"In connection with the large scale Anatolia Project on the river Tigris and Euphrates rivers, the Turkish president Suleyman Demirel in 1992 replied to Syria and Iraq's call for greater minimum flow of the water to these states, saying **"Neither Syria nor Iraq can claim to Turkey's rivers, any more than Ankara could claim their oil. We have a right to do anything we like. The water resources are Turkey's, the oil resources are theirs. We do not say we should share their oil resources. They cannot say they should share our water resources .This is a matter of sovereignty."** Why should water resources be shared any more than oil reserves?"

John Boulsh, Troubled waters, The Independent, November 14, 1993.

The International obligation of Nation States over shared watercourses. The case of looming conflict over the construction of the Grand Renaissance Hydroelectric Dam over the Blue Nile. What is the law? Unilateral and Multilateral options.

By Eshetu Girma[1]

Post script

The purpose of this article is to assess any probable outcome should a judicial determination is sought, at some point in the future, regarding the looming dispute between Egypt and Ethiopia over the utilization of the Nile river. This article was originally written in February 1999 for presentation to an International Law Prospectus held in Concord, New Hampshire USA at the University of New Hampshire School of law under the guidance of William Hennessey professor of International Law. I have edited the original text to accommodate certain changes that have occurred subsequently which includes: the signing and ratification of a basin wide treaty on the management of the Nile river by riparian nations (also Known as The Nile basin Initiative); The official launching to construct a hydro Electric dam over the blue Nile (also known as The Grand Renaissance Hydroelectric Dam); and other notable factual, legal, diplomatic and political developments in the region. The analysis presented in this article explores the factual and legal issues relating to the specific obligations of Nation states over the utilization of shared watercourses under International Law. To help me accomplish this objective, I have framed and formulated two hypothetical case scenarios. Based on these scenarios, I have made an assessment of the likely outcome should these cases are referred to an International judicial Tribunal. It is evident from the fact pattern presented, out of the two hypothetical cases; one of the scenarios closely resembles the current looming dispute between Egypt and Ethiopia over the construction of a dam in the Blue Nile River. It differs slightly only because it contains additional factual situation namely: the use of a Blue Nile tributary river for irrigation and agricultural development purposes. Any Judicial determination of a dispute over the claims of "a shared watercourse" demands careful

scrutiny of factual, technical, Hydrological and legal issues closely associated with the case. Any one tasked with this huge responsibility of deciding on claims and counterclaims of states over a shared resource ought to give thoughtful consideration to other closely related issues. I will try to spell out those issues as follows: What are the core obligations of nation States under International Law on the use and Utilization of shared watercourses? Why should water courses be shared any more than oil reserves? Does Syria, for instance, "own "water that flows to its territory from Turkey? Similarly, Does Ethiopia "own" the water resources of the Blue Nile? The North Sea continental shelf case raises the issue of riparian rights in relation to shared watercourses. To what extent does the principle of "equity "as applied in the North Sea continental shelf case apply to riparian rights? How would Egypt approach taking its case to an International court of Justice (ICJ) to argue that it has "historical and lawful rights" to the entire waters of the Nile (The Blue and the white Nile)? To what extent does the 1929 Agreement between Egypt and Anglo-Egyptian Sudan and the 1959 Agreement between Sudan and Egypt conceivably apply and assist in the resolution of the current dispute? Do other earlier colonial era-accords that were signed between Britain and other British colonies of East and central Africa apply in the present case? Does the Nile Basin initiative treaty signed in partnership with nine riparian states trump and supersedes any of the earlier conventions and treaties? What other rules of International conventions deserve consideration? Do the 1996 Helsinki rules have any application? What about customary law, bilateral Agreements and understandings signed between Egypt and Ethiopia as well as Agreements signed between other riparian states over the use of the river Nile?

To what extent the US –Canada or the US Mexico model is useful in the resolution of Trans boundary water dispute? The focus of US – Mexico Agreement is, as I believe, are on conservation of the waters of Rio Grande and Colorado rivers in arid regions. The us – Canada framework is primarily concerned on pollution control, navigation and conservation. What, if any, is the relevance of these treaties to the current dispute? Can Egypt continue to demand more and more water from upstream states even if those states believe that it is not making wise use of existing water resources? What would be the position of Ethiopia, if the Security Council of The UN, at some point in time, refers the present dispute to the International Court of justice (ICJ) for judicial determination of this case? What are the pitfalls, if any, of submitting to the jurisdiction of such institutional Tribunal? Whether to ICJ or to an ad-hoc conciliation or arbitration Tribunal? Could International water law play a substantive role in helping resolve the current dispute?

The right to water resources has become one of the greatest challenges of the century in the emerging, nascent field of water right dispute. There are limited numbers of cases adjudicated and decided to date on trans boundary river basins. However, there is considerable amount of literature and judicial rulings, case law that exists in US jurisprudence. Are these decisions and the principles and standards amplified relevant to trans boundary dispute situation? What other non-traditional principles need to be adressed apart from those raised above. Do states have a duty to conserve water resources? What about the duties of upstream states not to pollute or contaminate rivers flowing in other states? The rules of International Law on these and other related issues of water use and management are varied and complex. It may not be possible to make a comprehensive assessment of each of these issues in this paper. It is, however, safe to say that anyone tasked with such huge responsibility offering a judicial determination of a case like this, will be expected to have

a thorough knowledge and understanding of the above mentioned issues. The management and utilization of shared watercourses is a complex subject touching several disciplines and involving collective security and political considerations and hence requires careful examination.

One of the functions of International law is stop the outbreak of war and conflicts and prevent looming or potential conflicts from ever happening. With regard to the prevention of conflicts that arise in relation to water rights, International law has put in place various mechanism to address such issues. First and foremost, the obligations of states is defined and adopted in various conventions, bilateral and multilateral treaties. Additionally, there are customary norms and case law that shade light on some of seemingly obscure issues. These laws and rules in aggregate shape and guide nation states in the conduct of their relationship with each other. States adjacent to river basins where the river crosses or originates are the principal stakeholders. They need to create and promote partnership to harness and develop shared and scarce watercourses for the direct benefit of their growing population. To carry out these and other responsibilities enshrined in in the International instruments, they must work together inconformity with generally accepted norms and rules of International Law. They are expected to craft their domestic policies and laws in conformity with such rules.

Much has been written over the past couple of weeks in regard to the Egyptian possible response to Ethiopia's Grand renaissance hydroelectric Project. The bellicose rhetoric includes taking unilateral military action by Egyptian politicians which has raised uproar and raised the possibility of a "water war" between Ethiopia and Egypt. Egypt by choosing the unilateral option threatening to use military action has drifted further away from Multilateralism. This kind of state conduct and behavior leaves very little room for cooperative endeavor and violates basic principles of peaceful co-existence between sovereign states enshrined in the United Nations founding documents. States must not act alone when the subject matter of the dispute is inherently multilateral by its character. The issue of shared watercourses, oftentimes, involves more than one nation state if not more. Any dispute relating to claim of water right or use cannot be permanently resolved by resorting to unilateral approach. On the contrary, Multilateralism and adherence to widely accepted norms of evolving principles of international water law advances multilateral approach and promotes regional stability, partnership and collective security. Nation states must balance their national interest and global responsibility at all times. When they precisely execute that balance they will have embraced multilateralism to its fullest extent over a unilateral option. Ideally, multilateralism should be their first and their last best option at all times.

Eshetu Girma Washington Dc June 14, 2013

Historical Development of the dispute.

