagement should be structured keeping in mind wider related water management issues and not be excessively driven by hydropower generation. While reconstructing a new and trustworthy relationship should be high on the agenda, India can simultaneously think on the following lines:

- India should address Nepal's concerns and ensure, by world and deed that its policies are meant to be mutually beneficial and not one-sided.
- India should invest in Nepal's water infrastructure power, irrigation and flood control. Identification and feasibility studies on small, medium and if required big dams should be undertaken.
- Low risk, quick yield less-controversial projects such as small run-of-the-river projects should be started to build confidence in the beginning.
- Building on the confidence of shared benefits, medium-size hydroelectric projects can be initiated. Financing for the project could be mobilized jointly by involving private sectors of both countries and the governments should facilitate and provide incentives to the developers.
- Public awareness regarding power project development and power trading should form an important component of the joint development and management of rivers. This is necessary to dispel suspicious and negative notions regarding power trading.
- The Kosi and Gandak treaties should be revisited and the positive elements should be repackaged. New hydrological knowledge and new methods of river water management should be wholeheartedly introduced in framing future India-Nepal water cooperation policies. It has to be remembered that both the Kosi and the gandak were signed in the 1960s at a time when India was poor in dam technology and economically not robust enough to support big projects. With projects

like Sapta Kosi and Pancheswar recommencing and plans afoot for the construction of the 240MW Naumure hydropower project, India should learn from the past to ensure future feasibility.

Conclusion:

Considering the sensitivity of water relationship, India needs to pay adequate attention to the various barrages built by it across the border that Nepal alleges causes flooding in its border villages and for maintenance of which India is entirely responsible. The recent visit of the PM Narendra Modi has created an extremely positive impression in all quarters including those who are traditionally known to have a negative stance towards India. For instance the country's Maoist faction which has been mostly anti-India was heard applauding Mr. Modi visit. Leaders like Baburam Bhattarai who heads the Unified Communist Party Of Nepal (Maoist) were quoted lauding Mr. Modi for his awareness and intent to complete the past stalled projects. The PM Modi announcement of $1 billion to Nepal towards development in power generation and infrastructure seems to have helped the renewal of hope about India's proactive foreign policy towards Nepal and is a right step in improving the relations and commence execution of the all the projects that have left pending for far too long.

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