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**PROJECTS CONSTRUCTED ON THE TIGRIS AND
EUPHRATES INTERNATIONAL WATERCOURSES AND
THEIR IMPACTS ON IRAQI'S WATER UTILIZATION: AN
INTERNATIONAL LAW APPROACH**



OMAR AHMED HUSSEIN (94673)

UUM

Universiti Utara Malaysia

**DOCTOR OF PHILOSOPHY
UNIVERSITI UTARA MALAYSIA
2017**

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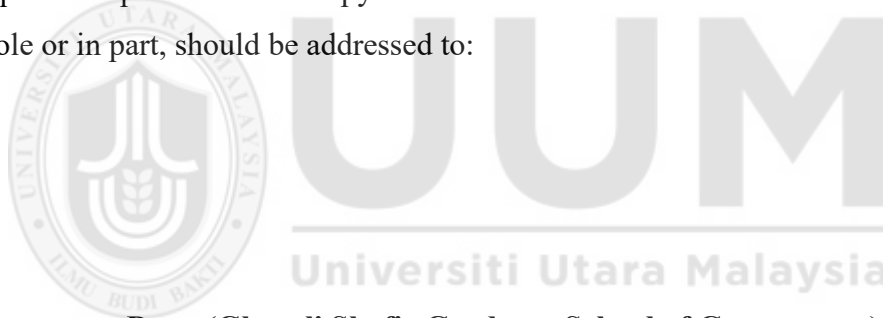
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**A Thesis submitted to the Ghazali Shafie Graduate School of Government in
fulfilment of the requirement for the Doctor of Philosophy
Universiti Utara Malaysia**

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ABSTRACT

Water plays a key role in a nation's economic and social development. The growing interest in water and international rivers among the international community has culminated in the UN adoption of the Convention on the Law of the Non-navigational Uses of International Watercourses 1997. Since the dawn of history, Iraq has always been associated with two large rivers, the Tigris and Euphrates. It is also known as 'Mesopotamia' which means the country of two rivers. The oldest civilizations were built on the banks of these two rivers. Iraq was the first country that uses the water from these two rivers and it is still depending on the water from these two rivers in order to achieve both the economic and social development. The aim of this thesis is to examine the negative effects of the projects undertaken by the upstream countries of these two rivers on Iraq's economic rights, and usage of international rivers as a downstream country from an international law perspective. The methodology adopted in this thesis is a library based doctrinal legal research approach, which essentially relies on textbooks, conventions, articles, and Internet sources. The thesis concludes that the upstream countries have violated the rules of international law, particularly the principle of equitable and reasonable utilization, and participation of all countries sharing such an important resource. These countries have been using the water from these two rivers and undertake many projects without any consideration on the interests and rights of the downstream country, specifically Iraq. As a consequence, the country is suffering from lack of water problem and it negatively affects Iraq's full potential of achieving both the economic and social development. Finally, the thesis recommends that Iraq has to work with the upstream countries on a permanent basis for better coordination and management of the two rivers, in line with the principles of international law such as the Convention on the Law of the Non-navigational Uses of International Watercourses 1997 and the bilateral agreements.

Keywords: Euphrates River, Non-navigational Uses of International Watercourses, Tigris River, Iraq.

ABSTRAK

Air memainkan peranan yang penting dalam pembangunan ekonomi dan sosial sebuah negara. Minat yang semakin meningkat tentang air dan sungai-sungai antarabangsa dapat dilihat melalui *Convention on the Law of the Non-navigational Uses of International Watercourses 1997* oleh Pertubuhan Bangsa-bangsa Bersatu (PBB). Sejak awal sejarah, Iraq sentiasa dikaitkan dengan dua sungai besar iaitu, Tigris dan Euphrates. Ia juga dikenali sebagai Mesopotamia yang bermaksud negara dua sungai. Tamadun tertua dibina di atas tebing kedua-dua sungai tersebut. Iraq merupakan negara pertama yang menggunakan air daripada kedua-dua sungai dan masih lagi bergantung kepada air daripada kedua-dua sungai tersebut bagi mencapai ke pembangunan ekonomi dan sosial. Tujuan tesis ini adalah untuk mengkaji kesan negatif projek yang dilaksanakan oleh negara-negara yang terletak di hulu kedua-dua sungai tersebut ke atas hak ekonomi Iraq, serta penggunaan sungai antarabangsa sebagai negara yang berada di hilir daripada perspektif undang-undang antarabangsa. Metodologi yang diguna pakai di dalam tesis ini adalah penyelidikan undang-undang doktrin berasaskan perpustakaan, yang pada asasnya bergantung kepada buku teks, persidangan, artikel dan sumber Internet. Tesis ini merumuskan bahawa negara-negara di hulu telah melanggar peraturan undang-undang antarabangsa, terutamanya prinsip adil dan penggunaan munasabah, dan penyertaan semua negara yang berkongsi sumber penting ini. Negara-negara ini telah menggunakan air dari kedua-dua sungai tersebut dan melaksanakan banyak projek tanpa mengambilkirakepentingan dan hak negara di hilir terutamanya Iraq. Sebagai akibatnya, negara tersebut mengalami masalah kekurangan air dan menjejaskan secara negatif potensi penuhnya untuk mencapai ke dua-dua pembangunan ekonomi dan sosial. Akhir sekali, tesis ini mencadangkan agar Iraq untuk sentiasa bekerjasama dengan negara di hulu untuk penyelarasan yang lebih baik dan menyusun pengurusan kedua-dua sungai tersebut, selaras dengan prinsip undang-undang antarabangsa seperti *Convention on the Law of the Non-navigational Uses of International Watercourses 1997* dan perjanjian dua hala.

Kunci kata: Sungai Euphrates, Non-navigational Uses of International Watercourses, Sungai Tigris, Iraq.

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DISCLARATION

I hereby declare that the thesis is based on my original work except for quotations and citations which have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at UUM or other institutions.

OMAR AHMED HUSSEIN
2017



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LIST OF ABBREVIATIONS

AT	Arbitral Tribunal
D.S.I	The General Directorate of State Hydraulic Works ‘Develet Su Isleri’
ESCWA	Economic and Social Commission for Western Asia
EU	European Union
FAO	Food and Agriculture Organization
GAP	“Guneydogu Anadolu Projesi” Southeastern Anatolia Project
ICJ	International Court of Justice
ILA	International Law Association
ILC	International Law Commission
ICESCR	International Covenant on Economic, Social and Cultural Rights
KW/h	Kilowatt/hour
MW	Megawatt
NGOs	Non-governmental Organizations
NGOs	Non-governmental Organizations
OIC	Organization of Islamic Cooperation
PCA	Permanent Court of Arbitration
PCIJ	Permanent Court of International Justice
SADC	Southern African Development Countries
SIWI	Stockholm International Water Institute
UK	United Kingdom
UN	United Nations
UN Convention 1997	Convention on the Law of the Non-navigational Uses of International Watercourses
UNESCO	United Nations Educational, Scientific and Cultural Organization
USA	United State of America

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Water is the basis and essence of life on earth and it is the basis of human bonding as water is considered one of the shared resources that serve agriculture, industry, environment and life.¹ Throughout the centuries people were found wherever fresh water and rivers were located. All civilizations emerged on the shores of rivers.² The Tigris and Euphrates stem, for thousands years ago, from Anatolian plateau and passes in Syria and Iraq.³ In Mesopotamia (ancient Iraq), the old civilizations were built on the banks of these rivers such as Eshnunna, Sumerian, Babylonian, Akkadian, and Assyrian etc. The Sumerians more than seven thousand years ago built the first canal to irrigate wheat and barley.⁴ The first legal rule that regulated irrigation and drinking water and other uses in Mesopotamia were included in the Code of Hammurabi in 1790 BC, which was considered as one of the oldest written laws.⁵ It was called according to the Babylonian king ‘Hammurabi’ who wrote the law on a large obelisk of black Dioranit stone with a

¹Mahdi Sahaf, *Iraq's water resources and their maintenance of pollution* (Baghdad: Dar Al-Hurriya Print, 1976), 5.

² Subhi Ahmed Zuhair Al-Adili, *International River: The concept and the reality of the some Arabian east rivers* (Beirut: Centre of Arab Unity Studies, 2007), 28.

³Abdul Malik Tamimi, *The Arab water: Challenge and response* (Beirut: Center of Arab Unity Studies, 1999), 106.

⁴Agriculture and Food Organization, "Aquastat," *Food and Agriculture Organization of the United Nations*, 2008, http://www.fao.org/nr/water/aquastat/countries_regions/irq/index.stm, 9, (accessed January 29, 2014).

⁵ Mahmoud Ameen, Trans., *The Code of Hammurabi* (London: Dar Alwarrak Publishing Ltd., 2007), 8.

length of 225 cm and a diameter of 60 cm, and it was of a cylindrical shape.⁶ It was written in Cuneiform Akkadian and in Babylonian and it contained 282 clear and readable legal articles. It was written within forty four fields, and the fourth field of the obelisk dealt with the affairs of orchards, fields and home.⁷ As for water utilization, Articles 53 to 56 of the Code of Hammurabi specifically dealt with this issue.⁸

Under International Law, the Tigris and the Euphrates are considered among the international rivers. Article 2(b) of the United Nations (UN) Convention on the Law of the Non-navigational Uses of International Watercourses 1997 (UN Convention 1997) defines international watercourse as “a watercourse where parts of which are situated in different States”. On the other hand, Article 2(c) defines watercourse state as “a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organisation, in the territory of one or more of whose Member States part of an international watercourse is situated”.⁹ Furthermore, the UN Convention 1997 (Articles 5, 6, 7, 8, 9 and 12) and Helsinki Rules on the Uses of the Waters of International Rivers 1966 (Articles 4 and 5) provide international principles governing the non-navigational international rivers such as the Tigris and the Euphrates. Such principles include the inadmissibility of damage to the downstream countries, confirming the fair and equitable use among the riparian countries of the international river and the requirement of prior notification which makes it imperative for the upstream country to notify the downstream country of any project

⁶ Ameen, *Code of Hammurabi*, 11.

⁷ *Ibid.*, 11-12.

⁸ *Ibid.*, 25-26.

⁹United Nations General Assembly, “Convention on the law of the non-navigational uses of international Watercourses in 1997,” *The Organization of the United Nations*, July 1997.

intended on the international river.¹⁰ All such principles grant Iraq, being a downstream country of the Tigris and Euphrates, the right to water utilization against the upstream countries, i.e. Turkey, Syria and Iran. Hence, these upstream countries are required to adhere to international law principles governing the usage of international rivers.

In the context of this study, it is important to note that since the middle of the last century, upstream countries like Turkey, Syria and Iran began to construct many projects on the Tigris and the Euphrates and their tributaries. Turkey has implemented many projects on the course of these rivers such as the construction of giant dams, changing the streams of some rivers and tributaries and introducing new ideas such as moving water and selling it to Arab countries.¹¹ Furthermore, Syria as a watercourse country has embarked on the construction of several dams and irrigation canals on the Euphrates and its tributaries,¹² and it has constructed a new project to transport water from the Tigris into the depth of Syrian land.¹³ Iran as an upstream country to the Tigris tributaries has also diverted the direction of many joint tributaries with Iraq into its territory as well as constructing dams on these rivers.¹⁴ Each of these projects constructed by the upstream countries on the Tigris and the Euphrates and their tributaries have reduced the amount of water entering Iraq. This problem became serious in 1974 when most of the upstream

¹⁰Ibrahim Mohammed Anani, "Settlement of the disputes of using the international rivers: The use of the Nile as an example," *African Perspectives* 11, no.39 (2013), 44-55, <http://www.sis.gov.eg/newvr/afakar/5.pdf>, (accessed February 12, 2014).

¹¹Dalia Ismail Mohammed, *Water and International Relations: A Study in the impact of the water crisis on the nature and pattern of Arab-Turkish relations* (Cairo: Madbouli Library, 2006), 149.

¹²Waleed Radhwan, *Water problem between Syria and Turkey* (Beirut: Prints Company for Distributions and Publishing, 2006), 69-81.

¹³Qais Hamadai Al-Ubaidi, *Issues of the Arabic and Regional Waters: Reality and Future Visions* (Mosil: Shimilah for Print and Distribution, 2012), 44.

¹⁴Rawaa Zaki Taweel, *Arab water security risks and options of water development for the twenty first century* (Amman: Dar Zahran for Publishing and Distribution, 2013), 94.

countries started constructing huge projects around the Tigris and Euphrates Rivers.¹⁵ This by itself has damaged the economic development of Iraq and led to decline in the agricultural sector.¹⁶

In addition, the Tigris and Euphrates are the major rivers and vitality in the Middle East as they are the source of nourishment for Turkey, Syria, Iraq and Iran. Water of both rivers stem from the mountains of the Anatolian plateau located in the southeast of Turkey. The total length of the course of the Euphrates is 2780 kilometers¹⁷ about 1200 kilometers of which flows inside the Iraqi border,¹⁸ and basically it stems from inside the Turkish border and passes through two countries, Syria and Iraq. On the other hand, the total length of the Tigris is about 1850 kilometers,¹⁹ of which 1418 kilometers²⁰ is inside the Iraqi border, and it stems also from Turkey and passes through two countries Syria and Iraq. The Tigris has many tributaries inside Iraq all of them stem from the left side, some of them stem from Turkey, while others stem from Iran. Both rivers, the Tigris and the Euphrates, meet together at the Qurnah city in the province of Basra in southern Iraq to form a river called ‘Shatt Al-Arab’ which extends for a distance of 204 kilometers before pouring into the Arabian Gulf.²¹

¹⁵ Mohammed, *Water and International Relations*, 68-69.

¹⁶ Noon news reporting agency, “ Baghdad is witnessing an international scientific conference to discuss the problems of desertification and water shortages,” 2009, <http://www.non14.net/6739/>, (accessed January 3, 2014).

¹⁷ Mete Erden, “The Tigris-Euphrates Rivers controversy and the role of International Law,” *Sam*, January 2012, <http://sam.gov.tr/wp-content/uploads/2012/01/Mete-Erdem.pdf>, (accessed February 2, 2014).

¹⁸ *Ibid.*, 2.

¹⁹ Ibrahim Kaya, “The Euphrates-Tigris Basin: An overview and opportunities for cooperation under the international law” (Paper presented at the water resource outlook for the 21st Century, Montreal, Canada, September 1-6, 1997).

²⁰ *Ibid.*

²¹ Issam Al-Atiya, *Public international Law* (Baghdad: Sanhuri Library, 2009), 325.