At the time of writing the postscript, as indicated above, there is a looming conflict over the use and utilization of the river Nile which is a shared watercourse within the meaning of a UN convention. [2] In recent years, controversies' relating to the use of shred watercourse has become

common phenomenon. Many countries have some kind of claim regarding a water systems that crosses their territories or as end recipient of water from a river basin system.[3]

In 1990 Egypt temporarily blocked a loan to Ethiopia from the African Development Bank because it was concerned that the loan would be used to finance a project which would consume too much water from the Blue Nile waters. [4] In 1979 days after signing the Camp David peace treaty with Israel, then Egyptian President Anwar Sadat said "the only matter that could take Egypt to war again is water."[5] Again, in 1985 Boutros –Boutros Ghali then Minister of State for Foreign affairs (Later secretary General of the UN) stated in an interview that "the next war in the region would be over the waters of the Nile, not politics."[6] On June 10, 2013 President Morsi of Egypt tells Islamist audience that Egypt is "threatened" because of the diversion of Ethiopia's Grand Renaissance dam project. He told his Islamist audience that he will defend "each drop of the Nile waters with blood if necessary." The president repeatedly said that he would not tolerate any reduction of the Nile water. He also said "all options should remain open to defend Egypt's rights over the water. "His statement in reference to the option clearly refers to the use of unilateral military action against Ethiopia. A week before the President's statement Egyptian politicians were filmed on a live TV broadcast discussing aggressive measures against Ethiopia.

The leader of an ultra-conservative Nour Party suggested to president Morsi in that televised meeting that as last resort Egyptian intelligence forces could destroy the Grand Renaissance Dam. Ethiopia summoned the Egyptian Ambassador in Addis Ababa to seek explanation on Egypt's Stance.[7]

Population explosion and water supply limitations

With increased focus and competing demands for rapid industrial and agricultural development and expanded use of water for more than domestic and navigational use water has become scarce over time . The natural availability of water has diminished over the years as the result of many different factors, and suddenly a number of regions are experiencing water scarcity. [8] Why is water so scares today as compared with a few hundred years ago? Oftentimes, two reasons are mentioned as the root cause of the problem: rapid population growth and supply limitations.[9]

The statistics on population growth are alarming. In 1950, the world population was 2.5 billion. The United Nations reported in 2013 that the population of the world will be 7.6 billion. That is a significant rise in just 60 years from 2.5billion to 7.6 billion. The report in its forecast further states that "The world's population will increase from 7.2 billion today to 8.1 billion in 2025, with most growth in developing countries and more than half in Africa. By 2050, it will reach 9.6 billion. Half of all population explosion intermediate to 2013 and 2100 is regarded as likely to happen to be concentrated in just eight countries such as Nigeria, India, Tanzania, the Democratic Republic of Congo, Niger, Uganda, Ethiopia along with the United States "[10] In stark contrast to the population explosion, the earth's supply of fresh water resources remains constant at the unchanging 14,000 trillion cubic meters a year.[11] Scarcity of water becomes evident when seen in light of an expanding global population explosion and the prospects of climate change.

Increases in population leads to greater food consumption which, in turn, leads to the need for more water for irrigation purposes. As far as the Nile region is concerned, it is reported that the population of Egypt is projected to increase from 65 million in 1998 to 114 million in the year 2050. [12] The picture regarding Ethiopia, one of the upstream states where the Blue Nile originates is even worse. According to the United Nations, the population of Ethiopia is projected to increase from 59 million in 1998 to 169 million in the year 2050. [13] The growth of population is so fast that if it continues at its present rate there will be twice as many Ethiopians in less than fifty years which means per capita water supplies will be reduced significantly by half during the same period. Theoretically, Ethiopia has enough land to feed its growing population obviously under an improved irrigation schemes, but the water supply for such irrigation would necessarily have to come from existing rivers and tributaries including those waters feeding the Blue Nile River.

Another factor exacerbates the problem of scarcity is global meteorological conditions such as climate change which significantly distorts and reduces the rainfall pattern. As the result of such environmental problems, many countries will experience a water shortage of greater proportions than ever before.[14]

As long as global population growth and diminishing water resources supply continue to occur the potential for conflict becomes imminent. Available water for downstream users will decrease and the demand will grow. As a result, the potential for conflict and controversy increases over time.

The dispute scenarios

In the following segment this article will be focused analyzing the hypothetical cases. The scenarios discussed below relate to hypothetical disputes which may actually arise at some point in time between upstream and downstream states.

The Nile basin is selected for analysis because historically there is simmering acrimony between upper and downstream nations over use of the waters of the Nile and other political controversies.[15] Countries of the river basin have less co-operative experience among themselves compared to other river basin nations. The uncertainty on legal right regime that has prevailed for several years becomes one of the reasons for breeding the controversy that may lead, at some point in time, to real conflict scenario. This article explores the relationship that exists between the riparian nations in favor of promoting peaceful resolution of their disputes and promoting the idea of multilateral solutions and peaceful co-existence between nations. Riparian countries can achieve this objective through dialogue and adjudication of their disputes based on accepted principles of International water law.

Scenario 1

Imagine a dispute between Egypt and Ethiopia (downstream and upstream states respectively) Ethiopia is planning to construct 80000 Mw installation capacity of hydroelectric power dam and intends to cultivate 500,000 acres of land by diverting the Beles River which is one of the tributaries of the Blue Nile River. The proposed Dam is intended to generate electricity to meet future national demands. The Ethiopian government regards these projects as historic engineering projects with immediate benefits to supply electrical energy and feed its growing population. Egypt has objected to the proposed projects fearing that the projects will reduce or stop the substantial flow of the Blue Nile and harm the interest of Egypt. Ethiopia responds by saying that it "owns" the waters of the Nile. It also says it has sovereign rights to harness any resource including the waters of the Nile as it deems appropriate. The Ethiopian government launched land clearing work for both projects with immediate effect. Egypt filed a complaint to The International court of Justice requesting a judicial determination of the dispute.

Scenario 2

Imagine also a second plausible dispute scenario between Egypt and most or some of the upstream riparian states over a diversion of the waters of the Nile River by Egypt for delivery or sale to Palestinian authority and Israel. This project involves the construction of reservoirs to accumulate the Nile waters and ship the waters through a canal and pipeline system to Palestine and Israel. Most upstream countries including Ethiopia reacted with alarm to the reports of diversion of the Nile waters. Ethiopia provides Egypt with 86% of its Nile water and is desperately in need of water development projects in its own territory in order to feed its growing population. It considers this project as misuse, a rush to appropriation in excess of its needs and for the benefit of third parties. Upstream riparian countries consider the project as unfair in light of their future national needs. Egypt despite the objections of upstream states went ahead and awarded a contract for a construction company to launch the projects. Upstream countries filed a complaint to The International court of Justice requesting a judicial determination of the dispute.

Analysis of any case normally begins with the identification of relevant issues of that particular case. The whole exercise thereafter moves to the identification of source of the law. A commonly used list of source of International law can be found in article (38) 1 of the statute of the International Court of justice, which provides that the court, whose function is to decide in accordance with International law such disputes as are submitted to it shall apply:

- International convention whether General or particular establishing rules expressly recognized by the contesting states;
- International custom, as evidence of the general practice of law;
- The general principles of law recognized by civilized nations
- Subject to article 59 (of the statute) judicial decisions and teachings of the most qualified principles of various nations as subsidiary means for the determination of rules of law applicable for the dispute in question.

