

Possible Impacts of Tipaimukh Dam on Bangladesh with Reference to International Conventions and Laws

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Abstract

International rivers should be used as shared resources for benefit of people of all riparian states. Bangladesh shares 53 rivers with India. Indian is currently diverting vast quantities of water from major rivers, including the Ganges and the Brahmaputra, which threaten the ecology, economy and hence the livelihoods of more than 100 million people downstream in Bangladesh. India's proposed construction of Tipaimukh Dam will result huge diversion of water from Bangladesh. The proposed dam being one of the world's largest dams poses severe threat to Bangladesh as well as several North-Eastern states of India. In the present paper, an effort has been made to show the adverse impact of Farakka Dam and to assess the possible impacts of proposed Tipaimukh Dam in the context of Bangladesh.

Introduction

The Indo-Bangladesh relationship has been plagued by quite a few pending issues of bilateral dispute like that of *Farakka*, *South Talpottri*, *Three Bigha Corridor* and so on. The issue of *Tipaimukh* Dam has recently been added to this list. The dam being 390 meter long and 162.5 meter high proves to be one of the world's largest dams. Having

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bitter experience of the sufferings from the consequential effects of previous disputes, the people of Bangladesh have been demonstrating a massive outrage and agitation over the issue of *Tipaimukh* Dam for recent couple of months. Similar demonstration is also going on in several North-Eastern states of India. There are also groups of civil societies, academia, environmentalists, politicians, students, etc. which are expressing their deep concern and making huge campaign against the proposed dam.

It is true that although stakeholders of this project are constantly protesting against it out of their commitment and sense of responsibility towards the nation and the society, many of them do have little opportunity to know the ins and outs of the project, i.e., the root of the project, how it will affect the communities, how violation of laws occurs in it, what actually the Government of Bangladesh should do for achieving optimum outcome from dealing with this issue and so on. There is hardly any research work that covers all of these aspects simultaneously, and a comprehensive study is therefore immensely needed to go deeper into the issue. The present paper will try to meet this need by exploring the pros and cons of this vital issue in the context of Bangladesh, so that the stakeholders can have a clear picture about the crux of the problem and how to rise above it.

For necessary data and information, the paper will rely on secondary sources like related articles, experts' opinions, observations from the previous events etc. After sketching overview, history and impacts of the dam, the paper will attempt to closely examine the violation of law by Indian government in the context of international and bilateral conventions and agreements. Most importantly, the paper will also intend to suggest what we should do and should not do with respect to the *Tipaimukh* project for Bangladesh government taking into consideration the likely impacts of the dam, previous experiences and present scenario.

The Instance of *Farakka*: Lessons to be Learnt

The present scenario shaped by the *Tipaimukh* issue warrants learning lessons from the issue of *Farakka* barrage over the Ganges river. The barrage, established in 1970 and the longest in the world having 101 gates, is located 18 km upstream of *Monohorpur* border. The Ganges river dispute has continued to fester, and despite a recent treaty signed in 1996, there is still much progress that remains to be accomplished. In

this conflict, India completely dominates Bangladesh in a military sense, and it is only through other channels, such as the pressures of illegal immigration caused by environmental disaster, that the conflict has truly manifested itself. The Ganges and the Brahmaputra river basins in South Asia are the largest in the region, encompassing over 1.6 million km. Flowing from the Himalayans in Nepal and Tibet, both rivers course through India, and ultimately join in Bangladesh where they discharge into the Bay of Bengal. Before the Ganges enters Bangladesh, it divides off a smaller river, the Bhagirathi-Hooghly, which flows through the port of Calcutta. Almost four-fifths of Bangladesh is straddled by this delta system. Approximately half of the country's GDP is based on agriculture, and hence these rivers' irrigation value is vital to the country's economy and its over 120 million inhabitants. The topography of Bangladesh (i.e. its sea level elevation and delta wetlands) and its geographical location make it extremely vulnerable to natural disasters. Typhoons and monsoons produce multiple floods almost on an annual basis, and during the dry season between January and May, the Ganges River may drop to levels that have a strong detrimental impact on agriculture and fisheries. Relations between Bangladesh and its neighbor to the west, India, have been hardly cordial at best, and there has been a continuing dispute over the allocation of Ganges water between two states.