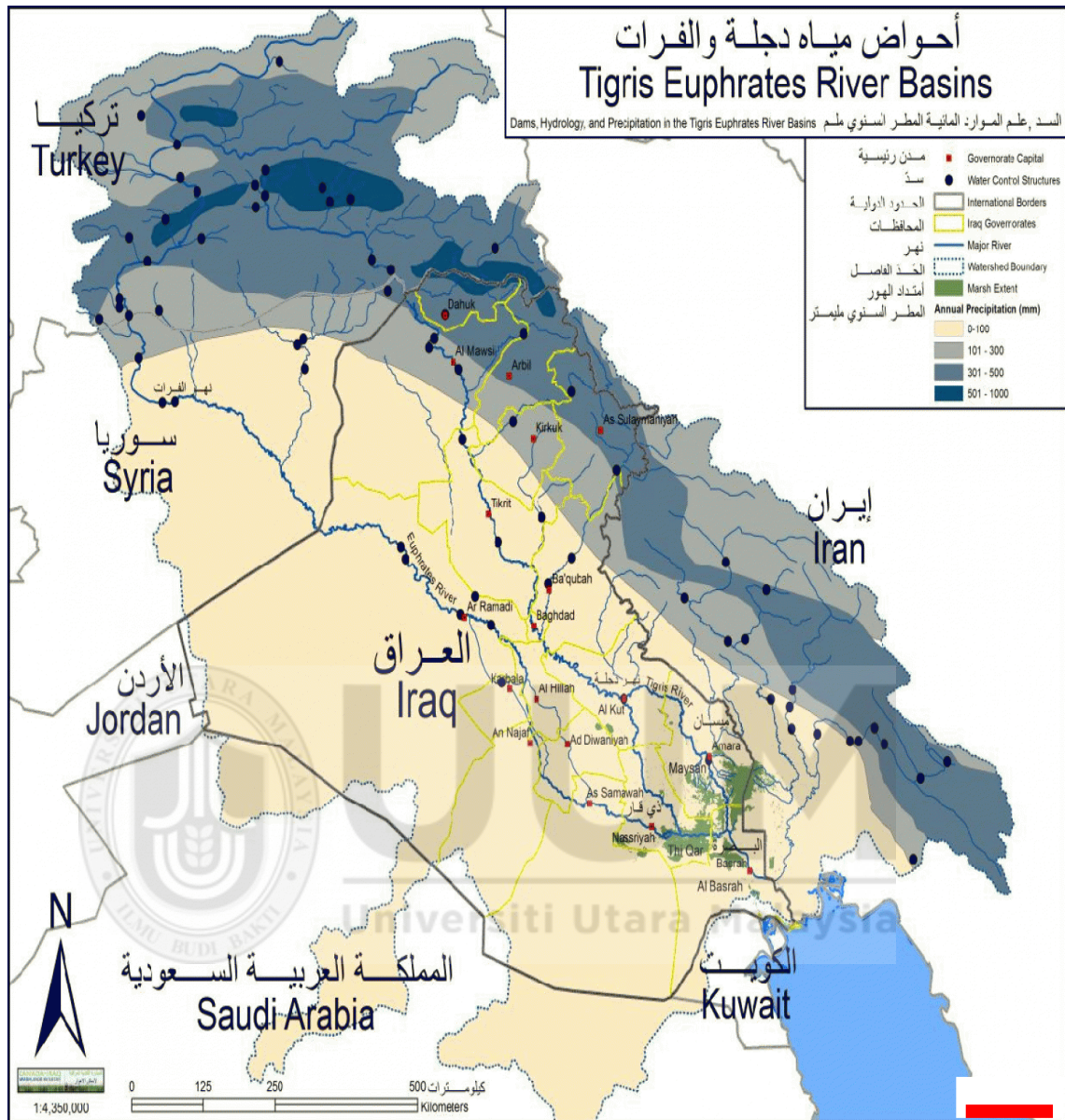


Figure 1 Basin of the Tigris and Euphrates Rivers.

From the above geographical description showing the Tigris and Euphrates rivers, it is vital to note that historically Iraq was attached to the notion of an Islamic state and thus Arabs showed their interest in agriculture and irrigation by creating a special dewan (office) for the administration of water that they called (*Water Dewan*).²² The notion of an Islamic state continued, since its establishment and through the Umayyad, Abbasid

²² Ibrahim Ebiary, *Keys of Science for Al-Khawarizmi Mohammed bin Ahmed bin Yousef* (Beirut: Arab Book House, 1989), 94.

and Ottoman states to control all the territories through which the Tigris and the Euphrates Rivers flow from the upstream to the downstream while being under one authority. With the outbreak of World War I, the Ottoman Empire (modern Turkey) was defeated and was torn into pieces. As such, Iraq and Syria were declared independent countries and political boundaries were drawn between them. This led to a multiplicity of states through which the Tigris and Euphrates Rivers flow. Then the Lausanne Treaty was signed in 1923 between modern Turkey and the Allied, Britain and France, to demarcate the new borders of Turkey. Article 109 of the Lausanne Treaty stated that there should be agreements between the riparian countries in order to ensure the rights of such countries. Besides, this Treaty has obliged Turkey to consult Syria and Iraq before having any water projects on the Tigris and Euphrates but in case of failing to reach into an agreement among these countries, this issue would be referred to arbitration to settle the dispute.²³

In this study, the researcher addressed the impacts of the projects constructed on the Tigris and Euphrates Rivers by upstream countries such as Turkey, Syria and Iran on Iraq as a downstream country, especially in the agricultural and industrial sectors within the framework of international law. It is the contention of the researcher that there is a need to address this problem within the framework of international law in order for the upstream and downstream countries to share the benefits of these two rivers in a harmonious manner without causing harm to one another.

²³ Radhwan, *Water problem*, 120.

1.2 Problem Statement

Upstream countries such as Turkey, Syria and Iran have come up with massive projects around the Tigris and its tributaries and the Euphrates Rivers. For example, in Turkey, one of the most important and largest of these projects is the Southeastern Anatolia Development, known as (GAP) “Güneydogu Anadolu Projesi”.²⁴ This huge project consists of 22 projects intended to build up many giant dams, huge reservoirs, plants for generating electricity, a huge tunnel (Urfa Tunnel) to transport water to the depths of the Turkish territories in order to reclaim and cultivate the farmlands etc.²⁵ In addition, Syria has constructed many dams on the Euphrates such as Al-Tabaqa Dam, Teshreen Dam etc.²⁶ Besides, a new project has been constructed to transport water from the Tigris into the depth of the Syrian land.²⁷ Iran has also implemented many projects on the Tigris tributaries shores such as the dam on Little Zab River, the dam on Al-wand tributary, the dam on the tributary of Dyala river etc.²⁸ These projects have led to decrease in the amount of water entering into Iraqi as a downstream country and hindering the development of the country. Hence, the following are the research problems:-

First is the problem of lack of sufficient water for irrigation purposes. This problem emerged as a result of non-compliance with the principles and rules of international law as well as the bilateral agreements governing the use of international watercourse such as the Tigris and Euphrates by the upstream countries i.e. Turkey, Syria and Iran. It is

²⁴Jeroen Warner, “The Struggle over Turkey’s Ilisu Dam: Domestic and international security linkages,” *Springer* 12, no.3 (September 2012), 231, <http://link.springer.com/article/10.1007%2Fs10784-012-9178-x>, (accessed March 1, 2014).

²⁵GAP, “Güneydogu Anadolu Projesi,” Southeastern Anatolia Project, [Http://www.gap.gov.tr/english](http://www.gap.gov.tr/english), (accessed January 3, 2014).

²⁶Mohammed, *Water and International Relations*, 129-130.

²⁷Al-Ubaidi, *Issues of the Arabic and Regional Waters*, 44.

²⁸Shihab Muhsin Abbas, *Waters of Iraq: Numbers and Variables*, (Baghdad: Jawahir for Print, Publication and Distribution, 2011), 64.

important to point out that such principles and rules of the international law have organised the use of the international watercourse shared between the countries so as to reach the optimal use and to avoid any dispute or problems about the international watercourse. Among the most important international principles and rules governing the use of the international watercourse adopted by many international, regional and bilateral treaties such as the United Nations Convention on the Law of the Non-navigational Uses of International Watercourses 1997 are the principle of international cooperation, principle of utilization and equitable and reasonable use and the principle of not inflicting harm to others. And these principles have adopted in Articles 5, 6, 7, 8, 9, 11, 12, and 21 of the UN convention 1997.

All these principles stated in the international conventions stipulate parallel rights and obligations. They stipulate that all the international watercourse countries have the right to use the watercourse and for different purposes and uses. Yet, this right is restricted in that the use should be fair, reasonable and not to cause damage to the rest of the international watercourse countries. Ensuring the rights of all international watercourse countries cannot be achieved without the application of the principle of international cooperation among these countries for the purpose of regulating, managing, protecting and using the international watercourse to achieve the optimal utilisation and common interest to all countries.

The reason behind the problem is the huge number of projects constructed by Turkey, Syria and Iran on the Tigris and the Euphrates and their tributaries, the irrigation sector in Iraq is currently facing a lot of problems. For example, these projects have led to

decrease in the amount of water for irrigation.²⁹ Because of this problem, Iraq is no longer able to irrigate more than one million and three hundred thousand hectares of farmland.³⁰ In 1993, arable land for agriculture was 10 million hectares, while in 2011 it decreased to 8.3 million hectares.³¹ This decline in the area of arable land was due to the low amount of incoming water to Iraq from these rivers. Before the constructions of these projects by the upstream countries, the amount of incoming water to Iraq from the Euphrates River was 33.02 billion cubic meters in 1972, while this amount decreased to 20.6 billion cubic meters in 2006.³² Accordingly, the decrease of every billion cubic meters of imports of water has led to the loss of 62,500 hectares of farmland in Iraq.³³ This in the end has led to the desertification as the government's reports indicate the proportion of land desertification in Iraq growing to a percentage of 5%³⁴ annually where the land that suffer from desertification reached 39% from all over land of Iraq in addition to 54% of the land is threatened by desertification.³⁵ This figure constitutes a serious problem leading to the loss of vast tracts of farmland and to an increase in the dust storms during the past few years. Iraq has been working on overcoming the

²⁹ Food Organization, aquastat, 14.

³⁰ Sahib Rubaie, "Water war between Iraq and Turkey: Motives and reasons," *Journal of Water* (2009),2, <http://www.almyah.net/mag/articles.php?action=show&id=252>, (accessed February 25, 2014).

³¹ United Nation, UNESCO, "National framework for the integrated management of the risk of drought in Iraq," *Educational, Scientific and Cultural Organization-Iraq Office*, March 2014, p 101.

³² Ahmed Kamil Hussein Al-Nasih, "The effect of the Turkish water policy on the agricultural development in Iraq between 1990-2006," *Journal of Economical and Administrative Sciences, University of Baghdad* 15, no. 53 (2009): 171.

³³ Republic of Iraq The Ministry of Planing, Agricultural Planning Directorate, *A study of the management and development of water resources in Iraq* 2007, 44.

³⁴ Khalid Ahmed Diab, "Some science kills: The climate is the bullet of New America in the heart of the world," *Digital Ahram*, December, 2009, <http://digital.ahram.org.eg/articles.aspx?Serial=48620&eid=233>, (accessed January 9, 2014).

³⁵ United Nation- Iraq Office, "Climate change In Iraq Fact sheet," *United Nations*, June 2012, <http://iq.one.un.org/documents/468/Climate%20change%20In%20Iraq%20Fact%20sheet%20-%20Arabic%20.pdf>, (accessed July 11, 2014).

desertification of land through several rehabilitation processes in order to stop the effect of desertification with regard to its development.

Secondly, the problem of lack of hydroelectric power due to the low water levels entering Iraqi territory where many hydropower turbines are out of service.³⁶ This problem also emerged as a result of non-compliance with the principles and rules of international law as well as the bilateral agreements governing the use of international watercourse such as the Tigris and Euphrates by the upstream countries i.e. Turkey, Syria and Iran. As mentioned earlier, such principles and rules of the international law have organised the use of the international watercourse shared between the countries so as to reach the optimal use and to avoid any dispute or problems about the international watercourse. Some of these principles under international law required in terms of the utilization of international watercourse between the upstream and downstream country are the principle of international cooperation, principle of previous notice, principle of utilization and equitable and reasonable use and the principle of not inflicting harm to others. These principles have been adopted by many international treaties such as the United Nations Convention 1997 in Articles 5, 6, 7, 8, 9, 11, 12, and 21 and Articles IV, V, and IX of the Helsinki Rules 1966.

The reason behind this problem is the shortage of water flowing through these two rivers and their tributaries. According to the Ministry of Electricity in Iraq, the volume of the hydropower produced in 2011, from the hydropower stations in the Iraqi dams was 473

³⁶ Rayan Thannoon Abbasi, "Ilisu Dam project and its impact on the economic situation of Iraq," *Journal of Regional Studies*, no.12 (2008), 202-222, <http://www.iasj.net>, (accessed November 17, 2013).

MW of a design capacity of 2513 MW.³⁷ In 2009, the energy sector, like other sectors, was affected by the lack of water, as the production of hydroelectric power decreased to 368 MW. While in 2006, the production of hydroelectric power was reported at 696 MW.³⁸ It is important to note that the work in the hydroelectric station of Hamrin Dam started in 1981 with a capacity of 50 MW. In 1985, the production of energy was 32 MW, and then declined to reach 0.8 MW in 2009 due to shortage and lack of water in the Diyala River, a tributary of the Tigris River.³⁹ Based on the figures provided above, it becomes clear that the hydroelectric power plants depend on the level of water in the dams for the power generation. Hence, it could not be denied that the low water levels in rivers has led to decrease or stop the work of the cooling systems of all the units of the electric power production in Iraq. Due to lack of hydroelectric power, the operations of both small and large scale industries have been seriously affected the development of the country.

1.3 Research Questions

In this study, the researcher addressed the following research questions:-

1. What are the rights enjoyed by both the upstream and downstream countries under international law in terms of the usage of international rivers such as the Tigris and Euphrates Rivers?
2. How have the upstream countries not complied with international law and bilateral treaties governing the utilization of international watercourse?

³⁷Republic of Iraq The Ministry of Electricity, “*Ministry of Electricity*,” <http://www.moelc.gov.iq/ar/index.php?name=Pages&op=page&pid=129>. (accessed February 3, 2014).

³⁸ Republic of Iraq The Ministry of Planing, Central Statistical Organization, Industrial Statistics Department, *Electricity Statistics* 2012, 8.

³⁹ Republic of Iraq The Ministry of Elictricity, Hemrin Hydroelectric Station.

3. What projects have been constructed by the upstream countries on the Tigris and their tributaries and the Euphrates Rivers which have led to the shortage of water entering Iraq as a downstream country thus affecting its right to enjoyment of the water resources of these two rivers within the framework of international law?

1.4 Research Objectives

From the research questions above, the researcher addressed the following research objectives:-

1. To examine the rights enjoyed by both the upstream and downstream countries under international law in terms of the usage of international rivers such as the Tigris and Euphrates Rivers.
2. To analyse the upstream countries non-compliance with international law and bilateral treaties governing the utilization of international watercourse.
3. To study the projects that have been constructed by the upstream countries on the Tigris and their tributaries and Euphrates Rivers and their impacts on the amount of water entering Iraq as a downstream country thus affecting its right to enjoyment of the water resources of these two rivers within the framework of international law.
4. To recommend the necessary improvements based on the spirit of international law in terms of the usage of the Tigris and the Euphrates Rivers and their tributaries between the upstream and downstream countries, especially in the context of Iraq's development.