To summarize, the sources of law can be grouped in to three core categories (primary sources) International conventions, customary International law and General principles of law recognized by civilized nations. The court can also use "supplemental Rules "as a secondary source of law. These sources basically include judicial decisions and teachings of qualified publicists which will be considered in the determination of any dispute submitted before the court.[16]

The presentation that follows has four distinct parts: In Part one it starts with hydrological facts about the Nile basin immediately followed by a discussion about existing, treaties and agreements in which the parties are signatories Part two deals with the detailed analysis of sources of international law in the context trans boundary watercourses Part three deals with a discussion of relevant judicial decisions and the contribution of US law of equitable apportionment to the development of trans boundary water law Part four deals with modern trends in state practice and concepts of sovereignty. Part five deals with the determination of the hypothetical cases and finally the article coms to its logical end in Part six with concluding remarks.

Part 1

The Nile Basin and Agreements Relating to the Nile River

a) The Nile Basin

With a length of 6,825 km from its most distant source in Burundi in Central Africa, to the Mediterranean coast of Egypt, the Nile is one of the world's longest rivers. The waters of the Nile are derived from rainfall on the Ethiopian highlands and the equatorial lakes of East and Central Africa; the most of which is Lake Victoria.[17]The river system originates from two distinct geographical zones; one sub-system with the White Nile as its main artery; the other sub-system consists of the Blue Nile and its tributaries, the Atbara and Sobat, that originate from the Ethiopian plateau.[18]

The White Nile leaves Lake Victoria and flows to the north. In Khartoum, and joins the Blue Nile flowing from Ethiopia.

Eleven states share some portion of the Nile basin. They are Egypt, Sudan, South Sudan, Ethiopia, Eritrea, Zaire, Uganda, Kenya, Tanzania, Rwanda, and Burundi.[19] There are enormous differences in terms of contributions of each state in the basin to the flow of the river. Around 86% of the water in the main Nile comes from the Ethiopian Highlands.[20] Egypt is the farthest downstream Riparian state on the Nile and depends on the river for 97% of the water supplies, yet contributes virtually no water to the Nile.[21]

b) Treaties and Agreements

Colonial rulers who occupied the region sought to conclude various agreements to ensure the continued use of the Nile basin.[22] However, invariably these agreements only covered two states and no basin wide agreement existed in the past[23] encompassing all or most of the Riparian States. The only break came in 2010 when five upstream states of the river Nile signed a treaty to seek

more water from the river Nile. The move opposed by Egypt and Sudan at the time. The Nile basin initiative is a regional treaty that seeks to develop the river Nile in a cooperative framework.[24]

There is no bilateral Agreement between Ethiopia and Egypt concerning the utilization of the River Nile.[25] the only exception is the agreement that was signed between Egypt and Ethiopia in July 1993.[26] Ethiopia, which had shown reserved attitude from signing any agreement throughout its history, concluded an agreement with Egypt in 1993 entitled "Framework for General Cooperation".[27] In the preamble of the agreement of 1993, the two countries have underlined their "commitment" to the UN and OAU charters and the "principles of International law" as well as to the Lagos plan of action.[28] Several articles of the agreement emphasize cooperation over the River Nile. Article 1 contains their commitment to the principles of good neighborliness and "the peaceful settlement of disputes".[29] In Article 4, regarding the use of the Nile waters, it provides "the agreement resulting from these negotiations shall be based on the rules and principles of international law."[30] The two countries undertake to "refrain from any activity related to the Nile waters" that may cause "appreciable harm" to the "interests of the party" (Article 5).[31] They recognize the "necessity" of conservation and protection of the Nile waters and oblige themselves to consult and cooperate. As far as projects are concerned, they agreed to cooperate in projects that are mutually advantageous… through comprehensive and integrated development schemes. (Article 6) [32]

Finally the agreement provides that the two countries will "endeavor to work towards a framework for effective cooperation among countries of the Nile basin." (Article 8) [33]

The agreement left the details of the use of the Nile waters to be worked out by experts from both countries at some future time and to date no other documents has come out to fill that void.

Some commentators are of the opinion that the agreement safeguards Egypt's supply of the Nile waters from Ethiopia by giving preeminence to the principle of avoidance of "appreciable harm" that the Egyptians would almost certainly argue in any future judicial tribunal that any reductions of flow in the Blue Nile caused by any "activity "or construction works in Ethiopia would constitute such harm. The concomitant "gain" for Ethiopia is Egyptian cooperation in developing the Blue Nile basin for the countries' mutual benefit.[34]It is abundantly clear that, in light of the current controversy between Ethiopia and Egypt, whatever cooperative beneficial framework that was in place, if any, is damaged and appears nonexistent. In its place is what we have an atmosphere of complete mistrust and mutual suspicion.

In the absence of any official pronouncement either from Egypt or Ethiopia it amounts to sheer speculation to comment further on the outcome of this accord without getting enlightening and evidential information as to what happened since the signing of this accord. Moreover, this agreement was never ratified by either Ethiopia or Egypt and serves merely as a memorandum of understanding. Some experts characterize the document as a mere guide and a framework document for future collaboration and secondly, additional document and evidence, if any, is lacking that may shed light explaining what kind of communication and exchanges were made following the signing of the accord towards either to its implementation or a contrary evidence suggesting lack of progress in this regard.

Part 2

Sources of International law and legal issues in the context of trans boundary watercourses.

The statute of the international court of Justice concisely enumerates sources of International law.[35] these sources include" International conventions, weather general or particular establishing rules expressly recognized by… states" "international custom, as evidence of general practice accepted as law" and "the general principles of law recognized by civilized nations.". It is therefore, useful and relevant to begin the review examining the specifics existing international water law.

1. International conventions

More than two decades ago, recognizing that many nations share international watercourses, members of the international community felt an agreement was needed to codify the rules regulating international watercourses and minimize environmental damage and to allocate water resources equitably. In 1970, Finland proposed the inclusion of an item in the agenda of the twenty-fifth session of the United Nations General Assembly entitled, "Progressive Development and Codification" of the Rules of international water relating to trans-boundary powers.[36]

The General Assembly recommended that the International Law Commission (ILC) take up the study on the law of non-navigational uses international watercourses.[37]

The contents in the law of non-navigational uses of international watercourses were adopted by the United Nations General Assembly on May 21, 1997. [38]

The convention is dived into seven parts containing thirty-seven articles including an introduction, general principles, planned measures, protection, preservation and management, harmful conditions and emergency situations, miscellaneous provisions and final clauses and an annex of 14 articles setting forth procedures to be used in the event the parties to a dispute agree to submit to arbitration. The instrument was adopted by a vote of 104 states in favor, 3 against and 27 abstentions.[39] The text was opened for signature from May 23, 1997 to May 20, 2000. Egypt and Ethiopia are among the 27 states that abstained from voting. [40]

2. International Custom

International custom becomes international law when it meets the requirement of opinio juris, when all states feel legally bound to obey that practice.[41]Broad adherence to custom is not enough. As there is a complete lack of any generally recognized convection in today's environment, it will be difficult to find a widely followed practice, let alone opinio juris.

