

CHAPTER II

PRINCIPLES OF INTERNATIONAL LAW AND SETTLEMENTS OF WATER DISPUTES

II.1. INTRODUCTION

Lives and livelihoods of millions of people around the world is supported by trans-boundary waters which include lakes, river basins and the aquifers which are shared by two or more countries.⁷⁴ According to UN report approximately there are 300-transboundary water recourses, which fulfill the demand of 2 billion people for water consumption. Transboundary water resources not only fulfill and support the needs of human being but also maintain ecosystem, essentially required for other living creatures as well. Transboundary Rivers, Aquifers and international lake helps in making an ecosystem to reduce the flood impact. Transboundary water resources economically support the region through irrigation, hydroelectricity and reducing the economical backwardness of the region. The earth's surface which is covered by almost 263 trans-boundary lakes and river basins⁷⁵ have fresh water resources that are continuously degraded either in the quantity or the quality. The shortage of water resources and its huge demand made these resources very valuable.

Transboundary water agreements and its history can be traced back from 2500BC when the two Sumerian states of "*Lagash and Umma*" entered into an agreement to settle dispute around Tigris River. Transboundary water, word itself is very vague and defines very complicated network of water resources which flows through different sovereign

⁷⁴ Trans-boundary Waters, http://www.unwater.org/water-facts/transboundary-waters/#dismiss_notice

⁷⁵ Id.

states in various forms like glacier, lake, river, basin, sea, and ocean. The availability of water in various resources in different states is the main reason of conflicts, the claim of ownership rights results in a formation of agreement a peaceful solution to overcome conflicts between them and in today's situation war is not the solution for water dispute rather than it can be settled through legal negotiation which is far more better solution than war.

The first of its kind of convention to focus on protection, preservation and management of water courses is the '*Convention on the Law of the Non-navigational Uses of International Watercourses 1997*'⁷⁶ which is located in different states therefore it will lead to sharing of water in different states in which it is situated, the Convention also lays down principle on which water is going to be divided. The three principles viz: equitable and reasonable utilization and participation of this Convention also restrict the harm causing activity done by one state. These principles are:

- the principle of equitable and reasonable utilization;
- the principles of cooperation, information exchange, notification and consultation;
- the theory of limited territorial sovereignty;
- an obligation not to cause significant harm; and
- the peaceful settlement of disputes.

These principles also form the foundation of the Helsinki Rules on the Uses of the Waters of International Rivers 1996 and the UN Convention on Non Navigational Uses of International Watercourses of 1997.⁷⁷ The success of several trans-boundary water sharing agreement e.g. *The Convention to Protect and Sustainable Use of Danube River of 1994*; the second longest river of Europe swayed other states to come under multi and bilateral agreement of water sharing. India being southern Asian nation having

⁷⁶ The Convention on the Law of Non-Navigational Uses of International Watercourses, commonly referred to as the UN Watercourses Convention, is an international treaty, adopted by the United Nations on 21 May 1997, pertaining to the uses and conservation of all waters that cross international boundaries, including both surface and groundwater.

⁷⁷ Supra note 45.

Himalayas at the north which is main water source for many rivers which also enters into other neighboring state, has several transboundary agreement e.g. *The Indus Water Treaty of 1960*, *The Mahakali Water Treaty of 1996* which was ratified and resigned to resolve the issue of water sharing, *The Ganges Treaty* signed in 1996 between India and Bangladesh; *Memorandum of Understanding (MoU) in 2013* between India and China which helped India to gain more hydrological information at the start of flood season.⁷⁸

Transboundary water sharing resources crisis could be avoided by a balanced legal framework, a treaty that balances the demand of both the state and adhere to the ‘*principle of equitable and reasonable utilization*’. Various other factors also determine this particular principle of equitable and sustainable development as per mentioned in ‘*The Convention on the Law of the Non-navigational Uses of International Watercourses*’.⁷⁹ Sharing the water resources could also bring out the problem of damages done to the watercourse due to pollution or excess use of water, therefore it is obligatory on the part of the states to preserve such water courses as well as protect it and prevent any major damage to water course. Article 5 and 6 of *The Convention on the Law of the Non-navigational Uses of International Watercourses* put significant emphasis on protection of water along with the Article 7.