1.5 The Significance of the Study

The significance of the present study stems from the theoretical perspective which is intended to extend the growing body of literature to bridge the gap by examining the internationality of the two rivers by applying the international rules and principles and the consequences of the non-applicability of such rules and principles.

Besides, this study will be of value to the Iraqi Government to scale up the diplomatic settlement and to solve the problems related to the two rivers according to the international rules and principles governing the utilization of the international watercourse.

The study will be of significance to the Government of Iraq. This is due to the fact that the policy formulators will be able to receive information as a result of this study about the real size of the water problem in Iraq. Besides, this study will show the policy formulators the effects of water shortage and its impact on the agricultural and industrial sectors that might hinder Iraq's development within the framework of the international law.

The present study is also expected to be of value to the Iraqi society in the sense of increasing people's awareness about the importance of water, how to maintain it as a national wealth and how to keep it for the generations to come. Accordingly, this study is intended to pave way to address the issue of the right of the future generation in Iraq from the perspective of human rights regarding the use of Tigris and Euphrates Rivers.

This study will be of value to the academics in that it will help researchers and scholars in the field of international rivers by providing them with additional literature in the field

of international rivers. It will open the way for researchers at universities and academic centers specializing in the law of international rivers to research and contribute by conducting similar studies related to other joint international rivers. Besides, this study will add a new legal source to the universities and research libraries.

The international community will also benefit from this study in that the law of non-navigational international rivers is a new field within the framework of international law which is characterized by limited literature. So, this study will contribute to the body of literature by adding a new impetus to the already existing limited literature on the subject of international rivers.

1.6 Research Methodology

This section covered a number of aspects namely research design, research scope, types of data, data collection methods and data analysis. Each of these aspects have been discussed below in the following sub-sections:

1.6.1 Research Design

In this study, the researcher adopted a doctrinal legal research or methodology i.e., a library based research as well as a qualitative research methodology. According to Anwarul Yaqin,⁴⁰ a doctrinal legal research approach refers to any systematic study of the legal rules, legal problems and other principles. The doctrinal approach is based on the study, investigation and analysis of the legal principles and rules in a systematic way to get to the truth. It absolutely and essentially depends on the libraries and archives to collect information and data. As for a qualitative research methodology from the view

⁴⁰Anwarul Yaqin, *Legal Research and Writing* (Malaysia: Malaysian Law Journal SDN BHD, 2007), 3-10.

point of Adel Mohammad,⁴¹ it is the research that relies on the study and analysis of information and other laws without statistics or graphs. Apart from that, a qualitative research methodology is an exploratory study of social phenomenon.

In addition to the above, since the researcher adopted a combination of both doctrinal legal research methodology and qualitative research methodology, data for the study was obtained mainly from libraries, archives and interviews as well.

Furthermore, a doctrinal legal research approach is of different types including descriptive, analytical, critical etc. Hence, the researcher can use more than one method in the study to answer the questions of the search.⁴² In this study, a doctrinal legal research approach was considered as the most appropriate approach in answering the research questions one up to three as well as achieving the research objectives one up to three. This is because under this approach it encompasses different types of analysing the data collected i.e. descriptive, analytical, critical, historical etc. On the other hand, a qualitative research approach/methodology was adopted in this study in order to have a deeper understanding of the research questions and objectives i.e., by taking legal research beyond the libraries or textual materials to the field to get data and the perspectives of the stakeholders such as experts or government officials on the working of the law.

⁴¹Adel Mohammed Rayan, "The use of qualitative and quantitative entrances in research: A pilot study of the reality of the literature of the Arabic management" (paper presented in the Third Arab Conference, the Arab Organization for Administrative Development, League of Arab States, Cairo, Egypt, June 14-15, 2003).

⁴²Yaqin, *Legal Research*, 14-18.

1.6.2 Research Scope

The scope of this study was limited to the utilization of the water of Tigris and their tributaries and Euphrates Rivers by Iraq as a downstream country under the framework of international law i.e., asserting its right to the enjoyment of the water resources of these two rivers. Furthermore, the study focused mainly on the impacts of the massive projects constructed by the upstream countries such as Turkey, Syria and Iran in terms of how this has affected Iraq's right to enjoyment of the water resources of the Tigris and Euphrates due to the shortage of water entering Iraq as a downstream country. In other words, the study focused on the use of these two rivers and their tributaries by Iraq as a downstream country in order to achieve economic development in areas such as the agricultural sector as well as the industrial sector. The geographical scope of this study included the basins of the Tigris and the Euphrates extending up to Turkey, Syria, Iran, Iraq and Saudi Arabia. Hence, this present study was mainly concerned with the surface water (rivers) of the basins of the Tigris and the Euphrates from the upstream to the downstream between Turkey, Syria, Iran and Iraq. The study focused on Iraq's usage of the Tigris and Euphrates Rivers within the framework of international law as part and parcel of its right to enjoyment of the water resources of these two rivers. Furthermore, this study did not cover the Kingdom of Saudi Arabia, which is the co-basin of the Euphrates groundwater. This is because the current study only focused on the surface water of the Tigris and Euphrates Rivers and not the underground water. As to the position of Iran, the study covered the rivers starting from Iran and pouring into the Tigris River in Iraq (tributaries of the Tigris River).

1.6.3 Types of Data

In this study, the researcher used two types of data i.e. primary and secondary data.

1.6.3.1 Primary data:-

- The primary data included international agreements such as the UN Convention 1997, Helsinki Rules on the Uses of the Waters of International Rivers 1966, the International Covenant on Economic, Social and Cultural Rights 1966 etc. Also, bilateral agreements between Iraq and its neighbors (Turkey, Syria and Iran) such as the First Protocol attached to the Treaty of Friendship and Good-Neighborly relations between Iraq and Turkey 1946, the Protocol on Economic and Technical Cooperation between Iraq and Turkey 1971, the Protocol on Economic and Technical Cooperation between Iraq and Turkey 1980 and Syria joined it in 1983, the Iraqi-Syrian agreement to share the water of the Euphrates etc. were some of the primary data referred to in the study.
- Interview, is also another form of primary data that the researcher relied on. The researcher conducted interviews with government employees working in the water fields in several ministries such as the Ministry of Foreign Affairs, Ministry of Water Resources, the Ministry of Agriculture, Ministry of Electricity and Academic staff.
- Government documents and reports from Ministry of Water Resource, Ministry of Agriculture, Ministry of Foreign Affairs.
- Historical resources such as rules, documents etc.
- Case Law.

1.6.3.2 Secondary data:-

- Textbooks on International Law and International Rivers.
- Articles in journals on International Law and International Rivers, dissertations and theses.
- Electronic sources via the Internet.
- Newspapers, magazines, dictionaries, and encyclopedias.

1.6.4 Data Collection Methods

For the purpose of this study, the researcher collected the data by using the following two methods:-

- Library method: In collecting the data, the researcher relied mainly on university libraries such as Universiti Utara Malaysia, Baghdad University, Al-Nahrain University, Diyala University, Mosul University, Tikrit University, as well as public libraries including the Iraqi national library. Also, data was collected from private libraries like Al-Sanhuory as well as the Legal library in Iraq. This step of collecting data from the libraries was necessary especially in gathering information relevant to the present study through searching legal materials and textbooks, articles in journals, theses and dissertations. Besides, the researcher searched in the archives and libraries of some ministries/departments in Iraqi such as the water resources, agriculture, foreign affairs, electricity etc.
- Interview method: The researcher conducted personal face-to-face interview using semi-structured open-ended interview.⁴³ Ten respondents were

⁴³Rayan, "The use of qualitative".

interviewed mainly experts in the water field in Iraq from four ministries as well as academics, specializing in international law. The researcher interviewed two respondents each from the four ministries i.e. Ministry of Water Resources, Ministry of Foreign Affairs, Ministry of Agriculture, Ministry of Electricity and two academics specializing in the field of international law. The reason behind using the semi-structured interview was to support, enhance and verify the information and data collected from the archive, library and other sources.

1.6.5 Analysis of Data

In this study, the researcher used the following methods to analyse the data collected from the primary and secondary sources.

- 1.6.5.1 Analytical method: This method is based on a careful study of something to reach into a result. Analytical method is mainly used to study, analyse, interpret and understand the principles, treaties, documents, books etc.⁴⁴ This method was used in order to answer research questions one, two and three, and achieve research objectives one, two and three. This method answered the first research question because the question calls for examining and analysing the legal rules and treaties, documents and principles etc. As for the second research question, the researcher examined and analysed the international conventions, bilateral agreements, documents and data. For the third research question, the researcher studied and analysed the implications of the shortage of water on the Iraq's right to enjoyment of the water resources of the Tigris and Euphrates.

⁴⁴Yaqin, *Legal Research*, 16.

1.6.5.2 Descriptive method: This method is used to clarify what happened and it aims to describe and clarify the facts and circumstances.⁴⁵ The researcher used this method by studying and clarifying the real situation of the projects constructed on the Tigris and Euphrates Rivers and their impacts on Iraq's right to enjoyment of the water resources of these two rivers. The researcher used this method to identify and study the projects constructed by the upstream countries on the Tigris and Euphrates rivers and their tributaries and their impacts on the amount of water entering Iraq as a downstream country thus affecting its right to the enjoyment of the water resources of the Tigris and Euphrates, especially in the agricultural and industrial sectors. This method was adopted in order to answer research question three, and achieve research objective three.

1.6.5.3 Historical method: This method is used to study the past data and facts and also to trace the development of international law to find out the facts.⁴⁶ This method was used by the researcher in studying and explaining the stages of the development of international law in the context of the law on international rivers. This method was used in order to show the history of using these two rivers by Iraq allowing it to establish a claim based on acquired right. This method was used to answer research questions one and two and achieve research objectives one and two.

⁴⁵Salahaldin Fouzi, *Methodology in Conducting Theses and Legal Research* (Cairo: Al-Nahdha Al-Arabia Press, 2006-2007), 139.

⁴⁶ Mahdi Zahraa, *Research Methods for Law Postgraduate Overseas Students* (Malaysia: Univision Press, 1998), 58-60.

1.7 Limitations of the Study

In conducting the present study, the researcher faced some limitations. The first of such limitation was that of conducting a face-to-face interview (semi-structured) with the officials in Iraq due to the security situation in the country. This limitation was overcome by substituting the face-to-face semi-structured interview with phone interview or using the Internet in order to collect the information necessary for the research. For example, the researcher resorted to the use of Skype to overcome the security problem in the country.

The scarcity of textbooks, studies conducted and international judicial rulings also constituted another limitation that the researcher faced. This limitation stems from the fact that the subject of international rivers is a new field in international law. To overcome this limitation, the researcher collected the data by conducting interviews, search in the libraries, as well as search in the Internet.

1.8 Literature Review

In this study, the researcher reviewed the existing literature by using a thematic approach. The themes of the review were summarized into sections such the definition of operational terminologies, water resources, historical right of river water, the economic effects of water shortage and finally the legal studies of rivers.

1.8.1 Definition of Operational Terminologies

Salahuddin Amer defines Public International Law⁴⁷ as a set of legal rules that govern and regulate the international community and its relations among its legal subjects. For

⁴⁷Salahuddin Amer, *An Introduction to the Study of Public International Law*(Cairo: Arab Renaissance press, 2007), 65.

the purpose of this study, the researcher adopted the same meaning to the usage of the word Public International Law.

The United Nations Convention on the Law of the Non-navigational Uses of International Watercourses 1997,⁴⁸ defines watercourse and international watercourse and this can be seen in Article 2 (a) of the Convention which defines “watercourse” as a system of surface waters and underground waters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus. Paragraph (b) of the Convention defines “international watercourse” as a watercourse, parts of which are situated in different states. In this study, the researcher adopted this definition in the context of the upstream and downstream countries found around the Tigris and Euphrates Rivers.

Claudia W. Sadoff and David Gray,⁴⁹ wrote in their article about the cooperation between the riparian States of the international river. They defined “International River” as freshwater flowing into a basin situated within the borders of more than one State. For the purpose of this study, the researcher did not adopt the definition of “International River” given by Sadoff and Gray. This is because their definition is not all that comprehensive enough compared to the definition given by the UN Convention.

Upstream and downstream:- Upstream can be defined as the direction that is opposite the natural direction of the river, away from the country.⁵⁰ On the other hand,

⁴⁸General Assembly, The Convention on the Law of the non-navigational.

⁴⁹Claudia W. Sadoff and David Gray, “Cooperation on International Rivers a Continuum for Securing and Sharing Benefits,” *Water International* 30, no.4 (December 2005), 420, [Http://dx.doi.org/10.1080/02508060508691886](http://dx.doi.org/10.1080/02508060508691886), (accessed October 19, 2013).

⁵⁰ A S Hornby, *Oxford Advanced Learners Dictionary*, ed. Joanna Turnbull et al.,(Oxford: Oxford University Press, 2010), 1642-440.

downstream can be defined as the direction that a river normally flows, towards the current of the stream.⁵¹ For the purpose of this study, “upstream” refers to the countries situated at the upper part of the Tigris and their tributaries and Euphrates Rivers i.e. Turkey, Syria and Iran. As to “downstream”, it refers to countries situated at the down part of the Tigris and their tributaries and Euphrates Rivers i.e. Iraq.

Carmine Gorga defines “economic right” as the right to access essential resources such as land, water, natural sources, labor, and so forth that are basic for the economic development, and such rights must be protected by law.⁵² Furthermore, the International Covenant on Economic, Social and Cultural Rights (ICESCR) states in Article 1(2) that all people may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may people be deprived of their own means of subsistence.⁵³ As for the purpose of this study, Iraq as a downstream country has a right to use the international rivers of Tigris and Euphrates for the purpose of achieving economic development in sectors such as agriculture, manufacturing industry etc. Also, the future generation of Iraq should not be deprived of their right to development in using Tigris and Euphrates Rivers to achieve this goal. In other words, Iraq as a downstream country has the right to enjoyment of the water resources of the Tigris and Euphrates for the sake of achieving economic development i.e. developing its agricultural and industrial sectors.

⁵¹ Hornby, *Oxford Advanced Learners Dictionary*.

⁵² Carmine Gorga, “Toward the Definition of Economic Rights,” *Markets & Morality* 2, no.1 (Spring 1999), <http://www.marketsandmorality.com/index.php/mandm/article/viewFile/641/631>, (accessed June 17, 2014).

⁵³ United Nations General Assembly, “International Covenant on Economic, Social and Cultural Rights,” *The Organization of the United Nations*, December 16, 1966.

The General Assembly of the United Nations issued the International Covenant on Economic, Social and Cultural Rights (ICESCR) in the 21st session under Resolution No. 2200.⁵⁴ The Resolution provides several rights including the right to work, as defined by Article 6, paragraph 1, which includes the right of everyone to the opportunity to gain his living by work which he freely chooses or accepts, and the state will take appropriate steps to safeguard this right. As such, the state is to take appropriate measures for the maintenance of this right. This, in turn, requires the state to create a favorable economic environment in order to achieve this right. In the context of this study, the right here refers to the enjoyment of the water resources of the Tigris and Euphrates by Iraq as a downstream country.