Custom springs from the practice of states. Generally two tests must be satisfied before conduct can evolve into customary rule; a single act almost never results in a customary law.[42] Second, the recurrence must develop into an expectation that the conduct will be repeated in similar situations, as a matter or right and obligation to a given deference by other states.[43] Therefore, the response of nations to a given practice for instance a claim says to "prior appropriation right" may determine whether that practice evolved to a stage of customary rule.[44]

In the past, Riparian states have adopted positions that favored their particular interests. Upstream states supported rules that gave them control of the waters that originates in their territory in line with the doctrine of absolute territorial sovereignty.[45] In contrast, downstream states favored the doctrines of prior appropriation (vested rights) and absolute territorial integrity and embraced an approach that would provide them unaltered flow (in terms of quality and quantity) of waters that entered their territory.[46] Given these irreconcilable positions It becomes evident there will not be a consensuses (repetitive conduct) to give rise to a customary rule of international law. Herbert Smitt has surveyed state practice and the opinions of jurists in an attempt to identify the rules that govern the uses of international waters. The result of this survey demonstrates the complexity of the issues involved: competing claims of sovereignty over a resource that transcends political boundaries, the absence of clear and enforceable rules for the development and management of life-sustaining and valuable economic resources.[47]There is no consensus or customary law on trans-boundary environmental harm. Trans boundary environmental harm in the context of water law covers issues such as air pollution, pollution of the trans boundary watercourse and trans-shipment or dumping of waste to pollute a river. The regime of pollution of trans Boundary Rivers is a well-developed area where there is state practice.

3. General Principles of International Law

General principles of law operate to fill the gap left in international law after conventions and customs have been considered.[48] given the general absence of an international convention and customary international law regulating trans-boundary watercourses, general principles would seem to be the remaining point of reference to find the applicable rules. These are general principles of international water law that could serve to limit a state's right to appropriate trans-boundary watercourses. The International Law Commission identifies the duties of Riparian states on international watercourses as encompassing the general principles of, "equitable and reasonable utilization," an obligation "not to cause harm," and a "duty to protect the environment."[49]

General principles emanating from national laws are second category of sources of international law. However, there are disagreements among scholars. For the purpose of the present analysis, the principles will only be considered insofar as these principles have acquired wider recognition by Riparian states.[50]

International water law principles that had received widespread approval are the principles of reasonable and equitable utilization, the obligation not to cause significant harm to another state, and the duty to protect the environment. Let us explore each of these principles vis-à-vis the current instrument and conventions of international waterlaw.

a) Reasonable and Equitable Utilization

The standard of reasonable and equitable utilization under international water law is still a developing concept. The Helsinki Rules [51] outline a factor analysis and tests which would take into account the interests of affected states and the relative importance to each state. The recently adopted United Nations convention on trans-boundary watercourses under Article 6 uses the new terminology, "Equitable and reasonable utilization," instead of the words "equitable use" employed in the Helsinki rules.[52] It contains a non-exhaustive list of factors to be taken into account by a state to ensure that its utilization of an international watercourse is equitable and reasonable. [53]

What amounts to an "equitable" share of the waters of an international water basin often is not clear. Some have argued that "equitable" sharing must mean equal sharing. The merest perusal of the standards for equitable utilization demonstrates that while equal access is guaranteed, equal shares are not. The standards are found in Article 6 (1) of the UN Convention, which contains a long list of relevant factors:

- The geographic, hydrographic, hydrologic, climatic, ecological, and other factors of a natural character;
- The social and economic needs of the watercourse nations concerned;
- The effects of the use or uses of the watercourse in one watercourse nation on other watercourse nations;
- The existing and potential uses of the watercourse;
- The conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect; and
- The availability of alternatives, or corresponding value, to a particular planned or existing use.

The weight to be given to each factor is going to create huge controversies among riparian states because it might lead to undesirable results in allocation of water share. One expert on this subject succinctly questions the possibility of yet another potential problem should "non-lawyers, particularly engineers and Hydrologists, sometimes see in this list of factors a poorly stated equation. By this view, if one simply fills in numerical values for each factor, one could somehow calculate each watercourse nations share of water without reference to political or other non-quantitative variables" he warns judges must exercise their discretion in altering formulas and

adding other parameters to reach at fair and equitable distribution or allocation of the shared water resource among riparian countries. [54] The specific interests and needs of very poor countries like Ethiopia will seriously be affected and the allocation of water will be smaller if non quantitative variables are excluded. In the humble opinion of this writer countries which contribute a larger share of water to the river basin from their territories and which are considered economically very poor by worldwide standards proportionally should get higher percentage share from shared watercourse (as in the case of the Nile) than those who don't. Moreover, the reference in the factor list of the Helsinki rules in article 50 (1) to "The availability of alternatives, or corresponding value, to a particular planned or existing use" factor penalizes a poor countries like Ethiopia. Egypt will argue that Ethiopia has several other alternative river basins and her share should be proportionally lower as compared to those countries like Egypt with no other source of water. The issue of allocation on the basis of the Helsinki factor list is another time bomb or flash point for the future conflict and misunderstandings on water use and allocation unless there is a clear and transparent parameter other than quantitative variables criterion which takes into account the specific needs and conditions of poor nations.

b) Obligation not to cause significant Harm

A state is responsible, under International law, for activities within its jurisdiction or control that cause significant injury in or to the territory of another. [55]For instance, in the Trail Smelter case the United States sued Canada for air pollution injury relating from a Canadian Smelting operation. The arbitral held that "no state has the right to use or permit the use of its territory in such a manner as to cause injury by fumes in or the territory of another or properties or person therein when the cause is of serious consequence and the injury is established by clear and convincing evidence. [56]Thu, states have responsibility towards other states for damages which is a limitation on the ability of state to exploit its own resources.

In Lake Lanoux, a case involving France and Spain, it was noted that states have an affirmative obligation to prevent trans-boundary harm. [57]The above cases illustrate that a state is liable for significant injury caused to the environment, persons, or property outside of its jurisdiction and control.

The obligation not to cause significant harm was one of the controversial provisions during the negotiations leading to the adopted of the new convention on trans-boundary watercourses.[58] the working group finally adopted Article7 by a vote of 38 to 4 with 22 abstentions 58 129 states did not vote on this article. [59] The following observation can be made from voting pattern: The duty not to cause significant harm being the key provision of the convention implies that states had

difficulty in reaching complete compromise in the formulation of the article. Such a wide degree of reservation indicates, at best, a lack of unanimity in the formulation of that particular article. It is worthwhile to note that the two most important states of the Nile basin, Ethiopia and Egypt are among the 22 states that abstained during the voting process [60]

Paragraph 2 Article 7 was the focal point of the contention in the working group. The article as adopted provides: "where significant harm nevertheless is caused to another watercourse state, the state whose use causes such harm shall in the absence of the agreement to such use, take all appropriate measure, having due regard for the provisions of Articles 5 and 6 in consultation with the affected states to eliminate or mitigate such harm and where appropriate, to discuss the question of compensation. [61]

The new formulation contains mitigating clauses and phrases, for instance, having due regard for the provisions of article 5 and 6 "For example the provisions requiring equitable utilization- "in consultation with the affected state" to eliminate or "mitigate" the harm and to "discuss the question of compensation" where appropriate.[62] The no-harm rule does not clearly enjoy pre-eminence is clear when one looks to article 15 of the convention. [63] which provide that in the event of any conflict between uses of international watercourses, it will be resolved with reference to Article 5 and 7. Thus, if state A's hydroelectric use conflicts with state B's agricultural use, the conflict is not to be resolved solely by applying no-harm rules of Article 7 but rather, through reference to the "package" of articles setting forth the principles of both equitable utilization and harm. [64]

c) Obligation to Protect the Environment

Protection of the environment is an important objective in international law. Even before the adoption of the new "environmental provisions" of the UN conventions on trans-boundary watercourses, the responsibility of the states to the environment has been an accepted principle of international law. The Vienna Convention for the protection of the ozone layer and the 1972 Stockholm Declaration on the protection of the environment are recent examples. [65] The 1982 Montreal Rules specifically provides that the right to equitable utilization on international drainage basins include the duty to protect new and increased water pollution that causes injury to the finding of another state and to take preventive measures to avoid said pollution. [66]

The new UN Convention endorsed similar principles under Articles 21-23. In particular, Article 21 provides. [67]

> "Watercourse states shall, individually and where appropriate jointly, prevent, reduce, and control the pollution of an international watercourse that may cause significant harm to other watercourse states or to their environment, including harm to human health or safety, to use of their waters for any beneficial purpose or to the living resources of the watercourse. Watercourse states shall take steps to harmonize their policies in this connection."