International agreement on water sharing will be insignificant if several other principles other than protection are not brought up in it such as mutual exchange of information and data and cooperation. Article 9 of *The Convention on the Law of the Non-navigational Uses of International Watercourses* tries to denote the positive aspect of sharing information and bridging the gap of information in matter of meteorological, hydrological, ecological and hydro geological nature and matters pertaining to the quality of water and such other related forecasts.⁸⁰

There can be two types of instrument codified to come to an agreement of water sharing

⁷⁸ Supra note 45.

⁷⁹ Adopted by the General Assembly of the United Nations on 21 May 1997. Entered into force on 17 August 2014. See General Assembly resolution 51/229, annex, Official Records of the General Assembly, Fifty-first Session, Supplement No. 49 (A/51/49).

⁸⁰ Supra note 45.

universal and regional which both the agreements has to reflect some common objectives to preserve, protect, and balance utilization of water course, Helsinki Convention was most important and famous treaty which addressed the problems of transboundary rivers and lake more effectively than UN Convention. Helsinki convention helped the UNECE region to form relationship between different states and negotiate for betterment of the European region.

Helsinki convention successfully covered wider aspect than several other convention of United Nation which includes the ‘notion of trans-boundary waters;’ ‘any surface or ground waters, which are located or crosses the boundaries between two or more States.’⁸¹

II.2. PRINCIPLE OF INTERNATIONAL WATERCOURSE LAW

II.2.i. Absolute Territorial Integrity

Absolute territorial integrity is a principle which is closely related with *Harmon Doctrine* named after the Attorney General of America during disputes between two states, The U.S and Mexico over the use of Rio Grande Water. Attorney General opinion of Absolute Sovereignty was accepted during the negotiation with the government of Mexico. According to Harmon the United States of America had no responsibility for the reduction of water available to Mexico. This argument of Harmon later became a proposition that an upstream country has no responsibility towards a downstream country for the usage of water from an International watercourse within its territory.

However the dispute between both the nations came to halt after two countries entered into convention 1906, the objective of the convention to equally distribute water of Rio Grande for the purpose of irrigation, the doctrine of Absolute Sovereignty on contrary side advances the practice of complete freedom of upstream state to however exploit the

⁸¹ Article 1.1, Helsinki Convention.

water of international water bodies.

II.2.ii. Absolute Territorial Integrity and Ganga Treaty

India and East Pakistan now Bangladesh had controversy over the barrage built by India, being upstream riparian state India took stand that both the state have absolute power and control over the management and utilization of water present in their territories. Farakka Barrage over the river Ganges was the main point of controversy where India denied the status of Ganga to be an International watercourse; even the discussion was halted by both the states. India was not able to take Pakistan into confidence regarding the safety of downstream nation that no damage will be done due to the construction of Farakka Barrage. However there were further development in the relation of India and Pakistan and India not only ceased to deny that Ganga as an International river but also entered into agreement for the period of 30 years to mutually share the water of River Ganga. The principle of Absolute Territorial Sovereignty is very chaotic as it ignores the right of a lower riparian country and its reliance of water available through sharing of international watercourse. Absolute it ignores the duty of sovereign upstream country to protect the right of downstream country.

II.2.iii. Limited Territorial Sovereignty

This principle of Limited Territorial Sovereignty is contemporary theory which prevails for the international watercourse rights and obligations. The objective of the principle is to provide peaceful solution to the smooth flow of international watercourse. The principle protects the interest of upstream as well as downstream country as the principle supports the concept of 'equality of rights'. The equal distribution of water or distribution of water according to the need of people residing in both the countries is important factors, which makes the principle important in contemporary world. It provides a way to settle dispute between downstream and upstream country as it puts both the country on equal par on the matter of water distribution on International watercourse.

II.2.iv.Limited Territorial Sovereignty and Ganga Treaty

There is gradual shift taken by upstream state from the principle of *Absolute Territorial Sovereignty to Limited Territorial Sovereignty* that can be traced by the decision taken by India to recognize Ganga as an international watercourse and entered into agreement with the downstream country Bangladesh to share the water of the same, India suitably recognized the need of riparian state and its need for the Ganges's water. The theory of Limited territorial sovereignty has put legal restrictions on the state's usage of International watercourse.