In addition to the above, a Declaration on the Right to Development was adopted by the United Nations in its Resolution No. 41/128 in its 41st session in 1986.⁵⁵ The third article of this Declaration provides for state's responsibility towards the realization of the right to development and respecting the principles of international law. It also calls for cooperation among the states in accordance with the pact of the United Nations.

Having said all that, it is pertinent to note that when it comes to the right to work and the right to development, Iraq mainly relies on these rivers for the purpose of agriculture, supply of hydroelectric power, and so forth. Therefore, Iraq has the right to enjoyment of the water resources of these two rivers in order to achieve economic development and to create jobs for its citizens. Hence, the researcher throughout this study argued that under international law Iraq as a downstream country has the right to the use of these two

⁵⁴ United Nations General Assembly, "International Covenant on Economic,".

⁵⁵ United Nations General Assembly, "Declaration on the Right to Development," *The Organization of the United Nation*, December 4, 1986.

rivers. In other words, the right to enjoyment of the water resources of the Tigris and Euphrates should benefit both the upstream and downstream countries.

Desertification: The UN Convention asserts to combat desertification in the countries experiencing serious drought and/or desertification, particularly in Africa in 1994.⁵⁶ The term “desertification” has been identified in the first article, paragraph (a) as where it “means land degradation in arid, semi-arid and dry sub-humid areas resulting from various factors, including climatic variations and human activities”. The researcher agrees with the definition of desertification as stated by UN Convention to combat desertification and the definition has been applied in this study. In the context of this study, it is important that the term “desertification” is understood from the very beginning since the issue of water utilization by the upstream countries without adhering to the principles and rules of international law may lead to a situation whereby a downstream country like Iraq becoming a victim of land desertification.

1.8.2 Water Resources

Adnan Abbas and Khalaf Muttar in their study⁵⁷ addressed the issue of water sources from the Arab World perspective. The authors divided the water resources in the Arab world into two parts: the natural resources of water that are formed by nature and they include rain, rivers, and the groundwater and the non-natural resources that are extracted from the following sources: desalination, wastewater treatment and agricultural wastewater treatment. The authors reached to the conclusion that, under the limited Arab

⁵⁶ United Nations General Assembly, United Nation Convention to Combat Desertification.

⁵⁷ Adnan Abbas Hmedan and Khalaf Muttar Jarad, “Arab water security and the issue of water in the Arab world: An economic, statistical, demographic and political study of the reality of water development and its reflections on the Arab water security,” *Damascus University of Economic and Legal Sciences* 22, no.20 (2006), 7-39, <http://www.damascusuniversity.edu.sy/mag/law/images/stories/2-20006/a/7-39.pdf>, (accessed January 18, 2014).

water resources, the Arab water cooperation and integration must be activated to ensure the Arab water security and to maintain the wealth from being lost.

Haider Nimaa Bakheet⁵⁸ elaborated that the Arab countries suffer from the scarcity of renewing fresh water where most of the Arab countries fall under the water poverty line set by the United Nations within less than a thousand cubic meters per year per capita. He also examined the types of Arab water resources and divided them into conventional resources which include rain, surface water, and ground water and non-conventional including desalination and water treatment. The author finally emphasized on the importance of paying attention to the Arab water resources available, developing and protecting them from pollution as well as pushing for a comprehensive cooperation among the Arab countries concerning the issue of non-conventional water.

Mahmoud Zambuaa studied the issue of water security in the Arab World⁵⁹ where he defined it as the protection of the water resources available and using them in the best way possible, not to pollute them and to rationalize their consumption in addition to finding new sources of water to achieve a balance between the water resources available and the growing demand. His study highlighted the resources of the Arab water and divided them into conventional resources which include rain, surface water, rivers and valleys, and groundwater and non-conventional resources including desalination of saline water, sewage treatment, agriculture waste and water treatment. The author concluded that the issue of water security should be at the top of the agenda as far as the

⁵⁸Haider Nimaa Bakheet, "Arab waters: Reality and Challenges," *Al-Ghari for Economic and Administrative Sciences* 2, no.12 (2009), 1-24, <http://www.iasj.net/iasj?func=issueTOC&isId=636&uiLanguage=en>, (accessed February 27, 2014).

⁵⁹Mahmoud Zambuaa, "Arab water security," *Damascus University Journal of Economic and Legal Sciences* 32, no.1 (2007), 175-197, <http://damasuniv.edu.sy/mag/law/old/economics/2007/23-1/7-%20zanbouah.pdf>, (accessed January 18, 2014).

interests of the Arab countries are concerned. As such, there should be an integrated strategy to cope with the water shortage and to achieve sustainable development and to work on drawing a long-term water policy for the Arab countries to ensure the rights of such countries in river sharing.

The previous studies showed that water resources are available in the Arab world in general and stated their divisions and kinds. In the context of the present study, the researcher agrees with the division of water resources. However, the researcher in the present study elaborated, in a special way, the surface water resources (rivers) in Iraq focusing mainly on the Tigris and its tributaries as well as the Euphrates. For example, the researcher addressed the issue of sharing international rivers such as the Tigris and Euphrates by both the upstream and downstream countries in light of the spirit of international law.

1.8.3 Historical Right (Acquired Right) of River Water

The book of the Code of Hammurabi, translated by Mahmoud Amin⁶⁰ shows that the oldest legal written laws in Iraq were found in the Code written in cuneiform and in Babylonian. This Code consisted of 282 Articles which regulated various aspects of life, including the use of water specifically in Articles 53-56 and Articles 234-240. For example, Article 53 stated that if the master was negligent in his field and did not strengthen the dam and there was a crumb in the dam through which water destroyed the farmland, this person should compensate for the grains spoiled. Besides, the writer also mentioned King Hammurabi's interest in developing the dams and digging canals.

⁶⁰ Ameen, *Code of Hammurabi*, 7-11.

The book of the Code of Hammurabi translated by Mahmoud Amin shows that Iraq has an acquired right in using the Tigris and Euphrates Rivers. This is supported by Hala Al-Hadeethi⁶¹ in her study when she wrote on the rights of the residents of Mesopotamia of the Euphrates River water since they have been living on the banks of the Euphrates River for thousands of years and they were the first to come up with the idea of the legal rules governing the use of water of the Euphrates River. Articles 234-240 of the Hammurabi Code regulated the use of river navigation in Mesopotamia. It was the first written legal rule governing navigation. Hadeethi has found that this was a proof of the acquired right of Iraq in the Euphrates River water by virtue of being the first to use the waters of this river. However, the author did not address the concept of acquired right under international law and the study was limited to the Euphrates River only. In the present study, the researcher intends to develop the concept further by showing that Iraq as a downstream country has the right to the use of Tigris and Euphrates Rivers in accordance with the principles of international law.

Abdul Malik Al-Tamimi⁶² wrote about the concept of ‘acquired right’ and he stated that it first appeared in 1929 when signing the agreement between Egypt and Britain (state of mandate), on behalf of Sudan, to share the water of the Nile between the two countries due to being the downstream countries. The right was granted because they were the first to use the river since the dawn of history and this was confirmed by the effects of the oldest civilizations in Egypt. This became the reference and the basis for the concept of acquired right with regard to the use of international rivers. The author supported the

⁶¹Hala Salah Hadeethi, “Rivers and their legal nature: The Euphrates River as an example,” <http://www.fcds.com/a-r/ar-2.html>, (accessed January 30, 2014).

⁶²Tamimi, *Arab water*, 1 and 275.

two governments, Egypt and Sudan, adherence to confirm their legal principle and to emphasize their constant rights in the Nile towards the other coast countries which are ten in number.

Abdul Malik Al-Tamimi's study showed the beginning of using the principle of acquired right with respect to the international rivers in the agreement between Egypt and Britain, (mandate state) for Sudan. The researcher agrees with Abdul Malik's view that the acquired right is one of the constant international principles applicable in the field of international rivers. Unlike Abdul Malik, the researcher's current study focused on bringing out the historical acquired right of Iraq in the water of the Tigris and the Euphrates.

Jamal Zuhair and Mohammed Amin Brbinar studied the water crossing the border in Turkey and around.⁶³ The two researchers concluded that what Iraq's claims against its acquired right in the waters of these rivers, due to the historical use of these rivers for thousands of years and saving the life of Mesopotamia, and its calls to share the waters of the rivers on the basis of mathematical equations that determine each country's share of the amount of water are mere untrue allegations and opinions in the international forums. This is because the acquired right is not a factor to rely upon in determining the optimal use of water and the water cannot be shared and determined for each country.

The researcher of the present study does not agree with Jamal Zuhair and Mohammed Amin's study because the acquired right is one of the international principles in force in

⁶³ Jamal Zuhair and Mohammed Amin Brbinar, "Cross-border water in Turkey and around: historical development, and legal dimensions of the proposed solutions," in Cross-Border Waters And Turkey, n.d., Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world, Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.), <http://www.waterexpert.se/Turkia.htm> (accessed April 17, 2014).

the international community. Many international agreements on international rivers stated this right in addition to being adopted by many international organisations in their studies including Helsinki's Rules in 1966.

1.8.4 The Economic Impacts of Water Shortage

Abdul Aziz Shihatha⁶⁴ analysed the water policy followed by the Turkish government when it used it as a means to put pressure on Syria. This resulted in substantial damages to the Syrian economy due to the shortage of water. Among such negative effects was that the water shortage led to many of the hydroelectric plants to be stopped. This is because the hydroelectric plants usually depend on the level of water behind the dams for the power generation. For instance, in 1990, 7 turbines from 8 stopped in the hydroelectric plants in Tabqa Dam. Moreover, water shortage had negative impacts on the agricultural areas in Syria and also on some industries.

Ghazi Ismail Rababa'a⁶⁵ examined the economic dimensions resulting from water shortage in the region. He concluded that the negative impact was fundamental in the agriculture and the energy sectors. Such negative impacts differ from one country to another for several factors. Moreover, Jordan River was negatively affected by the shortage of water which led to a decline in the agricultural sector and to increase the dependency of the economy on external support resources and the same applies to the countries of the Nile.

⁶⁴Abdul Aziz Mansour, *The issue of water in the Syrian policy towards Turkey* (Beirut: Center of Arab Unity Studies, 2000), 11-338.

⁶⁵Ghazi Ismail Rababa'a, "Dilemma of water in the Middle East" (A lecture presented in the Emirates Center for Strategic Studies and Research, Abu Dhabi, United Arab Emirates, February 7, 2001).

Manar Ezzat Mohammed and Wafa Abdul Karim⁶⁶ studied the scarcity and limitedness of irrigation water for the Egyptian agriculture which is considered one of the most important current and future challenges facing the economy and sustainable development. The most important water challenge for Egypt is the conflict over the Nile where the water is being shared among eleven countries. Most of these countries call for rezoning the water quotas except Egypt, the country of downstream. The authors concluded that Egypt reached the level of water poverty when compared to the rest of the Nile Basin countries. This is a country of agriculture because its economy depends on agriculture and any change in the amount of the Nile water will eventually lead to negative effects on the economy and development.

The report of Stockholm International Water Institute (SIWI)⁶⁷ at the Middle East symposium in the World Water Week 2009 stated that water greatly affects the sectors of irrigation, agriculture, industry and the production of electric power which are related to the development of any society. Consequently, the integrated management of the joint water resources are to be achieved through joint cooperation to achieve development. The lack of water intake clearly and directly affects these sectors and in turn affects the economic development of any country.

⁶⁶ Manar Ezzat Mohammed and Wafaa Abdul Karim Mohammed, "The economic resources available for economic development in the Nile Basin countries and the possibility of a joint cooperation between them," *Journal of Agricultural Sciences* 58, no.2 (2013), 161-172, <http://www.agr.alexu.edu.eg/alexjar/volumes/2013/2.aspx>, (accessed February 1, 2014).

⁶⁷ Stockholm International Water Institute, "Water And Energy Linkages In The Middle East – Regional Collaboration Opportunities", *Stockholm International Water Institute*, last modified 2010, <http://www.siwi.org/publications/water-and-energy-linkages-in-the-middle-east-regional-collaboration-opportunities/>, (accessed October 26, 2014).

Mahmoud Zambuaa⁶⁸ examined in his study the most important causes of water shortage in the Arab countries which included the upstream countries control of the water of joint rivers and its economic impact on sectors such as the domestic, industrial, and irrigation use. He also identified the negative effects resulting from the occupation of Israel of the water resources in Syria, Jordan, and Palestine and the subsequent economic damages hit by these countries due to shortage of water.

Generally, it seems that these studies have emphasized on the role of water in the economic development of a country and what will be the negative effect(s) on the country's economy in case there is shortage and scarcity of water. Abdul Aziz Shahatha study showed the negative impact caused by water shortage in terms of generating hydroelectric power in Syria. Moreover, Ghazi Ismael studied the impact of water shortage on the Jordanian economy and on the agriculture as well, whereas Manar Ezzat and Wafaa Abdul Karim showed, in their study, the impact of the Nile on the Egyptian economy. As for the report of the SIWI, it has shown the impact of water on the energy and agriculture sectors and the high correlation between them. Finally, Mahmoud Zambuaa discussed the impact of water shortage on the economies of Syria and Jordan. The studies mentioned above focused on the position of other countries. The researcher agrees that the shortage of water and its scarcity in the joint rivers indeed has negative effects on the economy and development of the countries mentioned above. Besides, the researcher agrees with the report of the SIWI that water has a relationship with all sectors and it has a great impact in the energy sector, where electric power is the backbone of modern life that is necessary to promote industry, transport, trade, health,

⁶⁸Zambuaa, "Arab water," 175-197.

education, job creation etc. In addition, it has a direct impact on the agriculture sector. Lack of water means lack of agricultural production and lack of arable land, which consequently leads to the spread of desertification and rising of unemployment etc. Similarly, in the present study the researcher examined the effects of water shortage on the irrigation sector, agriculture and in the production of hydroelectric power in Iraq.

1.8.5 Legal Studies of Rivers

Stephen C. McCaffrey studied the UN Convention 1997⁶⁹ and he explained the most important rules set forth in this agreement including the principle of utilization and participation, which is fair and reasonable, and the principle of not causing any significant harm. Among the results of this Convention was its impact on the subsequent legal developments and their role in enhancing the international law sovereignty related to the non- navigational international rivers.

Ahmed Al-Mufti⁷⁰ studied the UN Convention 1997 and he discussed the historical development of the international custom related to the non-navigational international rivers ending with the issuance of the United Nations Law in 1997 which contained the most important international principles governing the use of non-navigational international rivers. He concluded that the Convention was a reasonable balance among different interests and aimed to protect the shared water resources.

⁶⁹Stephen C. McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses," *The United Nations*, 2010, www.un.org/law/avl, (accessed January 21, 2014).

⁷⁰ Ahmed Mufti, "A study on the convention on the law of the Non-navigational uses of international watercourses," *Encyclopedia of Sudanese precedents and judicial rulings*, 1997, <http://sjsudan.org/details.php?>, (accessed September 22, 2013).