Construction of the *Farakka* barrage which was started in 1962 was finally completed in 1975. A short-term agreement was subsequently signed by India and Bangladesh to conduct a 40 day trial test of the barrage during the dry season until 1982. After the expiration of this treaty in 1982, two more short-term agreements were concluded on water sharing until 1988. Thereafter, India began unilateral diversions at will. Moreover, domestic political upheavals, and the growing polarization caused by rising national religious factions contributed to a rising level of animosity between the two nations.

In 1996, a new atmosphere of regional cooperation was created with a change of government in India, and in December 1996, a Ganges water sharing treaty was signed that is supposed to last for thirty years. The treaty addresses the heart of the conflict: water allocation during the five months of the dry season (January-May). During the rest of the year, there is sufficient water that India can operate the Farakka diversion without creating problems for Bangladesh. However, increasing upstream withdrawal in Northern India has further lowered the dry-season flow at *Farakka*, further complicating matters. Hence, the treaty

stipulates that below a certain flow rate, India and Bangladesh will each share half of the water. Above a certain limit, Bangladesh will be guaranteed a certain minimum level, and if the water flow exceeds a given limit, India will withdraw a given amount, and the balance will be received by Bangladesh (which will be more than 50%). In addition, due to silt deposition and flooding patterns, the Ganges is actually naturally shifting eastward, and it is only a question of time before the Hooghly River will no longer be capable of supporting deep harbor operations. India should accept this fact and plan for a harbor much closer to the Bay of Bengal; else it should consider regular and more intensive dredging operations.

Due to unilateral withdrawal of water from the Ganges River through *Farakka* barrage, the *Padma* river in *Rajshahi* and its 20 tributaries have almost dried up. A study of BAPA suggests that around 80 rivers of Bangladesh have become waterless within three decades after the *Farakka* dam was constructed.¹ The negative impacts of the barrage also include flood, drought, intrusion of saline water, loss of navigability, desertification, extinction of rare species of flora and fauna, irreversible loss in agriculture and fisheries etc.²

Recently, India has kept violating the treaty of 1996 by leaving much less water for Bangladesh than committed. So far India has paid little attention to the repeated official protests of Bangladesh regarding deficit of water flows.

Given the above scenario the following lessons may be learned from *Farakka* issue:

- It becomes so easy to perceive how dangerous the consequential effects of *Tipaimukh* dam would be from the experience of *Farakka*.
- While concluding any agreement on *Tipaimukh* dam, Bangladesh should keep in mind that India has the record of contravening agreement.
- Although the issue of the *Tipaimukh* project is bilateral, Bangladesh should act on its own.

¹ Jahangir, N., 'Tipaimukh Dam: A Real Concern for Bangladesh', *The New Age*, 23 June 2009.

² *Ibid.*

Overview of *Tipaimukh* Dam

The *Tipaimukh* dam, one of the largest hydroelectric projects in Eastern India to date to be implemented by the North Eastern Electric Power Corporation Limited (NEEPCO), is planned to be constructed across the Barak river 500 meter downstream from the confluence of the Barak and the *Tuivai* rivers in *Churacchander*, a south-western district of *Monipur*, near the Manipur-Mizoram border. This site is 200 kms from the *Amolshid* border at *Sylhet*. It is to be noted that originating from *Lai-Lyai* village in *Senapati* district of Manipur, the international river Barak enters Bangladesh through the north-eastern district *Sylhet* and assumes the names *Shurma*, *Kushyara* and *Meghna*.

The 390 meter long and 162.5 meter high *Tipaimukh* dam is considered to be a large dam. It is a rock-filled structure with a central impervious core. The total weight of rock is calculated as around 25 million metric ton. Its height from the sea level is 180 meter. The dam is expected to create a huge 15,900 million cubic meter reservoir. This capacity is higher by 75% than another big reservoir Bhakra.