II.3.FACTORS OF INTERNATIONAL WATER CONFLICT

II.3.i.Sovereignty:

Every nation has absolute right over its own resources that are what territorial sovereignty states; however the states do not have this absolute control over international water boundaries. Therefore the sovereignty is the prime cause for the clashes between the neighboring countries regarding water sharing. This concept compels the state to share less or more water with the other countries which involves the dispute regarding water sharing; India and Bangladesh are agrarian countries even though countries formed in 20th centuries are well aware of the fact of restricted sovereignty when it comes to the matters of water sharing. The idea of joint engagement regarding to resolve the dispute of water sharing of Ganges was firstly evolved with eastern Pakistan later became Bangladesh.

II.3.ii.Economics:

Water sharing form international water is an important factor for the development in the country's amount of sharing water. In most of the cases one amongst the countries is dominant over their neighbour, these states place strategic and quantity on the international water resources they share with their neighbors. They will additionally veto or delay and quadripartite water accord in their various basins. Once downstream countries are comparatively less powerful than water dominant upstream countries, conflict could also be less possible; however social and economic insecurity will result in larger political instability.⁸²

II.3.iii.Water scarcity:

The international water mainly in the form of river derives its source from Himalayas and its melting ice which is continuously depleting resulting in the lower and polluted form for water resources of rivers, the need of water in both the countries Bangladesh and India is high in demand and whereas supply is not meeting to the demand, along with the weak monsoon support is creating water scarcity and creating tension between the nations to provides maximum water possible to their own people to meet the agricultural as well as daily life demand. The potency, organization and management of water resources, loss and wastage and policy choices (national and sub-national level) of the bank countries water are the most important factors in determining the insufficiency of water resources.⁸³

⁸² Rakesh Tiwary, Conflicts over International Waters, Economic and Political Weekly, 411684-1692 (2006)

⁸³ Id.

II.4. WATER CONFLICTS BETWEEN INDIA AND BANGLADESH

The conflict between riparian countries like India and Bangladesh is being influenced and supported by the geographical location, nation state formation and political development in the subcontinent. 1.75 million square km being the total drainage area of the basin, the population density is also the highest in the plains especially in Bangladesh i.e., 740 per sq. km 1991 figures. India has most important strategic point, as it is upper stream as well as downstream country sharing 54 International River.

II.4.i. Background of Creation of Bangladesh to Signing of Ganga Treaty

The political division of the Ganges-Brahmaputra river basin was caused after the creation of two countries India and Pakistan. The line drawn between the nations was about to change the diversity and control over the water of the Ganga. The dispute was not only regarding the water but the national interest was coming into the whole issue of international water boundary; the proposal of constructing Dam at Farakka had been put forward by India in 1950. In 1961, the government of India began a formality to notify Pakistan, after ten years of discussion India finally recognized Ganga as an international water body in the form of river.

In 1971, the Ganges water dispute took a new dimension as creation of new nation Bangladesh. The new born nation made a strong demand for the Ganga water as resources, the river water was very important to agrarian dependent country. This time unlike Pakistan, which put forward Indus water dispute more strongly neglecting the demand of eastern Pakistan later Bangladesh for Ganga water, the government of Bangladesh put their concern more sturdily. It can thus be soundly concluded that, there was an Indian strategy of prolonging until at least 1971. One factor which may have influenced Indian leaders choice is the perception of general state of hostility between

India and Pakistan.⁸⁴

In 1972 Prime Ministers of both the countries accepted the idea of establishment of a joint river commission on permanent basis, the commission having equal number of members from both the side discussing about the flood control and water resource development. India, however, agreed that a mutually accepted solution would be arrived at before operating the Farakka barrage at a ministerial level meeting with Bangladesh in 1974.⁸⁵

The committee made two basic points and agreed for the same which are as following:

- The augmentations of water would be through optimum utilization of water resources available to both the countries.
- There was a need to increase the volume of Ganga during the minimum flow period to meet the full needs of both India and Bangladesh.