Therefore, by adopting these provisions almost unanimously, states have elevated their duty to protect the environment to the level of general principles of international law.

Part 3

Judicial Decisions and the U.S. Law Equitable Apportionment

a) Relevant Judicial Decisions

We have mentioned above the trial *Smelter* case in connection with the obligations of states not to cause harm with respect to injury from pollution. There are other cases that should equally be mentioned in the context of water disputes. The most important ones relate to the disputes over utilization of water which crosses inter-state boundaries in the federal structure. In federal states the component units have gone to the courts over disputes concerning their trans-boundary waters. In Germany, the Lander Baden challenged Wurttemberg diversion of the Danube, in the Donaivershung case. The German court relied upon the "general principles of international law concerning the flow of international rivers" in deciding that neither Baden nor Wurttemberg was entitled to artificially alter the flow of the Danube to their respective advantage. According to the court, "the interests of the states in question must be weighed in an equitable manner against on another; one must consider not only the absolute injury caused to the neighboring state, but also in relation to the advantage gained by one to the injury caused by the other. [68]

There are a series of cases in the United States. In the U.S. there are different regimes that govern water use; in the western states the doctrine of prior appropriation prevails while in the east, the doctrine of the Riparian rights applies. The federal courts, in dealing with inter-state water disputes determined that the rule of equitable apportionment is governing rule. [69]

The decision of municipal courts serves as a source of International law under article 38(1) of the statute of the International Court of Justice. Decisions of municipal courts as discussed above are "Judicial decisions" within the meaning of the Statute and are also evidence of state practice. International scholars and Arbitration tribunals have used judicial decisions in a number of cases.

b) Equitable Apportionment

The U.S. law of equitable apportionment doctrine made significant contribution to the development of international law. The core idea of equitable apportionment entitles each state to "a fair" (not necessarily equal) share of common resources because each state has an equal right to enjoy the available resource. Some commentators disagree on the way the application of equitable apportionment theory would sanction prior appropriation by Riparian states and could favor more prior users than Riparian's which did not yet make any use of the water due to different circumstances. [70]

Today, international water law promotes multiple use and development by recognizing that each Riparian state has an equal right to use trans-boundary waters subject to intermediate sharing rules. The law assumes that all Riparian states have an equal right to common waters and thus, an equal right to develop the resource in their national interest. Modern international law rejects the idea that upper Riparian states have an absolute right, by virtue of their territorial sovereignty, to water that originates in their boundaries. It equally rejects the idea that lower Riparian states are entitled to the natural flow of the waters.

Part 4

The Shift From Absolute Sovereignty to Sharing Principles

Professor H.A. Smith contends that the trend of state practice is towards agreement to share basin waters equitably but the trend has yet to become a "positive rule which the consents of states has incorporated in to the accepted body of international law. [71]

An examination of customary international law indicates "states have a duty not to interfere with the flow of a river to the detriment of other Riparian states… the maxim [so use your own property as not to injure that of another] is applicable to the relations between states no less than to those individuals, it underlines the law of torts in English law… it is in the general principles of law recognized by civilized states which the world court is bound to apply by virtue of Article 38 of the statue".. [72]

The General Principle of International Law on Permanent Sovereignty of States Over Their Natural Resources

In a commentary on the new convention adopted by the UN one writer has alluded to the apparent conflict between the general principle of international law on permanent sovereignty of states over their natural resources, and the specific principle of an equitable utilization of states of intentional watercourses. The writer argues that the permanent sovereignty of states over their natural resources exists independent of the convention on the non-navigational uses of international watercourses. Thus, pointing out an apparent contradiction between these two principles of international law. [73]

International water law is undergoing a shift from the doctrine of exclusive sovereignty to an emerging principle of shared sovereignty. Upstream states naturally assert the right to capture the natural flow of a stream to the detriment of downstream states. Downstream states in turn assert servitude over upstream states to the entire natural flow of the river at the international boundary. International law has rejected both of these extreme claims of exclusive sovereignty. Modern international water law starts from the assumption that all states whose territories contribute to an international drainage basin have the right to an equitable share of the waters of the basin. The doctrine of equitable utilization or equitable participation is evolving as a rule of customary international law.[74]

Part 5

Brief Analysis of the Hypothetical Problems

Scenario 1

In Connection with the hypothetical problem, the first question that should be asked is whether the Ethiopian government can lawfully be prevented by any Riparian State from undertaking a project in the Blue Nile or on a tributary River which originates in its territory? In other words, can a lower Riparian State such as Egypt, relying on the basis of existing international law, succeed to prevent or stop the construction of a planned hydroelectric dam or an irrigation project in an upper Riparian state?

Egypt's objection against the construction of a dam or the irrigation project is not based on any specific bilateral treaty signed between Egypt and Ethiopia where there are defined obligations. Egypt's claim from all its official pronouncements comes from the colonial treaties that were signed in 1929 and 1959. The legal theory on which Egypt relies is "Historical Right" and "prior appropriation" doctrine which has to do with idea that state first to develop deserves more water from the shared resource. This argument advances unfair formula against the interests of upstream states that are poor and less developed nations. The ground work for asserting these rights began during the colonial era when Egypt asserted a principle that no upper basin state (including Ethiopia) had a right to interfere with the flow of the Nile River to the detriment of Egypt. The