On the basis of being affected by the UN Convention 1997, Salahuddin Amer⁷¹ showed the relationship of this International Convention with the previous and subsequent conventions and its impact on these conventions. Besides, the author sheds light on the role of Egypt in discussing the preparation for this Convention and in including the framework phrase in the convention prologue.

Ibrahim Kaya, discussed the issue of the Tigris and the Euphrates basins and the cooperation opportunities in accordance with the rules of international law.⁷² He made it clear that the international rules would not determine the water quotas of the riparian countries of the Tigris and the Euphrates. Such rules represented the basic rules for negotiation and cooperation. He reached to the conclusion that holding an agreement among the joint countries is necessary to achieve cooperation. To reach to such an agreement, studies should be conducted on water and soil in all joint countries to determine the amount of water for each country.

Yeshar Yakeesh⁷³ referred in his study to the Turkish official position of the Tigris and the Euphrates in that Turkey considers the Tigris and Euphrates rivers as one river. The two cross the borders and constitute a basin where they connect inside the Iraqi lands through Thir Thar Canal. On this basis, the two rivers are two parts of one basin. This is a constant and indispensable principle to the Turkish government.

⁷¹Salahddin Amer, "United Nations Convention on the Law of the Non-navigational Uses of international watercourses," *Digital Ahram*, October 2004, <http://digital.ahram.org.eg/articles.aspx?Serial=221228&eid=475>, (accessed November 2, 2013).

⁷²Kaya, "The Euphrates-Tigris Basin."

⁷³ Yeshar Yakeesh, "Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris-Euphrates basin," Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world, Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.), <http://www.waterexpert.se/Turkia.htm> (accessed April 17, 2014).

Funda Yakar⁷⁴ studied the Turkish cross border waters and the water basins located inside Turkey, including the Tigris and Euphrates basin. The writer stated that these rivers are among the most important rivers in the Middle East and they cross the borders and constitute one basin. Besides, the writer stated that the riparian states of these rivers use water for different purposes, especially to meet the agricultural needs and to produce electrical energy for the household uses in addition to other uses. All the riparian countries of these two rivers fully rely on them to fulfill water needs. The author concluded that these rivers cross the borders and that they constitute one water basin.

Mohammed Shouqi Abdul Aal studied the principle of equitable utilization of the water of international rivers.⁷⁵ He concentrated on the legal status of the Nile in the light of this principle due to the lack of agreement that brings together all the joint countries sharing the River Nile amounting to eleven and the absence of an international association administering the River Nile. He concluded that Egypt is the state of the downstream and it has no other source of water other than the Nile, therefore, it should rely on this international principle in maintaining its rights in the Nile against the upstream countries.

⁷⁴ Funda Yakar, "Turkey's Transboundary Water Policy: Dominance of the Realist Paradigm?" (the Degree of Master of Science in Middle East Studies, The Graduate School of Social Science of Middle East Technical University, 2013), 75-76, <http://etd.lib.metu.edu.tr/upload/12616161/index.pdf>, (accessed October 7, 2016).

⁷⁵Shawki Abdul Aal, "Equitable utilization of the waters of the international rivers in the United Nations Convention with a particular reference to the case of the Nile River," *African Perspectives* 11, no.39 (2013), 71 - 78, <http://www.sis.gov.eg/Ar/Templates/Articles/tmpArticles.aspx?CatID=4807#.Uy03s4XIIK4>, (accessed February 12, 2014).

Musaaid Abdul Ati Shtewi⁷⁶ separated the most important legal standards including the principle of not damaging, the principle of protecting the river environment and the principle of prior notification. Furthermore, he examined the experiment of the plateau in tropical Africa and the commitment of the countries of the plateau towards such international principles. The author emphasized the importance of adhering to these controls by cooperating with Sudan and the international organisations to standardize the legal position toward Ethiopia.

As for the rivers and their legal nature, they were the focus of Hala Salah Al-Hadeethi's study,⁷⁷ in which she showed the concept of water as a chemical compound, unique and has unique physical and chemical properties that make it the most important natural resource on the planet. She also examined the adaptation of the rivers legal nature and whether they are among the movables or the real estates. She concluded that rivers are natural elements moving in a continuous dynamic movement, i.e., rivers are an estate of a special nature, not subject to ownership and not subject to absolute sovereignty. Rivers are usually considered of common and shared interest. It is also considered within the common heritage of humanity, like the sunshine, high seas and others as classified by R. Churchill in his book *The Law of the Sea*. The author also stated that these things such as rivers were found by Allah on earth and they are of common interest to all with no exception.

⁷⁶Musaaid Abdul Ati Shtewi, "Legal controls governing the creation of water projects on international rivers: An Empirical Study on the Nile River Basin," *African Perspectives* 11, no.39 (2013), 79-116, <http://www.sis.gov.eg/Ar/Templates/Articles/tmpArticles.aspx?CatID=4807#.Uy047IXIIK5>, (accessed February 12, 2014).

⁷⁷Hadeethi, Rivers and their legal nature.

The expert at the World Bank Salman Mohammed Ahmed Salman⁷⁸ studied the importance of having the United Nations Convention 1997 into force. He also showed the role of the international organisations in the development of the rules of the international law on international rivers. Besides, he looked at the historical development of the United Nations Convention and its issuance in 1997 ending with the entry into force on 17th August 2014.

The author concluded that the United Nations Convention has codified international customary rules and principles on international rivers. Therefore, it is binding to all other states outside the Convention, due to the fact that these principles reflect the rules of the customary international law. The International Court of Justice confirmed this in two cases related to the international watercourses, namely, the issue of the Danube in 1997 and the issue of Pulp Mills in 2010, where the court adopted international customary rules stipulated in the United Nations Convention 1997. It is worth mentioning that the countries parties in the conflict were not part of the Convention, but they were committed to implement the decisions of the International Court of Justice.

Generally, the studies of Stephen C, Ahmed Al-Mufti and Salahuddin Amer, concerning the UN Convention 1997, are of vital importance in the field of International Law i.e. International Rivers. The researcher agrees with these studies regarding the importance of the UN Convention 1997 and in the current study he has addressed the internationality of the Tigris and the Euphrates river basins under international law principles by focusing on the position of Iraq. As for Ibrahim Kaya's study, the

⁷⁸Salman M. A. Salman, "Entry Into Force Of The UN Watercourses Convention: Why Should It Matter?", *Www.Salmanmasalman.Org*, last modified 2014, 11, <http://www.salmanmasalman.org/wp-content/uploads/2015/01/UNwatercoursesConventionIJWRDarticlePublished.pdf>. (accessed December 13, 2014).

researcher disagrees with him because international law does not require a study on the soil and water to determine the amount of water between the joint countries sharing the course of an international river, but it states a set of international principles that the researcher has worked on in his study.

As for Yashar Yakeesh's study, the researcher disagrees with what was stated. The Tigris and Euphrates are two independent and separate international rivers and each one of them has its independent water network that feeds it. Therefore, they are independent and separate from each other, based on the principles and norms of the international law. The same applies to Funda Yakar's study. According to the rules and principles of the international law, the Tigris and the Euphrates independent and separate international rivers and they are also considered independent water basins, each has its own independent network of water that feeds it. On the other hand, the studies of both Mohamed Shouqi and Musaaid Abdul Ati showed some of the international principles regarding international rivers and their applicability to the River Nile. The researcher has studied these principles and their applicability to the Tigris and the Euphrates. Besides, the researcher agrees with Hala Al-Hadesi that there is no absolute sovereignty on the ownership of a river.

The study of the expert Salman Mohammed Ahmed Salman that showed the United Nations Convention 1997 wrote down and codified international customary rules and principles in force and applicable in the field of international rivers. Therefore, some of the provisions of the UN Convention are in force to all countries, even the non-member countries in the Convention. The researcher agrees with the findings of the expert in that some rules of the United Nations Convention are extended to non-members of the

Convention. This is due to the fact that these rules derive their strength from their customary binding origin.

To sum up, the above studies mentioned above dealt with areas and rivers far from the scope of the present study. In the present study, the focus is on the geography of the Tigris, and its tributaries, and the Euphrates and the projects constructed by the upstream countries. Furthermore, the study also focused on the impact of the shortage of water caused by the construction of these projects by upstream countries on the Iraqi economy as a downstream country thus hindering its right to enjoyment of the water resources of these two rivers. Hence, it cannot be denied that the upstream and downstream relationship in international river basins is a traditional challenge in water management. Water use in upstream countries often has a negative impact on water use in downstream countries.

1.9 Outline of the Chapters

This thesis is divided into five chapters, which are:-

Chapter One addressed the background of the study, problem statement, research questions, research objectives, significance of the study, research methodology, limitations of the study, literature review and outline of the chapters.

Chapter Two addressed the historical usage of the Tigris and Euphrates Rivers. The chapter also discussed the location of Iraq, surface water resources of Iraq, geography of the Tigris and the Euphrates Rivers, the concept of acquired right under international law, and conclusion. Besides, this chapter answered the first research question as well as

achieved the first research objective and also laid down the conceptual framework of the study.

Chapter Three discussed about the position of Tigris and Euphrates Rivers under international law: The chapter also addressed the stages of the development of the concept of international river, the UN Convention on the Law of the Non-navigational Uses of International Watercourses 1997, conventions related to the Tigris and the Euphrates Rivers, important issues put forward by the Riparian Countries regarding the position of the Tigris and the Euphrates Rivers, and conclusion. In addition to that, this chapter has also answered the first and second research questions and achieved the first and second research objectives.

Chapter Four addressed the impacts of the projects constructed on the Tigris and the Euphrates Rivers on Iraq's right to enjoyment of the water resources of these two rivers. The chapter made reference to the projects constructed by the upstream countries i.e. Turkey, Syria and Iran around the Tigris and the Euphrates Rivers and their tributaries pointing out the impacts of constructing these projects on Iraq's right to enjoyment of the water resources of these two rivers as a downstream country, and conclusion. Furthermore, this chapter answered the third research question as well as achieved the third research objective.

Chapter Five addressed the overall conclusion and recommendations based on the findings of the study. This chapter achieved the fourth research objective i.e. "To recommend the necessary improvements based on the spirit of international law in terms of the usage of the Tigris and the Euphrates Rivers and their tributaries between the

upstream and downstream countries, especially in the context of Iraq's right to enjoyment of the water resources of these two rivers.



CHAPTER TWO

HISTORICAL USAGE OF THE TIGRIS AND EUPHRATES

RIVERS

2.1 Introduction

This chapter addressed and showed the nature and the geography of Iraq and the most important surface water resources of the country. The chapter was also devoted to the study of the geographical location of Iraq and its resources of the water surface as well as the geographical location of the Tigris and the Euphrates from upstream to downstream. In this chapter, the history of the use of the Tigris and the Euphrates has been studied as well. Furthermore, this chapter answered the first research question as well as achieved the first research objective and also laid down the conceptual framework of the study.

2.2 The Location of Iraq

Iraq is known as the cradle of civilization in which the oldest human civilizations in history grew up on the banks of the Tigris and the Euphrates Rivers.⁷⁹ The name Iraq was associated with these two rivers as it was known as Mesopotamia and still Iraq is

⁷⁹ Food and Agriculture Organization of the United Nation, *Irrigation In The Middle East Region In Figures AQUASTAT Survey – 2008, Fao water Reports 34* (Food and Agriculture Organization of the United Nation, Rome., 2009), <http://www.fao.org/3/a-i0936e.pdf>. (accessed October 2, 2016). See also, Mohammad Abdul Majeed Hassoun Al-Zubaidi, *Iraqi Water security: A study on the progress of negotiations in dividing the international waters* (Baghdad: House of Cultural Affairs, 2008), 31-33.

being called as such in the foreign languages.⁸⁰ As for the Muslim Arabs, they named it the black land due to its fertility and the large number of cultivated areas and palm trees.⁸¹

Iraq is located in the western part of the Asian continent between the longitudes 38.42-48.23 to the east and the latitudes 29.27-37.23 to the north.⁸² As for its location within the map of the Arab world, it is located in the northeast part. In the north of Iraq is the Republic of Turkey, from the east the Republic of Iran, from the Northwest is the Republic of Syria, from the west it is bordered by the Hashemite Kingdom of Jordan and the Kingdom of Saudi Arabia, while from the south it is bordered by the Kingdom of Saudi Arabia, Kuwait and the Arab Gulf.⁸³ The total area of Iraq is 435, 052 square kilometres.⁸⁴

In addition, Iraq is inherently based on a basin comprising a slimy plain located between the Tigris and the Euphrates. This plain is bordered from the north and northeast by a mountain range while from the south and the west it is bordered by the desert which consists of arid and semi-arid lands.⁸⁵ The surface of Iraq consists of four topographic areas, namely:⁸⁶

⁸⁰ Fuad Qasim Al-Ameer, *water balance in Iraq and the crisis of water in the world* (Baghdad: Al-Ghad House, 2010), 57.

⁸¹ *Ibid.*, 59.

⁸² Republic of Iraq, Ministry of Agriculture, Department of Forestry and combating desertification, *Desertification in the Republic of Iraq*.

⁸³ United Nation, UNESCO, "National framework for the integrated management," 15.

⁸⁴ Republic of Iraq, Ministry of Agriculture and Irrigation, Department of Planning and follow-up, Department of Studies. *Water resources in Iraq: Reality and future in light of the projects of the high joint rivers countries*, November 1992.

⁸⁵ Food Organization, aquastat, 1.

⁸⁶ Mohammedi Bedaiwi Shammari, *Political Deprive: detailing the issue of water in Iraq* (Baghdad: General Cultural Affairs Press, 2001), 27-28. See also Food Organization, aquastat, 1.

- The mountainous region which is located in the north and northern east part of Iraq and it is the richest region with rain fall and it constitutes less than 20% of the area of the whole country.
- Undulating region which represent a fraction of the area of Iraq and it does not exceed 10%.
- Plains region and it represent Iraq's agricultural area which is estimated less than 30%.
- The desert region which is considered the biggest area of Iraq because it occupies a large area of Iraq reaching into 40%.

Water expert Abdul-Khaliq who was interviewed by the researcher estimated that the area of land that is suitable for agriculture in Iraq is about 12 million hectares of the total area of Iraq.⁸⁷ From this estimate, it would suffice to note that as a country, Iraq is indeed considered in the region to be a powerhouse for agriculture.

In terms of climate, Iraq can be classified as being located in the area of (ESCWA), which is one of the world's most arid areas.⁸⁸ It is characterized by the lack and scarcity of renewable water. Its climate is characterized by the lack and scarcity of rainfall and high degrees of temperatures. The dry and semi-dry climate is prevalent in most of Iraq's territories: in the central, southern and western areas.⁸⁹ As for the North and North eastern areas, i.e., the mountainous region, the Mediterranean climate is prevalent.⁹⁰

⁸⁷Ali Ghalib Abdul-Khaliq, 'Water Expert', interviewed by Omar Ahmed, in person (ministry of water resources, March 28, 2015).

⁸⁸Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 16.

⁸⁹Food Organization, aquastat, 1.

⁹⁰Ibid.



Figure 2 Iraq Map.