In April 1975, India started test operation for 41 days and later in March 1977 Morarji Desai became the prime minister and on 5th November Indo-Bangladesh relation was taken to a new standard wherein both the countries signed an agreement on sharing the waters of River Ganga.

II.4.ii. India-Bangladesh Agreement on Sharing of Ganga River: An Overview

An agreement between India and Bangladesh regarding sharing of the Ganges water at Farakka, was signed by the both the nations on 5th of November 1977 at Dacca. This agreement was a major step to promote the relations between both the nation and for the welfare of the people living both sides of the border, the main objective of the agreement

⁸⁴ Ben Crow, A Lindquist, et.al., Sharing the Ganga: The Politics and Technology of River Development, (Sage Publication, New Delhi, 1995)

⁸⁵ Id.

was to come to a solution of sharing of water international river Ganges. The agreement is supported by fifteen Articles, which were effective for five years from the date of 5th November; the water was released within ten days. The two governments set up two committees to observe the flow and record at Farakka the daily flows below Farakka Barrage and in the Feeder canal. The committee had to submit the report regarding the same on a yearly basis to the both the governments and was also responsible for the implementation of the particular agreement and if still the dispute existed the committee was responsible to resolve the dispute. The two governments would meet to come to mutual agreement if the committee is unable to resolve the dispute immediately. The main issue was to resolve the water-sharing problem during the flow in the dry season. The committee had to propose an economical and reasonable solution within the period of 3 years or as speedy as possible; the committee would be able to resolve the matter during dry season. Following were the main components of the agreements:

- The treaty was to remain in force for the time period of five years.
- The provision of lean season low was mentioned that will be effective between January 31 to May 31.
- The agreement consisted of guarantee clause during the low flow of river which was provided for the Bangladesh which according to the agreement was provided below 55000 cusecs.
- Bangladesh was also provided for the guarantee for the specific 10 days known as the concerned period.⁸⁶

The agreement was widely criticized in India as this agreement was a big achievement for Bangladesh, being downstream country it strongly got hold on the required amount of water, the guarantee clause made it mandatory for the India to release water for the downstream country Bangladesh, it adversely affected the Farakka project. The agreement was widely criticized in Bangladesh for its temporary nature. Bangladesh, however, in May 1976 raised this issue in the *Islamic Foreign Ministers Conference at Istanbul*, and also at the 31st session of United Nation in very same year. Bangladesh was

⁸⁶ Para 11 of Article II

adversely politicizing the matter on international ground, and argued before United Nation on the basis of environmental degradation of the country. However, the UN Special Political Committee consulted both the countries and suggested for a bilateral solution which would be based on mutual agreement and consensus.⁸⁷ India did not want to sound as oppressor in the subcontinent therefore another round of bilateral discussion started during the period of 1976 and 1977. There was no sharing agreement after ending of MOU, which was for the period of 1984-1988. India continued withdrawing water from Ganges till 1996; Bangladesh continued blaming India for climate changes due to Farakka diversion. Bangladesh claimed that there was negative impact on the Bangladesh economy specifically in southern west part. As per the literature provided by the Bangladesh, the average discharge was reduced to 23,000 cusecs from 64,430 from the historical record of 1976. Bangladesh was not getting enough water for the irrigation purposes as the salinity of water also increased. Being agrarian economy Bangladesh suffered huge loss. India although neglected this claim as the data being scientifically was not evaluated and taken.

On 12 December 1996 after the termination of two MoU by both the nation, for sharing of the river Ganga during dry season, a treaty was signed for the valid period of over 30 years. The treaty very well contains the provisions for sharing Ganga water, in Article II the formula for sharing water in dry season is being laid down. Articles IV- VII lays down the jurisdiction of the Joint Committee formed by both the nations and about its jurisdiction for the monitoring of the treaty and mutual exchange of information and data. The joint committee like the previous agreement is having the equal number of members from both the side. The committee is delegated with the power to record the daily flow of water below Hardinge Bridge as per Article IV. The committee is supposed to submit the detail annual report collected by it to both the Governments.