outcome of this act is the Nile agreement of 1929 in which Sudan was allotted 4 billion cubic meters of water and Egypt reserved for itself 48billion cubic meters of water per year. Another legal right that came out of these colonial era accords was Egypt asserted the right to undertake Nile River related projects without the consent of upper riparian countries. Again, in1959 Egypt and Sudan concluded an agreement to share the waters of the Nile river Egypt taking 55.5 billion cubic meters and Sudan taking18.5 billion per year. Both of the colonial agreements ignored the legal rights to the waters of the Nile of all remaining riparian countries at the time. Ethiopia contributes 80 percent of the total Nile flow neither the 1929 nor the 1959 allot any share of water to Ethiopia. On the contrary, those agreements reserve the right to monitor the water flow in the upstream countries to Egypt and give a veto power to prevent the construction of projects that would affect their interests. As far as these treaties are concerned, since Ethiopia is not a party to the agreement they have no binding effect on Ethiopia they are invalid. Most of the upper riparian countries were not even independent states at the time and those agreements which do not take into account the rights of these states will have no application whatsoever against these states. Having determined that there is no applicable treaty between Ethiopia and Egypt, what is the legal basis for Egypt to assert right over the waters of the Nile? When the above argument fails, downstream countries such as Egypt present other arguments to justify their behavior. The so-called "absolute integrity theory" is one of them. Typically under this theory, upstream states like Egypt claim that upper riparian nations cannot do anything that affect the quality or the quantity of water that flows in the watercourse. The implication of this theory is that this limitation will prevent upper riparian states from constructing a dam unless they have the permission or consent of downstream states. In response to this theory, upstream states asserted the theory of "absolute territorial sovereignty" which means that upstream states such as Ethiopia have the right to do whatever they chose on the water that originates from their territories. A claim based on either of these extreme theories does not give rise to any legitimate right over the use or utilization of a shared watercourse. These theories are for the most part are used during process negotiations in bilateral settings or to indicate their positions or their bargaining power. Existing International law is not predicated on these theories and have no persuasion value in judicial hearings. Another remaining argument frequently mentioned by Egypt is the No-harm rule. This concept is an accepted norm under international trans-boundary water law specifically under the convention adopted by the United Nations. Article 7 of the convention which requires watercourse nations to take all appropriate measures to prevent the causing of significant harm to other watercourse nations. When significant harm is caused to another watercourse nation, the nation whose use causes such harm must in the absence of an Agreement is required to eliminate or mitigate the harm and where appropriate must discuss the issue of compensation with the nation that was harmed by such conduct. Under existing international water law (a) What constitutes as "harm" or "injury" is not precisely defined.(b)there is no threshold or standard threshold that triggers international law(c)benefits and risks are not defined and there is no process to analyze benefits and risks. Existing International law has difficulty to define what constitutes harm or injury. [75]

Ethiopia will not be in violation of any Existing International trans boundary water law, if it decides to construct a hydroelectric power dam or to use the waters of the Nile tributaries originating within its territory to irrigate its lands. In fact, by doing that act Ethiopia is in fact exercising its sovereign rights to harness natural resources under its territory which is a fundamental principle recognized under international law. However, in accordance with generally recognized principles of international law the construction of any project must not have an adverse impact on lower riparian states [75] the term "harm" or " injury" as indicated above does not have a clear and specific definition and threshold. The issue of reduction of quantity or quality of the water flow or environmental issues might appear legitimate grounds for raising objections based on the principle of "appreciable harm" doctrine. [76] It does not necessarily follow that the construction of a

dam has a negative impact on lower Riparian states. It might also, under specific situations, turn out to be beneficial instead of becoming harmful. In other words, depending on the specific circumstances including the Hydrology of the basin, the construction of a dam may be beneficial by playing a positive role by preventing periodic flooding as in the case of the Blue Nile waters. [77]

Generally, a dam may have anti-flood and beneficial effect on downstream states or may bring about absolutely no harm whatsoever even absent any flood prevention objective. The argument by lower Riparian states which assumes that every construction of power generation dam necessarily have detrimental effect on the well-being of lower Riparian states is not correct. Each and every specific circumstance including the hydrology of the river basin requires careful examination and scrutiny before jumping to any generalization or conclusion.

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Apart from the above, Egypt might also raise other objections against the idea of constructing a huge dam on the river Nile. One possible argument would be to say Ethiopia has other alternatives to construct a) a dam outside of the Nile River basin system; b) a series of smaller dams would have been sufficient to meet the energy needs of the country rather than a huge dam which would significantly reduce the flow of the Nile. Yet another possible objection that may be raised by Egypt will be the construction of dams on the Nile waters may generally reduce sedimentation (silt) significantly when the planned construction becomes fully operational. [78] These categories of objections are inherently technical and require evidential facts and are basically refutable.

Regardless of these objections, existing international water law as it stands does not prevent Ethiopia's right to utilize the waters of the Nile. State liability on trans boundary shared watercourse are mostly specified in treaties or in other international instruments where riparian nations are signatories. Where there are no treaties judges, in accordance with the statutes of the international justice, apply the stipulations provided in conventions and generally recognized principles of law or state practice under customary International Law. Customary international law considers the utilization of a watercourse as a legitimate exercise of sovereignty. The only limitation that is imposed on that right relates when the exploitation of the natural resource causes harm to humans or property in another state. International law, however, provides that states should make beneficial use of their water resources. It seems clear that international law would prevent any state only if it is engaged in the use of water for non-beneficial or otherwise (harmful) purposes and deliberately inflicts harm or injury on the wellbeing of humans or properties of another state. The precise extent of those limitations that may be imposed is subject to local variations as the result of bilateral or multilateral regional practice. There are certain uses that are clearly and traditionally being considered as beneficial uses such as use of water for domestic, agricultural or industrial purposes. [79] International law does not explicitly provide whether the use of water for generation of electrical energy or recreation under competitive conditions is a permissible or beneficial use. In the absence of any clear guidance or prohibition a state based on existing International water law can use water for generation of electrical energy or recreational purposes.

Scenario 2

One can approach Scenario 2 from two perspectives; assuming that Egypt is going to utilize the waters of the Nile for the benefit of its own people (domestic, agricultural, industrial uses) the same standard will be applied and those activities might well be considered as beneficial uses as more fully explained above. However, the use of water other than for the benefit of people outside of Riparian states will be in violation of current International water law. Diversion of water to third

states (non-Riparian states) would mean a misuse of water utilization and consequently non-beneficial use because it is not put to the direct benefit of the population of a Riparian state. Moreover, such use would, in all probability, significantly reduce the future allocation and legitimate entitlement of upper Riparian states. In other words the diversion of the River Nile under these circumstances would deny the upper Riparian States their fair share of the common water resources and ultimately becomes inequitable. Such a unilateral approach by a lower Riparian state will constitute a clear violation of international water law. In deciding this case, one has to balance carefully the legitimate right of Egypt to use the waters of the Nile to the benefit of its own people, against the duty to share the waters resources with other Riparian states. A court or an arbitration tribunal called upon to decide these types of conflicts must strike the balance, between exclusive claims of sovereignty and the legitimate rights of other riparian states to arrive at an equitable and fair formula.

Part 6
Concluding Remarks

A resolution of disputes relating to trans-boundary watercourses is not a simple task. The task becomes more difficult and complicated because each Riparian state oftentimes uses conflicting and opposing theories and doctrines of international water law to defend its national interests. This has been witnessed during the dispute between Hungary and the Slovak Republic over the Danube River controversy even though it involves merely an interpretation of a specific treaty.[80] In their argument before the ICJ each side took opposing positions relying on existing principles of Riparian right doctrines defending their narrow national interests. The issues that were raised then are similar to the hypothetical cases presented in this article namely: what are the rights and obligations of Riparian states with respect to the use, development, and management of shared watercourses of river basin? [81] And what formula or parameter satisfies the allocation of water from a shared watercourse?

An attempt is underway to define the rights and obligations of Riparian states through progressive codification of international law and towards encouraging Riparian states to seek a forum of cooperation to utilize shared water resources, such as trans-boundary Rivers, lakes, aquifers, etc. The exercise by the UN in this respect is mainly directed to create a standard to resolve future disputes arising over the use and management of these shared water resources.

Customary international water law as it stands today plays [only] a very limited role in resolving disputes and must be augmented by new concepts and principles state and regional practice in order to play a more meaningful role in the future. One expert on water law has said [82] "modern international water law starts from the assumption that all states whose territories contribute to an international drainage basin have the right to an equitable utilization or equitable participation." [83] In other words, the sharing vision still remains one of the cornerstones of international water law. Part 2 of the convention on the law of non-navigational uses of international watercourses which is adopted by the General Assembly of the United Nations on May21 1997 reiterates the same principles. Article 5 emphasizes the point that states must use shared water courses in an "equitable and reasonable manner." [84] Thus the adoption of "equitable principles" remains the only viable option to prevent conflicts, to restore peace and security and to enhance cooperation among riparian states for the management and utilization of shared watercourses for common good.