2.3 Surface Water Resources of Iraq

Iraq is located in the ESCWA region.⁹¹ The dry and semi-dry climate prevails in most of its parts. The climate is characterized by high temperatures during summer period reaching up to approximately 50°C and by the lack of rain and renewable water.⁹² The surface water resources of Iraq are represented by the rainfall and the flowing rivers. The climatic and natural conditions in Iraq make the fall of rain little and the rates vary from one region to another. Besides, the rainfall in Iraq is seasonal happening during the winter period, which runs from October through April.⁹³ The rainfall in the mountainous region, which lies in the north and northeast of Iraq, is estimated from 600-1200 mm per year, while in the steppes region, the rate of the annual rainfall is that of 300-600 mm.⁹⁴ As for the desert region, which is considered the largest part of Iraq and is located in the west and south part of the country, the rate of the annual rainfall is 100 mm.⁹⁵ Concerning the Sedimentary plain, between the Tigris and the Euphrates and in the middle and southern part of Iraq is considered a major agricultural region for the country, the annual rainfall rate does not exceed 150 mm.⁹⁶

Consequently, the amount of rainfall water in Iraq is limited and most of this water is lost either it evaporates because of the high temperatures and the length of the summer season or the leakage deep into the ground due to the amount of land on which the rain falls and the lack of rainfall.

⁹¹United Nations, economic and social commission for Western Asia, "Member States", *United Nations Economic And Social Commission For Western Asia*, last modified 2015, <https://www.unescwa.org/about-escwa/overview/member-states>. (accessed July 1, 2016).

⁹²Republic of Iraq, Ministry of Agriculture and Irrigation, *water resources in Iraq*, 1.

⁹³Republic of Iraq, Ministry of Agriculture, *Desertification in the Republic of Iraq*.

⁹⁴Ibid.

⁹⁵Ibid.

⁹⁶Republic of Iraq, Ministry of Agriculture and Irrigation, *water resources in Iraq*, 1.

As for the rivers, they are the water resource upon which Iraq mainly and essentially relies on in all sectors of life. They are considered the source of economic, social and human life. Besides, most of Iraq's population, and most of their activities, are centred on the banks of the rivers.

Iraq has a number of rivers, but the headwaters originate from outside the country including the Tigris and the Euphrates Rivers in addition to other rivers such as Kenjan Jam River, Kinkeer, Al-Karkheh and Karun and others, upon which Iraq mainly relies on in the overall activities and sectors so as to achieve human and economic development.

2.4 Geography of the Tigris and the Euphrates Rivers

This section addressed the geography of the Tigris and the Euphrates paying attention mainly to the upstream to downstream countries as well as stating the countries through which both rivers flow:

2.4.1 Geography of the Tigris River

Under this sub-heading, the geography of the Tigris has been studied and described. In other words, the origin of naming the river was stated and the geography of the river from upstream to downstream was explained as well as the countries through which the river flows.

2.4.1.1 Naming of the Tigris River

The name 'Tigris' was used in the ancient Iraqi civilizations.⁹⁷ It was mentioned in the ancient cuneiform texts as (Idigna) and in the Akkadian texts (Idiglat) which means the current.⁹⁸ Moreover, the Hebrews called it (Hedaql) while the Persians (Tigra) which means the arrow because of the speed of the flow of water.⁹⁹ In the Sumerian era, it was called (Tiger) due to the speed of the flowing water.¹⁰⁰ Some geographers and historians in their writings stated that the name of the river goes back to the Sumerian 'tiger' as they resembled the speed of the flow of the river to the speed of the Tiger and this created fear among them.¹⁰¹ Also, the Arabs called it the 'Dijla'.¹⁰²

2.4.1.2 Upstream and Downstream of the Tigris River

The Tigris stems from the Plateau of Armenia, eastern Turkey, more specifically from the South Slopes of Eastern Taurus Mountains series.¹⁰³ This river is formed from two main tributaries originating from the Turkish lands and they are Tigris Su and Bhan Su.¹⁰⁴

- Tigris Su (the western tributary)

It stems from the heights surrounding Kojak Lake, more specifically from the heights of Kara Joe Oghlan, Mastar Dag, Hazar Baba Dag, to head then

⁹⁷Abdul Redha Al-Humairi, *Bitter thirst in Mesopotamia: Rivers between sabotage, organization and neighbourhood Abuse*, (Hilla: The Euphrates House for Culture and Media, 2010), 29.

⁹⁸Ibid.

⁹⁹Ibid.

¹⁰⁰Sahib Al-Rubaie, *Crisis of the Tigris and the Euphrates's basin and the argument of contradiction between water and desertification* (Damascus: Dar Al-Hasad, 1999), 149.

¹⁰¹Al-Humairi, *Bitter thirst*, 29.

¹⁰²Ibid.

¹⁰³Permanent Representative of the Republic of Iraq to the Arab League, *Synopsis of studying the water resources in Iraq in the light of the projects of the high joint rivers countries*, 4.

¹⁰⁴Permanent Representative of the Republic of Iraq to the Arab League. *Arab water resources: A study on the basins of the Tigris and Euphrates*, 3.

towards the south to pass through the city of Madan and upon the arrival to the area of Diyar Bakir, it changes its direction towards the east and a number of watercourses or streams pour into it including Beer Aziz, Da Racy, Anbarjay, Korojay, Pamuk, etc.¹⁰⁵ At Sinan City, it meets with the tributary ‘Batman Su’ and when reaching into Bashiri Town, it meets its tributary Karzan Su.¹⁰⁶ Then, this tributary continues to finally meet the second tributary of the Tigris which is ‘Bhutan Su’.¹⁰⁷

- Bhutan Su (the eastern tributary)

It collects its water from the southwest of Van Lake, and then it moves towards the southwest where a number of tributaries pour into it.¹⁰⁸

The tributaries of Tigris Sue and Bhutan Su meet together to form the Tigris inside Turkey and before the Iraqi-Turkish border.¹⁰⁹ The Tigris then heads towards the south and the southeast towards the border city ‘Jazra’ between Turkey and Syria to form the border between Turkey and Syria for a distance of 37 kilometers.¹¹⁰ Then, it continues to form the border between Iraq and Syria for a distance of 7 kilometers. This means that Syria shares the Tigris for a distance of 44 kilometers from the West Bank of the river to form the borders between Turkey and Iraq.¹¹¹

The Tigris enters into the Iraqi borders at the town of Fishkhabur in Dohuk City in the far north of Iraq. Several tributaries feed the Tigris inside Iraqi and they constitute an important part of its revenue water rate, and these tributaries are:

¹⁰⁵ Al-Rubaie, *Crisis of the Tigris and Euphrates Basins*, 142.

¹⁰⁶ Ibid.

¹⁰⁷ Ibid.

¹⁰⁸ Ibid. See also Al-Humairi, *Bitter thirst*, 30-31.

¹⁰⁹ Ibid. See also Ibid.

¹¹⁰ Al-Adili, *International River*, 356.

¹¹¹ Ibid.

- Khabur River Tributary

This tributary stems from the Turkish and Iraqi lands, more specifically, from Judy heights and Harakul Dagh heights it is formed from two branches, namely, Alyazal and Mehrmah.¹¹² Its basin covers an area of 6286 square kilometers of which 3618 square kilometers in Turkey and 2668 square kilometers in Iraq.¹¹³ Its annual water income rate is 2.1 billion cubic meters while its length is 160 kilometers.¹¹⁴ It pours into the Tigris in the town of Fishkhabour in Dohuk City in the far north of Iraq.¹¹⁵

- The Great Zab Tributary

This tributary stems from Turkish-Iraqi lands from Ararat and Hasarost heights and it is formed from several tributaries including (Zab, Ruyasheen, Shemdinan, Kojak Jay, Rawandoz Jay).¹¹⁶ These tributaries meet in the north of Bekhmeh Strait to form the Great Zab River. At the City of Aski Kalak, two important tributaries meet and they are Bastorah and Al-Khazir. The basin of this river covers an area of 26473 square kilometers of which 16600 square kilometers in Iraq and the rest in Turkey.¹¹⁷ As for the length of this river, it is about 392 kilometers,¹¹⁸ with an annual import rate of 14.32 billion cubic meters and it flows into the Tigris south of the city of Mosul in about 50 kilometers.¹¹⁹

¹¹²Al-Adili, *International River*, 358.

¹¹³Ibid.

¹¹⁴Ibid.

¹¹⁵Ibid.

¹¹⁶Sahib Al-Rubaie, *International Rivers in the Arab world*, (Damascus: Al-Kalima, 2002), 45.

¹¹⁷Ibid.

¹¹⁸Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 90.

¹¹⁹Permanent Representative of the Republic of Iraq. *Arab water resources*, 3.

- The Little Zab Tributary

This river stems from the Iranian-Iraqi lands and enters into the Iraqi borders at the town of Daza Castle northern Dukan in the northeast of Iraq and heading towards the southwest to meet with Ranya River to flow into the Tigris south of Al-Sharqat City in about 35 kilometers.¹²⁰ The length of this tributary is approximately 400 kilometers from its upstream to its downstream.¹²¹ The area of its basin is about 21475 square kilometers of which 74% in Iraq and 26% in Iran and the annual income water rate is about 7.17 billion cubic meters.¹²²

- Al-Udhaim River Tributary

It is the only tributary which entirely stems from inside the Iraqi borders as it stems from the southern slopes of Kara Dagh and Shuan heights and it consists of three tributaries, namely, Khasah Jay, Wagh Jay, Waq Su.¹²³ These three tributaries meet at the City of Nijana to form this river, which flows into the Tigris south of Samarra city.¹²⁴ Its basin covers an area of approximately 11,000 square kilometers, while its annual water income amounts to approximately 0.7 billion cubic meters and the total length of the river is 230 kilometers.¹²⁵

- Diyala River Tributary

This river stems from the heights of western Iran and eastern Iraq. It is made up of two main tributaries, namely, Sirwan and Tangro. Sirwan tributary is the main tributary and the most important and it stems from the Iranian lands from an area

¹²⁰Al-Adili, *International River*, 359.

¹²¹Republic of Iraq The Ministry of Planning, Agricultural planning directorate, *A study of the management*, 24.

¹²²Food Organization, aquastat, 6.

¹²³Al-Rubaie, *Crisis of the Tigris and Euphrates Basins*, 143-144.

¹²⁴Ibid.

¹²⁵Republic of Iraq The Ministry of Planning, Agricultural planning directorate, *A study of the management*, 24.

west of Kermanshah and Ardalan, and then it enters into the Iraqi lands south of the city of Halabja in Al-Sulaymaniyah.¹²⁶ As for Tangro tributary, it stems from the Iraqi lands, more specifically, from the heights of Al-Sulaymaniyah and then it heads southwards to meet Sirwan tributary southeast Halabja before Derbandikhan Strait to form Diyala River, which moves towards the south, where its tributary Zamkan, which stems from the Iranian lands, flows into it.¹²⁷ Then, it keeps heading to the southwest where a number of tributaries north of the city of Khanaqeen, flow into including the tributaries of Abbasan, Qara Tu, Derbendik and Nareen.¹²⁸ At the south of the city of Khanaqeen, the last tributary Al-Wand River, which stems from the Iranian lands, flows through the Iraqi borders with a total length of around 48 kilometers, before it finally, flows into Diyala River.¹²⁹ Finally, it meets the Tigris River south of Baghdad in about 32 kilometers.¹³⁰ As for the length of the river, from its source to destination, it is about 386 kilometers of which 290 kilometers is inside the Iraqi borders and its basin covers an area of 31896 square kilometers of which 7824 square kilometers in Iran, and 24072 square kilometers in Iraq.¹³¹ Its annual water income rate is estimated to be about 5.5 billion cubic meters.¹³²

After Diyala River, the Tigris continues heading towards southern Iraq where a group of rivers, streams and valleys flow into it including the Teeb River, Dwereej, Al-Shihabi

¹²⁶Rashid Saadoun Al-Ibadi, "Management of Water Resources in Diyala River: A Study in the geography of water resources for the International joint rivers," *International Journal of Environment and Water* 1, no.4 (2012), 137, <http://ijew.ewdr.org/> (accessed December 3, 2014).

¹²⁷Abdul Ameer Ahmed Abdullah, "The joint border rivers between Iraq and Iran in Diyala governorate," *International Journal of Environment and Water* 1, no. 3 (2012): 120.

¹²⁸Ibadi, "Water resources management," 137.

¹²⁹Abdullah, "Joint border," 120.

¹³⁰Ibadi, "Water resources management," 137.

¹³¹Ibid.

¹³²Ibid.

and Karkheh River all of which stem from inside the Iranian lands and enter into Iraq to end at the Tigris River.¹³³ At the far south of Iraq, the Tigris and the Euphrates meet at the City of Qurnah, north of Basra, to form Shatt al-Arab River.¹³⁴

The length of the Tigris river from its source to its destination, where it meets the Euphrates river at Qurnah is about 1900 kilometers,¹³⁵ of which 440 kilometers is in Turkey and 44 kilometers is in Syria¹³⁶ and the Tigris constitutes a border line between Syria and Turkey for a distance of 37 kilometers and between Syria and Iraq for a distance of 7 kilometers.¹³⁷ The length of the Tigris inside Iraq is over 1418 kilometers¹³⁸ and 10 Iraqi governorates rely on it, namely, Duhok, Arbil, Sulaimaniya, Nineveh, Salahuddin, Kirkuk, Diyala, Baghdad, Wasit, and Maysan, in addition to the north of the city of Basrah.¹³⁹

The water income rate of the Tigris when it enters into the Iraqi lands at Fishkhabour town is 19.43 billion cubic meters per year while the total income of the river with its five tributaries is about 49.48 billion cubic meters annually.¹⁴⁰

¹³³ Food Organization, aquastat, 6.

¹³⁴ Al-Atiya, *International Law*, 325.

¹³⁵ Republic of Iraq, Ministry of Planning, Central Statistical Organization, Agricultural statistics directorate August 2013, *Water resources Report for 2012*, 4, http://www.cosit.gov.iq/documents%5Cstatistics_ar/Agricultural%5Cagre_anim%5CFull%20Report/%D8%AA%D9%82%D8%B1%D9%8A%D8%B1%20%D8%A7%D9%84%D9%85%D9%88%D8%A7%D8%B1%D8%AF%20%D8%A7%D9%84%D9%85%D8%A7%D8%A6%D9%8A%D8%A9%202012.pdf, (accessed August 14, 2015).

¹³⁶ Permanent Representative of the Republic of Iraq. *Arab water resources*, 3.

¹³⁷ Al-Adili, *International River*, 356.

¹³⁸ Central Statistical Organization, Agricultural statistics directorate August 2013, *Water resources Report*, 4.

¹³⁹ *Ibid.*, 3.

¹⁴⁰ Permanent Representative of the Republic of Iraq, *Synopsis of studying the water resources*, 5.