Article VII of the 1996 treaty provides that, '*if the matter of dispute is unable to be disposed off by the commission, the matter is supposed to be disposed off by the meeting of both the governments' parties.*' Article 10 enunciates the provision of reviewing the

⁸⁷ Supra note 84.

treaty in every five years, or if the need for the review comes before the expiry of five years the committee would look into the treaty for the needs of the hour. There is future clause in the treaty in which India will provide ninety percent of water as promised in the treaty by the Indian subcontinent after the expiration of the treaty in thirty years.

Annexure 1 provides the formula for water sharing between both the nations, i.e.,

- If the water level drops below 70,000 cusecs at Farakka, both the nations have to share equal amount of water.
- If the water level is between 70,000 and 75,000 cusecs at Farakka, Bangladesh will get 35,000 cusecs and the rest will go to India, and
- If the water level rises above 75,000 cusecs, then India will receive 40,000 cusecs and remaining water will go to Bangladesh.⁸⁸

The biggest benefactor of Bangladesh is guarantee clause which provide 35,000 cusecs of water from March 1 to 10 May if the water level drop below 70,000 cusecs, the same will be provided in three water cycles, each consisting of ten days.

⁸⁸ Annexure 1 of 1996 treaty between Ganga and Bangladesh.

Water Sharing between India and Bangladesh⁸⁹

Ten Day Period	Total dependence supply at Farakka (Cusecs)	Amount For India Cusecs %	Amount for Bangladesh Cusecs %
January			
1-10	107,516	40,000 37.2	67,516 62.8
11-20	97,643	40,000 41	59
21-31	90,154	40,000 44.4	55.6
February			
1-10	86,323	40,000 46.3	46,323 53.7
11-20	82,859	40,000 48.3	42,859 51.7
21-28/29	79,106	40,000 50.6	39,106 49.4
March			
1-10	74,419	39,419 53	35,000 47
11-20	68,931	33,931 49.2	35,000 50.8
21-31	64,688	35,000 54.1	29,688 45.9
April			
1-10	63,180	28,180 44.6	35,000 55.4
11-20	68,931	35,000 55.9	27,633 44.1
21-30	60,992	25,922 54.1	35,000 45.9
May			
1-10	67,351	35,000 52	32,351 48
11-20	73,590	38,590 52.4	35,000 47.6
21-31	81,854	40,000 48.2	41,854 51.8

⁸⁹ Sharing of Water at Farakka between 1 January and 31 May as Provided in Bangladesh-India Treaty of 12th December 1996. The Janakan (Dhaka), 13December 1996

II. 5. AN OVERVIEW OF 1996 GANGA TREATY

The treaty signed by both the nation in water sharing conflict management is a big and essential achievement for both the nations. It is crucial for the development of international water law. Ganga treaty is bilateral treaty, which tries to acquire as much characteristics as possible from the international laws, such as '*principles of fairness, equity, and no harm rule to either side.*' This principle is not being only laid down theoretically in this treaty but also being achieved practically. India being an upstream nation did not dominate downstream county Bangladesh instead cooperated to form commission to monitor the flow and exchange of data and information through the mutual consultation. India formally recognized the rights of the lower riparian over a shared river system, a rights of the lower riparian over a shared river system.⁹⁰

India although is not a signatory to the *UN Convention of Non-navigational Use of International Watercourse (1996)*, still several of its principles have been accommodated in Indo-Bangladesh Treaty (1996).

II.5.i. A Comparative Analysis of Ganga Treaty and International Watercourse Law

The principle of equality is one of the most essential characteristics of international instrument to settle the dispute between various countries. This principle is also one which has the potential to dispose of the dispute between India and Bangladesh regarding water sharing. Also it is the responsibility of each agrarian country to resolve the dispute as soon as possible for the overall economic development of different regions of both the nation. However there are various principles which make an international instrument, which widely helps in resolving dispute of international watercourse, although there is

⁹⁰ Conflicts over International Waters Author(s): Rakesh Tiwary Source: Economic and Political Weekly, Vol. 41, No. 17 (Apr. 29 - May 5, 2006), pp. 16841692

various kind of International law which is not ratified by both the nation and therefore it is not binding. It is necessary for us to apply the various principles, which taken from this international treaty helps one to look into the possibility and capability of this instrument to resolve current dispute of India and Bangladesh.