Endnotes

[1] L.L.B., Addis Ababa University, LLM University of New Hampshire law school Concord New Hampshire, currently residing in USA.

[2] the term "watercourse" in the instrument of the new UN convention on the law of non-navigational uses of international watercourses is defined very broadly. Article 2 provides"…a 'system' of surface waters constituting by virtue of their physical relationship a unitary whole and normally flowing into the common terminus" "Confined ground water" which has no relationship with the surface water is excluded. See the ILC report for the forty-six session UN/DOC/A49/10/1004. See also, Stephen C. McCaffrey the International Commission adopts draft articles on international watercourse, 89 AJL 395(1995). See also Water, Peace and the Middle East by J.A. Allen P. 151, "…international water law has evolved mainly concerning surface water issues but according to an early paper by Caponera and Alheuitiere (1978) the legal principles and practice which have evolved for questions of surface water disputes apply by extra position to questions of ground water. Since then the status of ground water law has become well established in key documents of the International Law Commission (Barberis, 1991; Haston and Uton, 1989)."

[3] Today nearly all major rivers of the world are contested by Riparian states; the River Nile (Ethiopia, Sudan, Egypt);The Tigris(Turkey, Syria, Iraq); the river Jordan (Israel, Syria, Lebanon, Jordan, the Palestinian Authority); the Indus(India, Pakistan); The Ganges Brhamaputhra, (India, Bangladesh)conflicts over the issue of the Jordan and Euphrates rivers has resulted in armed clashes, the use of ground water in the west banks has provoked hostility between the Israeli's and Palestinian inhabitants. See Kevin P. Scanter Note: the international Commission first then draft articles on the law of non-navigational uses of international watercourses. Do they adequately address all the major uses of water usage in the Middle East? 19 Fordham Int'I L.J. June 1992(2195).

[4] Now a little steam, later may be a water war, N.Y. Times February 7, 1990 § 1 at 35 .Col. 3.

[5] Joyce Starr, Nations must join together for water conservation and sharing projects to promote world peace, the Christian Science Monitor, may 27 1992 at 12.

[6] International Herald Tribune, 22 February 1985 "Egypt is African and its principal problem is water" See also Deborah Pugh, Egypt: Next war could be over water quotas from the Nile, The Guardian October 12, 1990. Kingsby, Patrick, "Ethiopia reject Egypt problem over the Nile Dam" The Guardian. 11 June 2013

[8] "although 97% of the world's surfaces covered by water, 94% of this water is contained in the world's oceans, and therefore is of little use for drinking, agricultural or industrial purposes. Of the remaining 3% of fresh water, over 2% is locked away in polar ice caps, glaciers or deep underground aquifers and therefore inaccessible. It is therefore estimated that only 0.36% of the world's water contained in rivers, lakes and swamps is sufficiently accessible to be considered as a renewable fresh water resource. George William Sherk, Patricia Wouters and Samantha Rochard, The Challenge of the Next Millennium. P.1.

[9] Id. At 3

[10] United Nations population fund announcement. New York, 14,June 2013 . See athttp://www.21g.org/un6billion.html.p.1. http://www.un.org/en/development/desa/population/

[11] George William Sherk, Patricia Wouters and Samantha Rochard Supra note 8 at 3.

[12] United Nations population division Department of Economic Affairs projections. See http://www.popin.org/pop1998/2.htm. see also George William Sherk, Patricia Wouters and Samantha Rochard. Note 8 at 4.

[13] Id.

[14] George WilliamSherk, Patricia Wouters and Samantha Rochard Supra Note 8 at p. 4

[15] the eleven upstream states are: Ethiopia, Eritrea, Tanzania, Rwanda, Burundi, Kenya, Uganda, Zaire (Democratic of Congo) the Sudan and South Sudan.

16 the Statutes of the International court of Justice, June 1945 art 38(1)

[17] Shapland, Greg. Rivers of Discord International Water Disputes in the Middle East. Newyork, st .martins Press (1997) P.57.

[18] Bonaya A. Godana. Africa's Shared Water Resources. (1985) p. 78.

[19] Greg Shapland Supra Note 17 at 52

[20] Id at 60

[21] Id.

[22] See generally Greg Shapland Supra at note 17 Bonaya A. Godana, Africa's shared water resources for a comprehensive treatment of treaties. The three principal colonial powers, Britain, Italy and later France played some part in concluding treaties on behalf of their former colonial territories or a strategy of sphere of influence. In 1891 Britain and Italy negotiated a protocol to demarcate their spheres of influence Art. 3 contain a provision relating to utilization of the Nile. In 1902 (Ethiopia and Britain acting for Egypt and Sudan) signed the Addis Ababa agreement. In 1929 another agreement was signed relating to the ownes falls dam between England acting for Uganda and Egypt. Most of Nile Riparian states after gaining their independence rejected these agreements. Ethiopia has also rejected the 1902 agreement as invalid for separate reasons. The only recent agreement that exits that concerns the Nile waters is the 1959 agreement between Egypt and Sudan which allocates the entire flow between the two countries. The greatest shortcoming of this particular treaty is that it was signed between two States Egypt and the Sudan only and excludes the interests of the Riparian States."

[23]Id. at 74

[24]Id

[25] Id

[26]Id. "Framework for general co-operation" signed between the Arab Republic of Egypt and Ethiopia at Cairo July 1, 1993. See also encyclopedia of public International Law. (Max –plank institute publication Vol. 1. P. 595 (1994)

[27]Id.

[28]Id.

[29]Id.

[30]Id.

[31]Id.

[32]Id.

[33]Id.

[34] Greg Shapland Supra note 17 at p. 81

[34] The statute of the international court of Justice, June 26, 1945 Art 3. See also restatement (Third) of the foreign relations of the United States §102 (1987)

[35]Note verbal dated 24, April 1970 from Permanent Mission of Finland. See UN doc GAOR 25th Sess. A/299(1970)

[36]Id.

[37]For the convention see http://www.un.org/law/wate.htm including the voting record of the General Assembly. See also 51/229 (May 21, 1997) 36 ILM 700.

[38]Id.

[39]Id.

[40]Restatment (third) of the foreign relation law of the United States §102(2) 1987

[41]Restatment (third) of the foreign relations, Supranote 38 at §102

[42]Id.

[43]Id.

[44]. The principle of absolute territorial sovereignty (also known as the Harmon doctrine) sanctions a state's use of water contained within its territory. Under this theory a state can use the rivers on its territory without any obligation or responsibility towards riparian neighbors. This theory is favored by upstream states. Downstream riparian states prefers a theory of absolute integrity of the river theory. Under this theory upper riparian states cannot in their use of an internationally shared river, harm or affect in anyway the flow or quality of shared water. Like Harmon Doctrine the theory of absolute integrity of river is found to be inequitable in its award of rights. The absolute territorial integrity is oftentimes tied up to past appropriations and this maintains the status quo. For detailed treatment of the theories see not 47 below.

[45]Id.