According to the information mentioned in the NEEPCO website, the main purpose of the *Tipaimukh* project is to build a hydroelectric power house having an installation capacity of **6 X 250 MW (=1500 MW)** with only a regular generation of 412MW (less than 30% of installed capacity). The project is also expected to mitigate the persistent flood problems in the Barak valley/Cachar³ plains in the State of Assam and contribute to agricultural development in the entire North-Eastern region of India. Contrary to NEEPCO's recent claims, it has been reported that besides the ostensible purpose of electricity generation, there is a hidden purpose of diverting water downstream of the dam for the irrigation project planned in *Cachar* district.⁴ The dam costing Rs. 6,351 crore (\$1.35 billion) is likely to be completed within 2012.

Brief History of the Project

The origin of this project dates as back as to 1954 when the Central Water and Power Commission of India first thought of the *Tipaimukh* dam on request of the Government of Assam to construct a dam to contain perennial floods in the Barak river basin. By 1965 the

³ Laifungbam, D.R. and Ibotombi S., 'Tipaimukh Dam/Cachar Plain Irrigation Project: Complicated Int'l Disaster Scenario for Bangladesh, *The New Age*, 23 May 2009.

⁴ *Ibid.*

commission surveyed three sites and rejected all of them on the ground that they were geologically unsafe and not economically viable. After remaining silent for more than a decade the commission, being influenced by the north-eastern council of India, made a discussion with three basin states of Barak – Assam, Manipur and Mizoram, and resumed investigation in 1977. Although as a result of this investigation a new site was selected in 1984, the project was remained postponed due to the lack of environmental and management plans. Again in 1995, the Brahmaputra Board, responsible for managing the water of Brahmaputra and Barak rivers' basins in India, made a revision of the project by carrying out a study. In 1999, North-Eastern Electronic Power Co-operation (NEEPCO) was entrusted to implement the project.

Recent Development of the Project

There has been significant development of the project during recent couple of years since NEEPCO assumed the responsibility of implementing it. The project received the clearance of the Public Investments Board (PIB) and the Central Electricity Authority (CEA) of India in 2003. Site-clearance from Ministry of Environment and Forests (MOE&F) has already been obtained. Meanwhile, Environmental Impact Assessment (EIA) and Environmental Management Plan (EMP) studies have been completed. Memorandum of Understanding (MOU) with the Government of Manipur has been executed. And No Objection Certificate (NOC) from the Governments of Mizoram and Assam has been obtained. The construction of the dam started in 2007 but was halted due to the resistance of the people from inside and outside the Indian territory against probable environmental degradation.

Likely Impacts of the Dam

History is replete with quite a few major instances of unpleasant consequences of big dam.⁵ Asoan High Dam, built on the River Neel in 1964 for irrigation and electricity generation, caused devastating erosion in the downstream of the dam. The weight of water in an artificial lake, created as a consequence of *Caina* dam in *Maharashtra*, India, triggered a huge landslide followed by an overwhelming earthquake in December

⁵ Samad, E.G., 'How a Hydroelectric Project can affect a River' available at <http://www.fwee.org/hpar.html>, 3 July 2009.

1967. There are many other similar examples. The *Tipaimukh* dam containing every possible risk elements is considered to be no exception. The impact area covers regions belonging to both Bangladesh and India.