II.5.i.a. Barcelona Convention 1921

It is one of the international laws, which Pakistan sort to use it as a defense to oppose the construction of Farakka Barrage however India did not accept it. Article 10 of the Convention and Statue on Freedom of Transit better known, as Barcelona convention does not implicitly discuss about the sharing of water from the international water boundaries however it obligates countries not to take unilateral action to violate the rights of co-riparian nation.

II.5.i.b. Helsinki Rules 1966

It was developed by prestigious International Law Association, which is a remarkable work, and among one of the most significant international laws till date. **Chapter 2** of Helsinki Rules (*Equitable Utilization of the Waters of an International Drainage Basin*) specially contains provisions, which strongly upholds the principle of equality. Under Article IV all basin states are entitled, inside its territory, “*to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.*” Economic development of each state is kept in mind and the equitable sharing of water of an international drainage basin is determined by a lot of external factors including social needs, climate change, geography, availability of other resources, population, hydrology and unnecessary wastage. Article VII obligates basin states not to avoid reasonable use of water resources of co-basin state because of the intention to reserve water for future use. Again International Law Association in Berlin Conference 2004 revised the Helsinki Rules 1966 in which it also included principles of ‘*integrated management, sustainability*

*and minimization of environmental harm of water resources.*⁹¹

II.5.i.c. UN Convention 1977

It is a revolutionary codified law which deals specifically matter related to international watercourse; it adopted a different approach to settle the dispute of international water sharing, principles of equity was now read along with idea of reasonable use of water. Article 6 mentions about the sharing of water in equitable and reasonable manner; also Article 7 obligates the riparian countries to make reasonable use of water and to implement possible measures not to harm co-riparian states. It also provides for provision of taking proper measures to be taken by states in the utilization of an international watercourse within their own boundaries preventing any repercussions to other States.⁹² These characteristics are provided in the draft agreement between Bangladesh and India in Ganga Treaty under Article IX. Riparian states shall share information and required data with other riparian states as per mentioned in article 9 of the convention however we can find similar kind of clause in article VI of Ganga treaty, however this information will be provided to the both government by Joint committee formed by the delegates of both the nation. Article 11 of the UN Convention also provide provision regarding the prior consultation of the co-riparian state regarding the implementation of any policy of the government in the river, also the state has to provide all the information regarding the adverse affect of the planned if implemented on the river. The Convention also provide window for the negotiation between both countries for an equitable solution absence of such practical ideology is being absent in the Ganga treaty. A essential lacuna of 1996 Ganga treaty is the politicization of the dispute between both the countries instead of finding out practical solution in the form of Arbitration the same idea of settling dispute is being provided in Article 33 of UN convention of 1997.

⁹¹ Article 8, Berlin Conference on Water Resources Law, 2004.

⁹² Article 7 (1), Convention on the Law of the Non-navigational Uses of International Watercourses 1997

II.6. CURRENT DEVELOPMENT IN AGREEMENTS BETWEEN BANGLADESH AND INDIA

“Entry 17 of List II of Schedule 7 of the Constitution of India” makes water related issue as state subject and the information given is very much required to understand the politicization of another transboundary water sharing dispute. Teesta River which originates in Sikkim flows through the state of West Bengal which is ruled by non central government party does not provide a fair opportunity to the central government to resolve the dispute. Currently due to the obligation of Ad Hoc sharing agreement of 1983 India and Bangladesh are assigned 39 % and 36% water respectively⁹³ however India claims almost 55% of water, which clearly violates the principle of equitable share. Therefore, the current long-term solution for this dispute could be possible only by adhering to the Helsinki Rule’s modified version of the rules framed in Berlin Conference on Water Resources Law.

Similarly, the Tipaimukh Dam is a proposed dam on the river of Barak in the state of Manipur, India which is proposed with the objective of flood control and producing hydroelectricity. Bangladesh being co-riparian state have raised issue regarding the proposed dam, it is considered as threat to environment by them later they claimed the Dam will divert the natural watercourse of water. However, India has delayed the construction of Dam due to reason of more depth study to look into effect to environmental reasons. However Bangladesh raised the issue regarding the specific proposed project that it is in not in consonance with Helsinki rule 1966.