[46]H. A Smith, Economic Uses of International Rivers. P. 12-150 (1933)

[47]Restatement (Third) of the foreign relations, Supra not 38, §102(1)(c)

[48]Report of the international law commission on the work of the forty-sixth session UN.DOCA48/10(1994)

[49]Most of the doctrines of water use are developed from the exercise of sovereignty. The principal theories are:

a) absolute territorial sovereignty doctrine: under this theory an upstream state can freely utilize a river flow within its boundaries without considering the effect of its actions on a downstream state. This doctrine is discredited today.

b) Principle of prior appropriation: this principle does not favor the upstream or downstream states but the State that puts the water use first theory protection those uses which existed prior in time. Each state along a watercourse may be able to establish prior rights to use a certain amount of water depending on the date upon which that water use began. The principle gives rise to inequitable result where one state lags behind another in the economic or technical ability to develop its river use. The doctrine has received little international support.

c) absolute territorial integrity theory: this theory states that a riparian state may not develop a portion of shared river course if it will cause harm to another riparian state. Like the Harmon Doctrine and prior appropriation theory this theory has received little support. It is considered as inequitable placing a burden on upper riparian states without exacting similar duty on a lower riparian. As a consequence, these theories there emerged conciliation, the doctrine of restricted sovereignty.

d) Restricted sovereignty. This is an equitable theory. Under this theory each state recognizes the right of all riparian states to use some water from a common source and the obligation to manage so as not to interfere with similar use of

riparian states. This theory became a dominant trend and constitutes a customary rule of international law. It gave rise to the principle of equitable utilization and no appreciable harm as codified in the new UN Conversation on the law of non-navigational uses of international watercourses. See generally Joseph W. Delapenna, Treaties as instruments for managing international shared water resources restricted resources v community properly 26 caw W. red J. Int'l 627, 30-31 (1994) and Bonaya A. Godana, Africa's shared water resources 38-39 (1985).

[50] Dan Tarlock. Law of Water Rights and Resources, P. 11-5

[51]Stephane C. McAffrey and Mpari Singala Current Development on the United Nations Conventions on International Watercourses AMJIL vol 92. P. 97 (1995)

[52]Id. Art. 6(1) of the water course convention contains non-exhaustive list of factors to be used by states to determine equitable and reasonable utilization on the watercourse within their respective territories. The factors are: a) geographic, hydrographical, hydrological, climatic, ecological and other factors of a natural character; b) the social and economic needs of the watercourse states concerned; c) the population dependent on the watercourse in each watercourse state; and d) the effect of the use or uses of the watercourses in one watercourse states on the watercourse states; (e) existing and potential uses of watercourses; (f) conservation, protection, development and economy of the use of water resources of the watercourse and costs and measures taken to that effect; and (g) the availability of alternatives of comparable value, to a particular existing use. The weight to be given to each factor is to be determined by its importance in comparison with the other relevant factors. In determining what is reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole."also available at : http://untreaty.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf

[53] see article by Dellapenna, Joseph, w. "Law of International waters" water science issues 2003 available at : http://www.encyclopedia.com/doc/1G2-3409400193.html

[54] Trial Smelter case (U.S. v. Canada) 3 R. int'lArbl Awards 905, 1963 (194)

[55]Id. 1965

[56]Lake Lanoux Arbitration (France v. Spain) I.L. R 101 (1957)

[57]Stephen C. McCaffrey and Mpanzi Singala Supra note 51 and George William Sherk, Patricia Wouters and Samantha Rochard. Supra note 7.P. 10.

[58]Stephen C. McCaffrey and Mpanzi Singala Supra note 51. See the voting record at http://www.dundee.ac.uk/emph/html/article-3-10htm

[59]Stephen C. McCaffrey and Mpanzi Singala Supra note 51 and George William Sherk, Patricia Wouters and Samantha Rochard. Supra note 8 at 10-16.

[60]See GA Res 51/229 (May 29, 1997), ILM 700 (1997) http://www.un.org/law/water/htm

[61]Stephen C. McCaffrey and Mpanzi Singala Supra note 49

62Id.

63Id.

64Dan Tralock Supra note 50. See also Vienna Conversation for the protection of the Ozone Layer, 1985. 28 ILM. 135at Art. 2.

65Montreal rules on water pollution in international drainage basin; quoted in Dan Tarlock Law of water rights and resources, p. 11-04

66GA Res 51/229 (May 21, 1997), 36 ILM. 70 (1997) http://www.un.org/law/water/htm

67Patricia Wouters forward to Charles Bourne "International Water Law Selected Writings." P. 6. See also http://www.dundee.ac.uk/emph/html/article-3-10htm

68Dan Tralock Supra note 50

69Colorado v. New Mexico, 459 US 176 183 (1982), Nebraska v. Wyoming. Equitable appointment is a doctrine applied in the United States to resolve interstate water disputes. A number off factors are considered before the equitable apportionment principle is applied in these cases.

70H.A Smith,Econimic Uses of International Rivers, pp.12 (1933)

71Oppenheim, International Law (H. Lautherpacht. 8th Ed) vol 1, p. 347 (1958)

72Fisha Yimer, an assessment the convention of the law of non-navigational uses of international water ways. Ethioscope. Vol. 3, no 2, 1997, p 19.

73Dan Tralock, International Water law and the Protection of Rivers system Ecosystem integrity. BYO journal of public law (1996) p. 191-192

74U.N. convention on non-navigational uses of international watercourses Art 27 which provided measures to be taken by watercourse states to prevent states to and mitigate "harmful" conditions.

75 Richard Kyle Paisley and Timothy L McDaniel " International water law, acceptable pollution risk and the Tateshenshasi river." November 1992 http://lawlibrary.unm.edu/nrj/volumes/35/1/05_paisley_tatshenshini.pdf

76George William Sherk, Particia Wouters and Samantha Rochard wrote see Supra note 8-at p. 14. "…a case in point would be Ethiopia's situation on the Blue Nile where Egypt could effectively preclude the development of new uses by Ethiopian on the grounds that these would cause significant harm to Egypt's existing uses. The principle of equitable uses could require uses would require that all relevant factors be considered in assessment of a reasonable and equitable uses in each particular case. The no significant harm rule acts as a veto on future development and tends to protect the status quo (i.e., prior appropriation of the state first to develop). This can result in an inequity to the often less developed state."

77The Blue Nile has serious flooding problems during rainy season in Ethiopia. See Boyana A. Godana, Africa's Shared Watercourses, Supra note 18 at p. 59-60

78Greg Shapland supra note 17 at 69. "The high silt content of the Blue Nile has necessitated the installation of special filters in the Khartoum water systems."

79Malcolm N. Shaw. International Law. 61 (1991) "Customary international law consists of state practices that materializes into legal obligation. See also Frodham Int'l J. 2180 (1991), Kenn P. Scalm, note: the international law commissions first ten draft articles on the law of non-navigational uses of international watercourses. Do they adequately address all the major issues of water usage? P. 26

80Patricia Wouters forward to Charles Bourne's "International Water Law, Selected Writings" supra note 66.

81Id.

82Dan Tralock note 72 p. 103

83EyalBenvenisti "Collective Action in the utilization of Shared Water: the Challenges of international water resource law." AMJIL 1996, p. 385. Benvenisti wrote, "International water resources as a collective good to which only the riparian states enjoy access. Even though other states are excluded from them. The riparian states shall need to regulate their right and obligations."

84see the new convention on non-navigational uses of international water courses adopted in May 1997, report of the sixth committee convening the working group of the whole as submitted by Mr. Chauseru Yamda (Japan). UN/ASI/869. April 11, 1997. Art. 5 of the convention. See also http://www.un.org/law/watere/htm