Impact on Indian Territory The local people of Manipur, Assam and Mizoram will be the first to fall victim to the *Tipaimukh* dam. The dam is anticipated to impinge unbearable costs upon them. It is predicted that the dam will cause a total area of 286 square km to be submerged forever. Among the arable lands, more than 27,000 hectares will be lost. Eight villages of Barak valley will be entirely underwater. More than 40,000 people are likely to become landless. The future generation will only hear the history of *Barak* waterfalls and *Zeilad* lake, as both of them will remain under water forever. The people will face health hazard due to increase in salinity of ground water and increase of water surface. Manipur is believed to have a rich gene pools and rare biodiversity in the world. Submerging the exotic flora and fauna of Manipur, the dam will jeopardize this extraordinary setup of natural resources. Terming the proposed Tipaimukh dam as water-bomb, Society of Activists and Volunteers for Environment (SAVE), an environmental organization in Assam, mentions in a memorandum prepared to submit to the visiting parliamentary team of Bangladesh, "the proposed dam is located in a place where world's three richest biodiversity regions, namely India-Myanmar, India-Malay and India-China, meet. These regions are famous for a variety of plants and animal species. Each of these species is either very much rare or unique to these particular regions. Moreover, most of these species have already been classified as endangered in the IUCN red data book and Wild Animal Preservation Act, 1972. Once the Tipaimukh dam is constructed, these innocent plants and animals are bound to be perished." Implementation of the project will create social problems like displacement, resettlement, rehabilitation, repatriation etc. The dam will lead to such a social arrangement that the cultural heritage of the indigenous people will be completely destroyed. Besides, as the site of the project is located in a highly seismic zone, the overweight of the reservoir water and the dam may intensify the risk of earthquake.

Impact on Bangladesh: Experts foresee numerous environmental, social and economic impacts of the dam particularly on the north-eastern region of Bangladesh and generally on the whole of the country. The *Shurma-Kushiara-Meghna* river system of Bangladesh is fed by the Barak river. According to an estimate, about 8.5 percent of total fresh water Bangladesh gets every year is channeled through this river

system.⁶ The lives of millions of people living in the greater Sylhet region and some peripheral areas of Dhaka region intensely depend on the three rivers – *Shurma*, *Kushiyara* and *Meghna*, and their tributaries and distributaries and other water bodies fed by them in one way or other. Stretching 669 km, this river system constantly serves to provide many immensely needed inputs for agriculture, industry, transportation, fishing, ecosystem, environment, biodiversity, geological and hydrological system, weather and climatic setup, culture etc. of the neighboring habitation. In this backdrop, any kind of interruption on the natural flow of the river system is bound to pose serious and multidimensional threats to the people depending on this system. In that consideration, the proposed Tipaimukh dam is a death trap for Bangladesh, particularly for the people of north-eastern region of the country. It is estimated that about 50 million people living in 20 districts will be badly affected if the dam is constructed. The dam will cause the *Shurma*, *Kushiara* and *Meghna* to dry up as is happening in the *Padma* due to the *Farakka* barrage. *M.A. Matin*, the general secretary of *Bangladesh Poribesh Andolon* (BAPA) comments that if the *Tipaumukh* dam remains operational, the *Shurma* and *Kushiyara* will become completely waterless within 15 years. A study conducted by the Institute of Water Modelling suggests that full functioning of the proposed dam will bring about reduction in average annual monsoon inflow from the Barak river at Amalshid point to the *Shurma-Kushiyara-Meghna* river ranging from 10 percent in June to 23 percent in July.⁷ This impact will be more severe in case of relatively dryer monsoon year. The water level will also fall. During July the average fall will range from 0.1 meter at *Fenchugang* station to 1 meter at *Amalshid* station. The change in inundation pattern will take place due to the dam operation. For Sylhet and *Moulavibazar* districts, the total inundated area at average monsoon season will reduce by 26 percent and 11 percent respectively. 71 percent of the upper *Surma-Kushiara* project area will remain out of flood during average monsoon season. The hydrology of haor will be drastically affected. During average monsoon year, the *Kushiara-Bardal haor* will dry up entirely and the usual inundated area of the *Kawardighi haor* will decrease by 26 percent. *Damrir haor* and *Hakaluki haor* will also suffer, although relatively less, in

⁶ Alam, N. and Mozumder, M. A. K., *Tipaimukh and Beyond*, Dhaka: A H Development Publishing House (2009), p. 40.