⁹³ Ad hoc Agreement 1983, Dhaka

II.7. THE BENEFITS OF CO-OPERATION ON INTERNATIONAL RIVERS

The objective of the world in the context of managing the river all over the world should be consensual; it is a change for societal change and goodness. Most of the International Rivers however were or are part of tension on both the side of the border of the Nations, and it's rare to find one institutional structure, which happens to be the ultimate authority between two sovereign nations. The action of one nation on the river has an impact on the other nation as River is treated as fundamental unit. It is up to the nations to decide the matter of river with cooperation or stuck with the conflict and this decision will be determined by their perceived benefits.

The incentives, linkages and catalyst should be explored during perceiving the decision of resolving the conflict and achieving the underlying potential of the decision should be achieved. The underlying benefits could be:

- Firstly, improvement of ecosystems and prospectively better management of it.
- Secondly, the underlying economic benefits that could be achieved after cooperative management of the rivers.
- Thirdly, the cooperation will reduce the cost; reduction in the cost due to reduction in the tension between co-riparian states will reduce unless the tension would have generated cost to some extent.

The result that could be achieved is river being itself catalytic agents, which will help the nations to obtain greater economic benefits. As the benefits also exist because of the co-operational use of river at the basin, this leads to economic generation among the states which extend to political, geographical and cultural harmonious growth between the Nations.

The broader the ambit of advantages under discussion; the additional doubtless riparians are going to be ready to notice a configuration of advantages that is reciprocally acceptable. Whereas, some benefits may be troublesome to share or compensate, generally the improvement of advantages ought to be additional strong and additional versatile than the improvement of physical water resources, as a result of this, benefits tend to be additional simply monetized and remunerated and that they have less political and psychological significance. Distinguishing and understanding the variety of usually inter-related benefits derived from the cooperative management and development of international rivers is central each to raised management of the world's rivers and to relations among the nations sharing those rivers.

II.7.i. The Centre of Water Conflict and Co-Operation: Institutional Capacity

Scarcity of water is suppose to be one of the reason of conflict, scarcity derives people to scarcity, it is instinctive, the less amount of water is inversely proportional to the more dearly holding the conflict and obviously people will fight over it. However this theory seems changing in the today's world the number of conflict is increasing from the humid region not the Middle East's arid region and the conflict is hiked during the drought, various variables seems ineffective in finding the actual reason of the increasing conflict.

The main reason of stability in matters of water sharing in Middle East is strong institutional building; the arid countries very well understand the scarcity of water and therefore cooperate when it comes to water. The main factors, which increase the conflict, level primarily if the nations have basin to share or political atmosphere level changes, secondly if the Countries are unable to effectively manage the water distribution of international water.

Therefore there is strong need to reconcile the conflicting interests of balancing these g interests with water scarcity. Water is a matter of dispute in international river basins

wherein, water management institution normally fails due to non-enforcement of international treaty or even non-existence of treaty reminds the responsibilities of the countries for any agreements or cooperative arrangements. It is evident fact that scarcity of water is not the reason behind conflict but lack of cooperation, management and governance is. Many developing nations need better and stronger policies to control water use and justifiable management because in such countries there is a lack of human and economical resources as compared to the developed countries where there is better and comprehensive management plans and implementation. The institutions responsible for taking decisions for regional development, transport, fisheries, environment, agriculture, conservation and tourism responsible sometimes contradicts and delay the decision and management process.