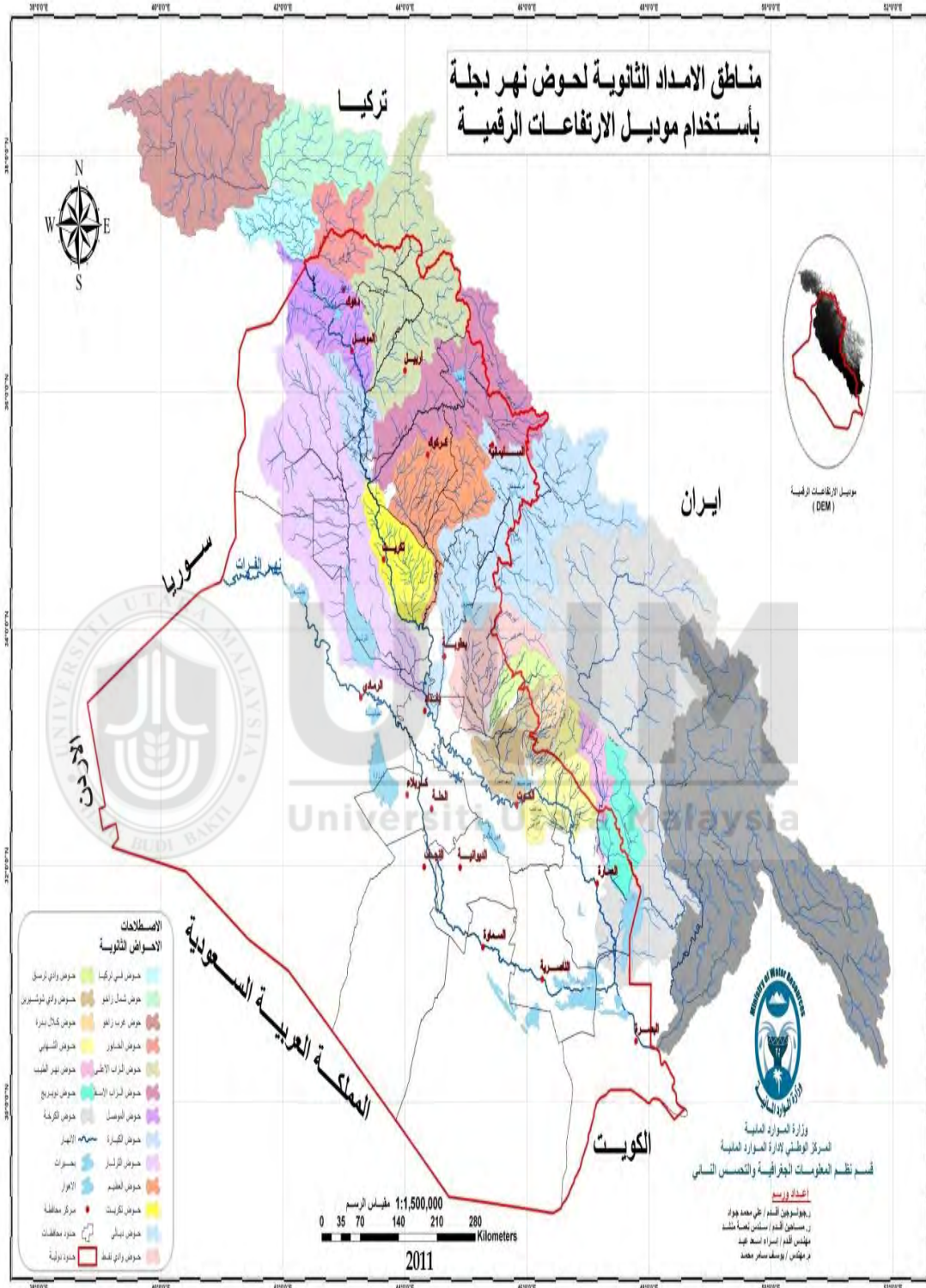


Figure 3 Basin of the Tigris River.

2.4.2 Geography of the Euphrates River

In this section, the geography of the Euphrates has been explained including the origin of naming the river, the geography of the river from upstream to downstream in addition to the countries through which the river flows:

2.4.2.1 Naming of the Euphrates River

Historical studies indicate that the naming of the Euphrates goes back to folks who inhabited the banks of the Euphrates where they built their civilization, but they did not know how to write, therefore, they were called ‘the first settlers of the Euphrates’.¹⁴¹

Another view says that the naming goes back to the civilization of Tel Al-Abeed which was discovered on the banks of the Euphrates and was known for agriculture; especially at the town of Aredo and for the sanctity of the water, they had a special water-god named (God Inki).¹⁴² Some historians hold that the naming of the Euphrates was due to the civilizations developed on its banks, including the Sumerian civilization, which named the Euphrates as (Poire Nunu) while the Assyrian civilization named the river as (Bouranim), which means the ‘great flood’.¹⁴³ The Aramaic civilization called the river (Fruit) which means growth and fertility, and the Arabs called it (Furat) which means the water with intense sweetness.¹⁴⁴ The Cypriots called it (Euphrates) and this name is still being used in the foreign languages.¹⁴⁵

¹⁴¹ Al-Adili, *International River*, 269.

¹⁴² Hadeethi, *Rivers and their legal nature*.

¹⁴³ Izzuddin Alkhairu, *Euphrates River and the international law*, (Baghdad: Al-Hurriya Press, 1976), 87.

¹⁴⁴ Ibid.

¹⁴⁵ Al-Humairi, *Bitter thirst*, 103.

2.4.2.2 Upstream and Downstream of the Euphrates River

It stems from the Heights of Armenia Plateau northeast of Turkey between the Black Sea to the north and Van Lake to the south and it consists of two main tributaries (Furat Su and Murad Su).¹⁴⁶

- Furat Su (Karah Su)

It is the northern tributary of the Euphrates and it stems from the heights in the northeast of Erzurum of Domlo Heights with a height of nearly 3000 meters above the sea level.¹⁴⁷ It is called ‘Kara Su’ at the beginning, and after passing through the plains of Erzurum, it is called ‘Furat Su’.¹⁴⁸ Then, it passes the two chains Eastern Torus and External Eastern Torus Heights heading towards the south and at the City of Diferji, it meets Jalti tributary and continues towards the south to meet the southern tributary of the Euphrates which is ‘Murad Su’ north of Keban City.¹⁴⁹ The length of this tributary is 510 kilometers and the rate of discharge of water in it is between 100-150 cubic meters per second.¹⁵⁰

- Murad Su

It is considered the southern tributary of the Euphrates and it stems from the south of Ala Tagh heights.¹⁵¹ Then, it moves towards the southwest where a number of streams flow into it, and continues to march to meet the northern tributary of the Euphrates which is Furat Su north of Keban to form the

¹⁴⁶ Al-khairu, *Euphrates River*, 119.

¹⁴⁷ Abdul Amir Abbas Abid Al-Hayali, “The Euphrates and the Arab water security” (PhD diss., Al-Mustansiriya University, College of Education, 1995), 34.

¹⁴⁸ Ibid.

¹⁴⁹ Ibid.

¹⁵⁰ Ibid.

¹⁵¹ Al-khairu, *Euphrates River*, 120.

watercourse of the Euphrates and the length of this tributary is approximately 600 kilometers.¹⁵²

When the two tributaries of the Euphrates meet north of Keban in about 10 kilometers, the river continues moving to the south and southwest in a crooked and difficult course between the heights and mountains where a number of tributaries flow into it including Korojay, Tokhmah Su, Shirojay, Shihan, Germk and Kakhteh Jay.¹⁵³

Then, the river heads towards the south to enter the Arab lands. It enters the Syrian borders at Jarablus City to move towards the southeast where three tributaries flow into it inside the Syrian lands, namely, Al-Sajor, Al-Balikh and Al-Khabur.¹⁵⁴

- Al-Sajor Tributary

It stems from Ghazi Antab Heights in southern Turkey and enters the Syrian lands to flow into the Euphrates River at the right riverbank south of Jarablus City. The length of the tributary is 108 kilometers of which 48 kilometers inside the Syrian lands.¹⁵⁵

- Al-Balikh Tributary

This tributary stems from the Turkish lands and is formed from the convergence of the tributaries Jawlab and Karah Mokh and enters the Syrian lands. The water of Ain Al-Arous spring, which stems from inside Syria and is considered the main feeder of this tributary, also flows into this river.¹⁵⁶ Then, it moves towards the south to meet its second tributary Karah Mokh and continues towards the

¹⁵² Al-khairu, *Euphrates River*, 120.

¹⁵³ Al-Hayali, "The Euphrates River," 35.

¹⁵⁴ *Ibid.*, 37-41.

¹⁵⁵ Radhwan, *Water problem*, 120.

¹⁵⁶ Mohamed Ahmed Al-Samarrai, *Manage water use* (Amman: Al-Radhwan, 2011), 95-96.

south and southeast to flow into the Euphrates River at the left bank south Al-Riqqa City. The length of this tributary is about 202 kilometers of which 115 kilometers is in the Syrian lands.¹⁵⁷

- Al-Khabour Tributary

This tributary stems from the far north of the Syrian lands. Its length is about 460 kilometers and it draws its water from the springs of Ras Al-Ain and heads towards the south where the tributaries of Al-jarjab and Al-Zargan flow into it.¹⁵⁸

At the City of Hasaka, it meets with its important tributary Jagh Jagh and moves towards the south to flow into the Euphrates River south of Deir Al-Zour City at the City of Baseerah.¹⁵⁹

When these three tributaries flow into the Euphrates, it continues to move towards the southeast to enter the Iraqi lands at the city of Husaybah and keeps on moving through the desert until it reaches the city of Ramadi, Anbar governorate where it enters into the sedimentary Plain and moves towards the south of Iraq to meet the Tigris at Al-Qurna in Basra governorate south of Iraq to form Shatt al-Arab River.¹⁶⁰

The length of the Euphrates River from its destination, which is the convergence point with the Tigris River at Al-Qurna, is about 2780 kilometers of which 915 kilometers is in Turkey, and 675 kilometers is in Syria and 1200 kilometers is in Iraq.¹⁶¹ As for the area of its basin, it amounts to 444,000 square kilometers, of which 125,000 square kilometers within Turkey with an average of 28% of the total area of the basin, and

¹⁵⁷ Al-Samarrai, *Manage water use*, 95-96.

¹⁵⁸ Ibid.

¹⁵⁹ Ibid.

¹⁶⁰ Ibid., 97-98.

¹⁶¹ Erden, "The Tigris-Euphrates Rivers," 2.

76,000 square kilometers in Syria with an average of 17% of the total area of the basin. As for the area of the basin in Iraq it amounts to 177,000 square kilometers which is equivalent to a percentage of 40% of the basin. Saudi Arabia also shares the river basin in about 66,000 square kilometers which is equivalent to 15% of the basin area.¹⁶²

Nine Iraqi governorates rely on the Euphrates, namely, Anbar, Baghdad, Babil, Karbala, Najaf, Qadisiyah, Dhi Qar, Muthanna, in addition to the north of the city of Basrah.¹⁶³

No tributary feeds the Euphrates inside the Iraqi lands with water except for some seasonal and valleys waters which rely on the water of the rainfalls and their quantity.

Water expert Abdul Khaliq who was interviewed by the researcher stated that the rate of the annual revenue of the water of the Euphrates entering into Iraq from 1994 through 2012 fell down to 18.36 billion cubic meters per year after the completion of most of the upstream countries projects.¹⁶⁴ Before the construction of the upstream countries projects, the rate of the annual revenue of the incoming water into Iraq through the Euphrates River was about 30.25 billion cubic meters per year.¹⁶⁵ That is to say, there is a shortage of 12 billion cubic meters from the overall rate of the river before the construction of the projects by the upstream countries. Besides, there will be a greater decrease in the water imports after the completion of all the projects by the upstream countries on this river.¹⁶⁶

¹⁶² Representative of the Republic of Iraq, *Synopsis of studying the water resources*, 4.

¹⁶³ Central Statistical Organization, Agricultural statistics directorate August 2013, *Water resources Report*, 3.

¹⁶⁴ Abdul-Khaliq, 'Water Expert'.

¹⁶⁵ Ibid.

¹⁶⁶ Ibid.



Figure 4 Basin of the Euphrates River.

2.4.3 Shatt Al-Arab River

Historical sources indicate that the Tigris and the Euphrates were two separate rivers flowing into the Arab Gulf. This was referred to by Sinhareeb campaign in the country of Elam (696) BC.¹⁶⁷ Besides, the writings of some Arab, Cypriots and Romanian writers indicated the same thing. For example the writings of Strabo (64-19) BC and a historian Pliny the Elder show that the distance between the two rivers at the downstream was about 25 miles, nobody knows when the convergence of these rivers took place to form Shatt Al-Arab River.¹⁶⁸

Shatt al-Arab is made up of the convergence of the Tigris and the Euphrates Rivers at Qurna in the governorate of Basra in the south of Iraq. It is a navigational river and is considered as Iraq's water outlet to the Arab Gulf. It has a length of 204 kilometers and its width varies from 400 to 1500 meters at its downstream in the Arab Gulf.¹⁶⁹ There are two tributaries flowing into Shatt Al-Arab from its left bank, namely, Karun River, which is the most important feeding source of Shatt Al-Arab, and Swaib tributary.¹⁷⁰

2.5 Historical usage of the Tigris and the Euphrates Rivers

This section is about the historical usage of the water of the Tigris and Euphrates through the stages of history. In other words, the most important ancient civilizations constructed on the banks of these rivers in the old time has been described. Furthermore, the usage of the rivers in the Islamic era has been explained as well. Finally, the section also clarified the usage of the two rivers in the present time in the context of this study.

¹⁶⁷ Al-Humairi, *Bitter thirst*, 221-222.

¹⁶⁸ Ibid.

¹⁶⁹ Al-Atiya, *International Law*, 325.

¹⁷⁰ Abdul-Khaliq, 'Water Expert'.

2.5.1 Historical usage of the Tigris and the Euphrates Rivers in the Ancient Times.

Since the beginning of creation, water has been the main factor in the settlement of communities and construction of cities and the emergence of civilizations.¹⁷¹ For example in the ancient time, water has been the main factor in the stability of agriculture, economy and human life.

Excavations and monuments made it clear that Iraq is the cradle of the first of the oldest human civilizations.¹⁷² Its name has always been linked to the rivers of the Tigris and Euphrates as it was named 'Mesopotamia where the oldest hydraulic civilization grew from which systems of engineering, irrigation, agriculture and everything related to the use of water were established.¹⁷³ The Sumerians, about 7500 years ago, started to use the means of irrigation and increasing the cultivated land.¹⁷⁴ They dug and slit canals for the purpose of drawing water from the Euphrates into the farmlands and into the cities.¹⁷⁵ The history of the Iraqis' use of the water of the Tigris and Euphrates Rivers in various purposes and sectors has been shown in the ensuing sections of this chapter.

2.5.1.1 Sumerian era

The use of the waters of these two rivers, especially the Euphrates, started from the ancient times where the Sumerians built their cities and set up their civilization on the banks of the Euphrates River.¹⁷⁶ The Sumerian blogs referred to the many irrigation projects that were created such as digging streams and slitting channels to draw water

¹⁷¹ Anani, "Settlement of the disputes," 33.

¹⁷² Al-Adili, *International River*, 269.

¹⁷³ Food Organization, *aquastat*, 9.