⁷ Institute of Water Modelling 2005, "Hydrological Impact Study of Tipaimukh Dam of India on Bangladesh", Unpublished Research Report, Dhaka, Bangladesh, available at www.iwmbd.org

terms of reduction of inundated area. There is a likelihood of excessive erosion in downstream of the dam which may lead to increase in deposition in the *Shurma-Kushiyara- Meghna* river system. The deposition, which may be accentuated by the low flow, raising the bed level of the rivers, may cause severe flood in the floodplain of the *Surma-Kushiyara*. Another study reveals that habitat condition in the downstream of the dam may decline severely due to the fact that the dam will act as barrier sediments containing fine organic and inorganic materials can collect behind the dam so that the downstream will no longer be provided with important organic and inorganic nutrients. In the same way, gravel can be trapped behind the dam. As a result, downstream will not have movement of enough gravel, which is an essential condition for establishing spawning areas for some species of fish.

The anticipated hydrological and morphological changes due to the proposed Tipaimukh dam mentioned above may trigger irreparable bad consequences in many aspects of our life. Perhaps the most important is the shortage of water. Shortage of surface water due to drying up of the *Shurma-Kushiyara-Meghna* river system will also lower the level of underground water. On account of water shortage, agriculture, horticulture, irrigation, drinking water supply and navigation will be seriously impeded. Salt water intrusion and hence increase in salinity will be inevitable. Cultivation of early varieties of *boro* in *haor* area will be hampered. Existence of many valuable species of flora and fauna will be at stake. Livelihood of millions of people will be under threat. Climatic change will take place, degrading environmental status. Drought and desertification will be the natural consequences of water shortage as is evident in the case of the *Farakka* barrage. Three environmental media – land, water and air – will be subject to substantial productivity loss. By distorting the habitat conditions of people, fish and wildlife, the dam will destroy the ecosystem of the country.

Other important issues with regard to dam impacts are Reservoir Induced Seismicity and dam break. As mentioned earlier, the *Tipaimukh* dam site is already located in a highly earthquake prone zone. In addition to that the massive 15,900 million cubic meter reservoir to be spun off by the dam will create huge pressure on the tectonic plates. These two will combine to render greater *Sylhet* region of Bangladesh as well as the north-eastern region of India extremely prone to earthquake. Experts opine that occurrence of any earthquake will affect these regions in two

ways. Firstly, it will directly create human casualties as residential arrangement, electricity system and the whole communication system will be disrupted due to landslide, subsidence, ground liquefaction, collapse of river banks and changes in river courses. Secondly, it may cause dam break which, in turn, may lead to devastating flood taking a heavy toll on the neighbouring people by washing away homesteads, animals, standing crops and other essential means of sustenance. The design of the dam will allow the upstream water pressure to cause the dam break. In that case, the downstream areas of Manipur and Assam will be inundated by 10 feet flood water and the *Sylhet* region of Bangladesh will be washed away.⁸ The Government of Bangladesh, in the Flood Action Plan 6 as part of the north eastern regional water management plan of Bangladesh, studied the likely impacts of *Tipaimukh* dam break on downstream areas. The study found that the dam break may even bring about reversal of existing morphologic trends and re-configuration of the drainage system.⁹

What India did so far with Bangladesh regarding the Dam?

Bangladesh consulted on the proposed *Tipaimukh* dam, but India has always indulged in playing hide-and-seek with Bangladesh as far as the dam issue is concerned. It is learnt that India did not make any effective and systematic consultation with Bangladesh on the project at any stage of its development. Available data suggest that India did it in a very slightest manner and often prompted Bangladesh to give unconditional consent to the project. Bangladesh was informed of only the primary design and modified summary of the project respectively in 1979 and 1984.¹⁰ In a joint river commission meeting held on September 2003 at New Delhi and September 2005 at Dhaka, India again informed Bangladesh about the construction of the project informally. In 2004, however, India assured Bangladesh of not to further proceed with the *Tipaimukh* project without mutual understanding. Meanwhile, tender for dam construction contract was invited in 2005 and the same was verified in 2006. The design of the construction and related rules and regulations were finalized in 2008. In the same year the Indian premier Mr. Monmohon Singh laid the foundation stone of the dam. Very sadly the Indian authority did not feel any necessity for mutual understanding with

⁸ Khan, S. 'Indiar Tipaimukh Dam Protirodhe Jatio Oikomotter Lakkhan' (In Bangla), *The Daily Naya Diganta*, 3 July 2009

⁹ *Supra* note 3.