Formal and customary management practices may be contradictory, as incontestable in Cochabamba, wherever formal provisions of the 1999 Bolivian water services law conflicted with customary groundwater use by farmer's associations.⁹⁴ In countries while not a proper system of water use permits or adequate social control and watching, additional powerful water users will override the customary rights of native communities provided if establishment distributes the water equitably between social teams, the danger of public protest and conflict will increase. In South Africa, social policy regime allotted water to favor the white minority. This ecological marginalization heightened the black population's grievances and contributed to social instability that ultimately led to the dying down of the regime.⁹⁵ Establishments may distribute prices and advantages unequally: revenues from major water infrastructure comes, like giant dams or irrigation schemes, sometimes profit solely little elite, feat native communities to deal with the ensuing environmental and social impacts, typically with very little compensation.⁹⁶ The assorted parties to water conflicts typically have differing perceptions of legal rights, the technical nature of the matter, the value of determining it, and therefore the allocation of costs among stakeholders. Reliable sources of knowledge acceptable to stakeholder's are

⁹⁴ Nickson and Vargas, "Bolivia Water Management: A tale of three cities", World Bank

⁹⁵ Anthony R. Turton, "Water wars in Southern Africa: Challenging Conventional Wisdom", Green Cross International, Water For peace in the middle East and Southern Africa

⁹⁶ Environmental and Social Impact from Patrick Mccully, silenced Rivers(London: Zed Books, 2003)

important for any joint efforts. This not solely permits water-sharing parties to form selections supported a shared understanding, it conjointly helps build trust.

II.7.ii.The Elements of Conflict Resolution⁹⁷

The conflicts of International water sharing could come to end either on the positive note or negative note. Alternative is one of the important concepts applied in the discipline of economics however the same word and its profundity are very important to negotiate on the matter of international water boundaries. Alternatives are the options that a party takes and walks away if the nation fails to negotiate on the international water boundaries; in general the parties walk away from the agreement to those alternatives that are worse than the best possible available alternative of a negotiated agreement. The interests of the parties are important, under interest lay position which are demand; the needs, the desires, hopes and fears therefore it is best when in the negotiation interest of the parties are satisfied.

The negotiation should not only consist of narrow choice, instead the parties to conceivably reach an agreement should explore a full range of possibilities. Therefore it in the best interest of the parties that agreement must have various options specifically in the situation where all the parties come together for the mutual gains. Agreement after negotiation, agreement is of no value unless and until it is legitimate. The legitimacy would be the fairness of an agreement in this matter. The parties should not feel exploited and making both the parties fairly treated it is important to achieve certain benchmarks or the measures beyond the will of the parties. The benchmark includes laws and regulations, current fair practice, industry standards or some general principle like precedent or tradeoff which are a lot in the law of management on international water boundaries. It is always not found that the commitment made by the parties found in the agreement also and therefore commitments could exist in oral or written or both the

⁹⁷ Terry Barnett; CMI Washington/Carolina. See p. 45 for more detail. ©2001 by Conflict Management, Inc.

forms, commitments regarding what a party will do or will not do in future course. There are certain qualities of the contracts, which should be embodied in the commitment part as well these qualities are well planned promises and well drafted which sounds practical, durable and also in simple words to be understood by the party which carries these commitment. And down the line it should also be verified timely.

Two more qualities of the parties communication and relationship, are important on which the entire negotiation of the parties depends, primarily the mutual understanding developed through communication and the efficiency of the process goes hand in hand the better understanding the better relation will be developed. Therefore high quality of understanding is required to minimize the expended resources, which is utilized to come to an agreement. And secondly the strong hold on relationship matters a lot; which means that a strong relationship between countries help them deal with the differences and that any future operations shall improve the country's ability to work together.

Thus, it can rightly be said that water crises will take us to the threshold of world war. Therefore it is high time that the government of various nations should dispose of their issues and come to a concrete solution of sharing international water bodies. It is very hard to believe that even today's world of advancement still cannot meet the need of clean drinking water and still it is a far-fetched dream for many. International water sharing agreements is a way optimum level of efficiency when it comes to the water management between two or more than two nations. Ganga treaty was the result of negotiations and diplomacy of India and Bangladesh, which took considerably more than three decades. The time taken to formulate the treaty was considerably more and therefore the purpose of water management was delayed. Formulation of treaties within reasonable time can serve the purpose of water management. Treaty should be updated accordingly to the changing requirements of generations. Since water management is a global concern therefore the nations should step up from their domestic interest to join and come forward to solve international transboundary water sharing issues and establish uniformity in the legal frameworks governing the global water management system.