¹⁰ *Supra* note 8.

Bangladesh at any stage of these recent developments.¹¹ Until recently no detailed information regarding the project has been provided, although Bangladesh needs to have the design, survey data, drawings, maps etc. prepared by the dam authority in order to assess the likely impacts of the dam. It is, however, reported that very recently India has sent some data on the proposed dam. But these data are yet to be disclosed. In an effort to convince Bangladesh government the foreign ministry of India has recently communicated with the concerned Bangladesh authority and proposed some facilities for Bangladesh and requested to send a delegation to visit the dam area in response to which a Bangladeshi parliamentary team has already visited India.

Gross Violation of the Rights of Bangladesh by India

Bangladesh as a lower riparian country* has a number of certain rights with regard to the common river system *Barak-Shurma-Kushiara-Meghna*. There are several international conventions and laws which clearly mention about such rights of the countries situated in the same basin area of a common river. As far as the issue of *Tipaimukh* dam is concerned, India seems to have grossly violated some specific provisions of those conventions and laws in the course of development of the project.

According to article 5 and section 1 of article 6 of the UN convention on the law of Non-navigational Uses of International Watercourses, 1997, the riparian states are supposed to utilize an international watercourse and participate in the use, development and protection of the same in an equitable and reasonable manner which in turn requires taking into account all the relevant factors and circumstances, including factors of a natural character (geographic, hydrographic, hydrological, climatic, ecological and other factors); the socio-economic needs of the watercourse states concerned; the population dependent on the watercourse in each watercourse state; the effects of the uses of the watercourses in one watercourse state on other watercourse states; existing and potential uses of the watercourse; conservation, protection, development and economy of the use of the water resources of the watercourse and the costs of measures taken to that effect; the availability of alternatives, of comparable value, to a particular planned or existing use. It is evident that the manner in which India is going to use

¹¹ *Supra* note 3.

the water course of the Barak river (by constructing a dam) is completely inequitable and unreasonable. The decisions as to the Tipaimukh project taken by the Indian authority to date is devoid of due attention to the factors mentioned above. Various studies like environmental impact assessment, cost-benefit analysis etc. are reported to have been done without having due regard to the costs that are likely to be imposed on Bangladesh.

Section 1 of article 7 of the UN Convention on Watercourses affirms, "Watercourse states shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse states." India is yet to announce such measures to prevent colossal damage that Bangladesh, a watercourse state, will suffer, thereby violating the provision.

As mentioned earlier, India shows little interests in providing necessary information on the Tipaimukh project. By doing so India is violating section 1 of article 29 of the Helsinki rules¹² on the uses of the waters of international rivers which, emphasizing data and information exchange between riparian countries, states, Helsinki rules provide "With a view to preventing disputes from arising between basin states as to their legal rights or other interests, it is recommended that each basin state furnish relevant and reasonably available information to the other basin States concerning the waters of a drainage basin within its territory and its use of, and activities with respect to, such waters." The same point is iterated in article 9 and 11 of the UN convention on Water Courses. The second and third sections of article 9 reveal that a riparian state, if requested by other riparian state to provide data or information, should employ its best efforts to furnish the data in a manner which facilitates its utilization by the requesting country. It is known to all that India has never furnished data in a proper manner even after repeated requests made by Bangladesh.

Most importantly the issue of notification has been pointed in section 2 of article 29 of Helsinki rules and article 12 of UN convention respectively in the following ways: "A state, regardless of its location in a drainage basin, should in particular furnish to any other basin state, the interests of which may be substantially affected, notice of any proposed construction or installation which would alter the regime of the basin in a

¹² Helsinki Rules on the Uses of the Waters of International Rivers (1966), International Law Association, London

way which might give rise to a dispute as defined in article XXVI. The notice should include such essential facts as will permit the recipient to make an assessment of the probable effect of the proposed alteration.” and “Before a watercourse state implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse states, it shall provide those states with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified states to evaluate the possible effects of the planned measures.” As far as these two provisions are concerned, India has committed a serious violation of international rules. As mentioned earlier, playing hide-and-seek India has never made proper notification to Bangladesh in due time. However, it is reported that on some occasions Bangladesh was merely notified of the project, but those notifications did contain neither environmental impact assessment nor other essential facts which would permit the recipient to make an effective assessment of the probable effects of the proposed Tipaimukh dam. World Commission on Dams, an international organization dealing with the issues associated with large dams, in a report released in November 2000, recommends that the construction of large dams requires gaining public acceptance. But there is no trace of any efforts given by Indian authority to gain public acceptance.

Besides, India’s decision to construct such a large dam on a natural water course having tremendous contribution to the environment, ecosystems and biodiversity runs sharp counter to the basic spirit of UN convention on Biological Diversity 1992 and Ramsar Convention on Wetlands of International Importance especially as waterfowl habitat 1971.¹³ Article 3 of the Biodiversity Convention 1992 mentions, “States have, in accordance with the charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental policies and the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of the other states or of areas beyond the limits of national jurisdiction”. On the other hand, according to article 3, 4 and 5 of Ramsar convention, a country, being a party to the convention, is committed to promote the conservation of wetlands.

¹³ Ramsar Convention on Wetlands of International Importance Especially as Waterfowl Habitat (1971), The United Nations, New York, USA.

Particularly, article 5 points out, “The contracting parties shall consult with each other about implementing obligations arising from the convention especially in the case of a wetland extending over the territories of more than one contracting party or where a water system is shared by contracting parties. They shall at the same time endeavour to coordinate and support present and future policies and regulations concerning the conservation of wetlands and their flora and fauna.”

Bilateral treaties between India and Bangladesh also are not properly pursued by India in planning and implementing process of the *Tipaimukh* project. According to article 4 of India-Bangladesh Friendship Treaty 1972, which remained valid until 1997, both countries are supposed to maintain regular contacts and exchange views with each other on major international problems affecting the interest of either state. Further, article 6 of the same treaty mentions, “The contracting parties agree to make joint studies and take joint action in the field of flood control, river basin development and development of hydro-electric power and irrigation”. Reliable records suggest that major decisions taken by India regarding the use of common rivers especially regarding the *Tipaimukh* project were quite unilateral. India has carried out various studies with a view to developing *Tipaimukh* hydro-electric project, but Bangladesh was left aside. Bangladesh was never contacted properly. View of exchange in a right manner hardly took place. That is why India can be considered guilty of contravening the Friendship Treaty.

The *Farakka* Water Treaty of 1996 also has a provision which seems to be in direct contradiction to India’s move in the case of *Tipaimukh* project. Article 9 of the treaty asserts, “Guided by the principles of equity, fairness and no harm to either party, both the governments agree to conclude water sharing treaties/agreements with regard to other common rivers.” The words “equity, fairness and no harm” are perhaps only to remain written in the paper, not to be implemented. Besides a treaty on fair term with regard to common river Barak appears to be far away from reality.

What Bangladesh Government Actually Should Do?

Given the situation that has arisen centering around the *Tipaimukh* issue, it is urgent for the government to realize the need for unity and solidarity. Since the issue involves political maneuver it should let the aggrieved stakeholders demonstrate their views in different legitimate fronts instead of stopping demonstration. Public sentiment deserves due respect from

the government. Alongside the public protest in various forms the government must employ diplomatic efforts through bilateral and international discussions. It is important to note here that the Government of Bangladesh should have abandoned the recent visit to *Tipaimukh* site bare-handed. However, in order to reap the maximum benefit (or to be hurt minimum) out of the settlement of the current dispute pursue the following chronology:

- The Indian authority may be sincerely asked for the project related data and survey reports.
- A comprehensive analysis of the given data should be carried out by experts in respective fields to figure out the possible impacts of the dam. And all concerned bodies, who are supposed to be involved in the upcoming bilateral/international discussions, should be well equipped with the findings of the analysis and knowledge of national and international conventions/rules associated with the use of common rivers.
- After that, a team of experts including political and professional personalities knowledgeable about the ins and outs of the project will visit the Tipaimukh site to make an on-spot inquiry.
- Final preparation should be made at this stage by combining the findings of the previously mentioned analysis and observations of the on-spot inquiry.
- A formal proposal of bilateral discussion should be put forward to Indian authority. In this phase, every possible means should be adopted to convince India to sit for a fruitful and effective negotiation.
- While discussing arguments should be placed against the project pinpointing all the detrimental effects and an all-out efforts should be made to persuade the Indians not to implement the proposed project. The Indian delegation will have to be reminded of the bilateral and international conventions/rules that will be violated in the event the dam is constructed.
- In case India is not convinced and remains intransigent in their decision to construct the dam, the government should soon begin to seek help and cooperation from international communities. For example, the government may examine the possibility of going to International Court of Justice or it may look for intermediation of the UN or other similar organizations.

- What is the last weapon remaining in the arsenal of Bangladesh government if even after leaving no stone unturned it ultimately fails to manage India to refrain from implementing the project? Laifungbam and Ibotombi nicely answer this question as “There will be first an imperative need for Bangladesh and India to cooperate in formulating and implementing risk management measures if the *Tipaimukh* dam as presently designed should be constructed. A wide range of risk management measures are normally undertaken including regular inspections by independent engineering teams, instrumentation and plans for warning downstream populations of deteriorating conditions of a dam, evacuation plans and so on.”¹⁴

It should be noted that the above suggestions pertain only to the short-run. The government has to move forward in the long-run with a different set of strategies so that in future India cannot gain further advantage due only to its might. The long-run strategies may include the following:

- While dealing with bilateral disputes like the issue of the Tipaimukh project, Bangladesh should not rely on the assurance offered by the Indian government. Rather it should take each and every decision independently making necessary assessment on its own. There are quite a few instances in which Bangladesh had bitter experience of miseries caused by the breach of promise committed by India.
- The government may take resort to omni-balancing strategy in its foreign policy especially with regard to India. According to this strategy, Bangladesh has to maintain same the degree of friendship with all of its regional counterparts so that in case of necessity one counterpart can be utilized against the other.¹⁵
- Due to non-cooperation of Indian authority Bangladesh has hardly availed any data related to the Tipaimukh project and that is why any meaningful and exact assessment of likely impacts of the project on the basis of which the government will argue has been quite difficult. It is thus important for Bangladesh to stress establishment of an international clearing house of information and dispute resolution on dams under the supervision of the

¹⁴ *Supra* note 3.

¹⁵ Bhuiyan, A. Z. M. S. A., ‘Political Strategy against Tipaimukh Dam’, *The Daily Star*, 14 June 2009.

United Nations Environment Program (UNEP) or other related organizations.¹⁶

- India has been able to constantly defy the concerns of the Bangladesh government due to the non-ratified status of international conventions. It is imperative for Bangladesh to lobby international communities for the ratification of those conventions.

Conclusion

According to the experience of Farakka and other large dams in the world and opinions of scientists, environmentalists, economists and experts in other related areas, the Tipaimukh project is bound to prove a bane of Bangladesh leaving large portion of this country with irremediable environmental and socio-economic destruction. Bangladesh was ever kept quite in the dark about the plan of the project. India, as usual, has seriously defied bilateral agreements and international laws and conventions over the course of planning and development of the project. After the new government assumed power in 2008 in Bangladesh, the Indian government began to show a diplomatic enthusiasm for accomplishing the project. Being a major stakeholder of the project the Bangladesh government has to proceed with greater care and wisdom taking lessons from India's past behaviour. Any mistake in dealing with the issue is most likely to wreck havoc throughout the country. It is essential to keep in mind that friendship is based on the sense of cooperation and support.

¹⁶ Kibria, Z. 2005, "Gaining Public Acceptance (GPA)" for Large Dams on International Rivers: The Case of Tipaimukh Dam in India and Concerns in Lower Riparian Bangladesh, submitted to the workshop on the WCD recommendation on GPA, organized by Dams and Development Project (DDP), United Nations Environment Programme (UNEP), Nairobi, Kenya, October 2005.