¹⁷⁴ *Ibid.*

¹⁷⁵ *Ibid.*

¹⁷⁶ Ali Hussein Sadiq, "Iraq's acquired rights in the waters of the Euphrates" (Master's thesis, Baghdad University, College of Law and Politics, 1976), 207.

and the creation of dams to book and organise water projects. The blogs, that have been found, also indicated that King Ayanatm created several channels for the purpose of using them for irrigation, including the channel Homadasha being supplemented by a large tank to collect the water.¹⁷⁷ Then, King Antemia came to broaden this tank. In the reign of King Orkajina 2415-2400 BC, Kursi Channel was maintained and repaired.¹⁷⁸ King of Lagash Cudea slit the channel Tanjer or Shawmajal.¹⁷⁹ As for the establishment of dams, the Sumerian blogs stated that the king of Lagash Ayanatm in the middle of the third millennium BC, established a submersible dam on one of the brooks.¹⁸⁰ Then, King Antimitan came to construct a dam near the city of Ur at Dakdakah to reserve water and distribute it on the small streams and branches of the Euphrates heading towards Aredo City and Ur City.¹⁸¹ In the reign of King Ornmo, the king of Ur, Nana Jujal channel was slit and in his time also Ornmo Law was enacted which stated the protection of these achievements, projects of irrigation and farmland.¹⁸² The history of international water treaties dates as far back as 2500 BC, when the two Sumerian city-states of Lagash and Umma crafted an agreement ending a water dispute along the Tigris River.¹⁸³

2.5.1.2 Akkadians

The Akkadians ruled Iraq in the third millennium BC and the monuments showed that they were the first to use the waterwheels which are rounded rims spin depending on the running water stream and were used for the purpose of lifting water to the channels and

¹⁷⁷ Sadiq, "Iraq's Acquired rights," 210.

¹⁷⁸ Ibid., 211.

¹⁷⁹ Ibid.

¹⁸⁰ Al-Adili, *International Law*, 270.

¹⁸¹ Sadiq, "Iraq's Acquired rights," 212.

¹⁸² Ibid., 211.

¹⁸³ United Nation, "22nd March - World Water Day 2009", *Unwater.Org*, last modified 2016, <http://www.unwater.org/wwd09/faqs.html>. (accessed October 11, 2016).

streams.¹⁸⁴ Such an engineering tool is still being used to raise the water in the western region of Iraq.¹⁸⁵

2.5.1.3 Kaldaniyon

The Kaldaniyon were interested in irrigation and how to control the rivers and the monuments referred to their efforts to establish a dam next to Baghdad with a length of 50 kilometers with a large tank to control the river water and to protect their cities.¹⁸⁶

2.5.1.4 Babylonians

The Babylonian era was characterized by the use of the Euphrates water as it was the source of prosperity and growth of this civilization.¹⁸⁷ The Babylonians used the river's water for various purposes such as irrigation, agriculture and river navigation. The Babylonian Kings paid attention to digging and slitting brooks and channels and maintain the existing ones. King Hammurabi dug a river giving it his name to draw water from the Euphrates and use in irrigation and drinking.¹⁸⁸ Besides, the remnants referred to the Babylonians' use of Habbaniyah and Abu Dibis lakes to store the water of the Euphrates during flood.¹⁸⁹ Due to the intensity of interest in irrigation and water and their interest in the affairs of irrigation and agriculture, the Babylonians wrote legal rules to protect and regulate them according to Articles 53 to 56 of the Hammurabi's Code.¹⁹⁰ For example, Article 53 stated that if the master was negligent in his field and did not strengthen the dam and there was a crumb in the dam through which the water might

¹⁸⁴ Al-Hayali, "The Euphrates River," 20.

¹⁸⁵ Ibid.

¹⁸⁶ Al-Adili, *International Law*, 270.

¹⁸⁷ Sadiq, "Iraq's Acquired rights," 212.

¹⁸⁸ Ibid.

¹⁸⁹ Al-khairu, *Euphrates River*, 90.

¹⁹⁰ Ameen, *Code of Hammurabi*, 7-11.

destroy the farmland, this person should compensate for the grains spoiled. Moreover, the hanging gardens, built during the reign of Babylonian King Nebuchadnezzar, was one of the finest irrigation engineering systems in the ancient times which was 40 meters height consisting of several layers in the form of 'ziggurat' planted with trees and palms and with irrigation water coming up to the top by invisible means from inside the building.¹⁹¹

2.5.1.5 Sasanian

In the Sasanian era, dam of Nemroud was established south of the city of Samarra on the course of the Tigris to reserve water and turn it into rivers and streams including Al-Nahrawan River and the channels of Al-Dujail and Al-Ishaqi.¹⁹² Besides, the Sasanians were interested in the Euphrates and they used it for navigational purposes.¹⁹³

2.5.1.6 Assyrian

The Assyrians built the dams and dug the irrigation channels. Moreover, King Sinearab in 681 BC established dams and dug channels to draw water from the Tigris to the cities of Nineveh and Irbil.¹⁹⁴

2.5.1.7 Alexander the Great

Alexander the Great took control of Mesopotamia in the late 4th century BC and took the city of Babylon as his capital.¹⁹⁵ He was interested in the irrigation projects so he dug

¹⁹¹ Iyad Hameed Jasim, "Hanging Gardens as the first irrigation engineering in the world and one of the Seven Wonders," *Journal of the Iraqi Ministry of Water Resources*, 87, (September 2014), 16-17.

¹⁹² Al-Sahhaf, *Water Resources*, 133.

¹⁹³ Ibid..

¹⁹⁴ Al-Adili, *International River*, 37.

¹⁹⁵ Sadiq, "Iraq's rights," 215.

Balacos River (Shatt al-Hindi now) with the purpose of controlling the water of the Euphrates in addition to other projects.¹⁹⁶

During the ancient times, several legal codes were issued stating the organisation of irrigation, drinking and navigation. Among such laws (or codes), according to the chronological order of their issuance include the law of Ornamo which was written in Sumerian, the law of Ashnuna which was written in Akkadian, the law of Labit Ishtar which was written in Sumerian, and the Law of Hammurabi which was written in Akkadian.¹⁹⁷

2.5.2 Use of the Tigris and the Euphrates Rivers During the Islamic Era

After the liberation of Iraq in the 7th century AD by the Islamic armies and after the expulsion of the Persian armies, Iraq was attached to the Islamic state.¹⁹⁸ Then, the Arabs and the Muslims started to pay attention to the fertile lands of Iraq in that they revived and maintained the existing irrigation projects and they slit new channels and built the city of Kufa on the banks of the Euphrates.¹⁹⁹ They also named Iraq as the 'Black Land' due to the large amount of trees and implantation.²⁰⁰ Moreover, the Muslims developed the old Project of Nahrawan and returned the brooks in the west of the Tigris such as Al-Dujel and Al-Ishaqi to work.²⁰¹ They also slit a channel to convert the water of the Little Zab River during floods and they set up a special Office

¹⁹⁶ Sadiq, "Iraq's rights," 215.

¹⁹⁷ Sahib Al-Rubaiy, *The international law and the viewpoints of conflict and conventions on water in the middle-east* (Damascus: Dar-Alkalemah for publishing, 2001), 17-19.

¹⁹⁸ Al-Hayali, "The Euphrates River," 21.

¹⁹⁹ Ibid., 21.

²⁰⁰ Al-Ameer, *Water balance*, 59.

²⁰¹ Al-Zubaidi, *Iraqi Water security*, 35.

concerned with water issues and they called it 'Water Office'.²⁰² In the Abbasid era, the use of the water of the Tigris and the Euphrates reached into a great level of progress and organisation where they used the Euphrates water across four brooks or streams, namely, Essa River, Sarsar River, Al-Malik River and Kothie River to allow the flow of water to the fertile farmlands.²⁰³ Besides, the Abbasid state used to monitor the water issues on their own. It also constructed a special office to monitor the irrigation called Al-Aqraha Office.²⁰⁴ Baghdad's judge Abu Yusuf, wrote to Caliph Harun Al-Rashid recommending that the State should set up channels, maintain and sustain them, on its own, and distribute water among all, and form special police to oversee the rivers and streams and the navigation in them.²⁰⁵

2.5.3 Use of the Tigris and the Euphrates Rivers in Modern Times

The Ottomans took control of Iraq in 1638 AD and they used the water of the Euphrates for navigational purposes to transfer their supplies and equipments.²⁰⁶ In 1834, the Ottoman State chose the British Jezni to study the Euphrates River and to show the possibility of using it as an international navigational conduit.²⁰⁷ The British Jezni issued his report stating that the Euphrates was not suitable for navigation except in some parts of it.²⁰⁸ After that, the Ottoman government commissioned in 1908 Sir William Cox to submit a study concerning Iraq's agricultural possibilities and how to use its water for agricultural purposes.²⁰⁹ The study was concluded in 1911 with some suggestions such

²⁰² Al-Zubaidi, *Iraqi Water security*, 35.

²⁰³ Sadiq, "Iraq's rights," 222.

²⁰⁴ Ibid.

²⁰⁵ Al-Zubaidi, *Iraqi Water security*, 36.

²⁰⁶ Al-khairu, *Euphrates River*, 95.

²⁰⁷ Ibid., 98.

²⁰⁸ Ibid., 104-105.

²⁰⁹ Ibid., 106.

as to establish Al-Hindi Dam on the Euphrates River and to use Al-Habbaniyah Lake to fend off the risk of the Euphrates flooding and also to establish Al-Fallujah Dam and Al-Thirhar Valley Reservoir.²¹⁰

During the British occupation of Iraq, the military authorities embarked on repairing and maintain the existing streams to use them. They also formed the first Directorate for Irrigation in Iraq in 1918 by the British engineers.²¹¹

When Iraq got independence in 1921, it took upon itself to pay greater attention to the use of water in the country, so Iraq re-organised the methods of using water and initiated a project to convert the beginning of Shatt Al Hilla.²¹² Iraq also dug new irrigation channels. Iraq started to set up giant projects of dams and water reservoirs. It started with the project of Habbaniyah reservoir and the establishment of dams on the Tigris and the Euphrates, Zab and Diyala rivers in addition to the establishment of a huge network of Trocars for land reclamation and other projects.²¹³

2.6 The Concept of Acquired Right under International Law

The concept of acquired right under international law could be attributed to the usage of international watercourse by paying attention to some historical facts. In other words, history plays an important role in understanding the concept of acquired right under international law. For example, historical facts are put into perspective in the formation of this right by reviewing the method of using international watercourse among riparian

²¹⁰ Al-khairu, *Euphrates River*, 106-116.

²¹¹ Al-Zubaidi, *Iraqi Water security*, 40.

²¹² Sadiq, "Iraq's rights," 231.

²¹³ Al-Zubaidi, *Iraqi Water security*, 41-98.

countries. Hence, the use and application of international watercourse resulted into a stable and binding customary rule, i.e., the concept of acquired right.²¹⁴

The international community is committed to and respects the international customary rules and apply them, among which the concept of acquired right. States are obliged to respect each other's rights concerning the international watercourses. All these countries have become accustomed to a certain life dependent in turn on the common river for irrigation, agriculture, industry and trade water, etc., and that any change and decrease in the quantity of the water of the International waterway will lead to disturbance and malfunction in their lives, which in turn leads to friction and conflict between peoples and nations and threat to the international peace.²¹⁵

Due to the importance of this international customary rule and its role in achieving justice and international peace, many international conventions dealing with international watercourse have stipulated this customary rule in order to protect the riparian countries historical rights in the international watercourse, and among such treaties are:-

- Geneva Agreement 1923 under the auspices of the League of Nations where Article 2 states “consideration must be given to former uses”.²¹⁶
- Austria and Czechoslovakia Agreement 1928, where Article 28 states “The new rights mentioned by the Agreement do not violate in any way the previously acquired rights”.²¹⁷

²¹⁴Ali Ibrahim, *Law of Rivers and International Watercourses* (Cairo: Arab Renaissance Press, 1995), 468.

²¹⁵ Ibid

²¹⁶ Ibid., 470.

²¹⁷ Ibid.

- 1929 Agreement between Britain and Egypt to share the water of the Nile between Egypt and Sudan, also mentioned about the concept of acquired right for both countries in the Nile water.²¹⁸
- 1959 Agreement between Egypt and Sudan on the Nile River, where the two countries agreed on the acquired rights of Egypt and Sudan and on the need to preserve the historic shares from the water of this river.²¹⁹
- St German Treaty between Austria and the separate states in 1919, where Article 309 stipulates that in the absence of an agreement or rules governing the distribution of the water of the common rivers, the states must hold an agreement to regulate the distribution of water while protecting their acquired and historical rights.²²⁰
- The most important international instrument that has adopted this concept of acquired right is the Helsinki Rules 1966 where Article 5 states the fair and reasonable standards to use the water of the International River, including what came in paragraph 4 which states “the past utilization of the waters of the basin, including in particular existing utilization.” and considered it one of the criteria for determining quotas and utilizing the water of the International River Basin.²²¹

The International Jury Committee has adopted this customary rule and stated it in many of its rulings, including:

²¹⁸ Tamimi, *Arab water*, 153.

²¹⁹ Ibid.

²²⁰ Sadiq, “Iraq’s rights,” 53.

²²¹ “The Helsinki Rules on the Uses of the Waters of International Rives,” August 1966, *International Law Association*, conference 52. See also, Amer, “United Nations Convention,”.

- International Jury Committee between Iran and Afghanistan on Helmand River in 1951 where the jury focused on respecting the acquired right gained and the former distribution of the water of this river between the two countries.²²²
- International Jury Committee between Ecuador and Peru in 1945 on the Jarunela River. It issued a decision obliging the Peruvian state to respect the historical right and the old flow of the river between the two countries.²²³

Consequently, it becomes clear from the above discussion that the concept of acquired right is a stable and binding international customary rule and it has to be complied with by all riparian countries sharing an international watercourse.

As to the current study, which is the Tigris and the Euphrates, Lausanne Treaty 1923 and the agreement between Turkey and the Allied States, it is important to point out that Article 109 of the Treaty deals with the concept of acquired right. It stipulates on respecting the previous traditions or a habit, i.e., respecting the uses and the previous uses of the countries of the two rivers of which Iraq is the oldest and the most frequently using the water of these two rivers in various sectors.²²⁴

In addition to the above, it is important to note that the agreement is in force and Iraq has inherited it from Britain the Mandate State according to Articles 24 and 34 of the Vienna Convention on Succession of States in Respect of Treaties, 1978.²²⁵ For instance, ambassador Shiltag who was interviewed by the researcher, asserted that Iraq has

²²² Ibrahim, Law of Rivers, 472.

²²³ Sadiq, "Iraq's rights," 153-154.

²²⁴ Baskent University Center for strategic research, "Treaty of Peace with Turkey," Signed at Lausanne, July 24, 1923, http://sam.baskent.edu.tr/belge/Lausanne_ENG.pdf, (accessed May 16, 2014).

²²⁵ United Nations, "Vienna Convention on Succession of States in respect of Treaties 1978," United Nations, http://legal.un.org/ilc/texts/instruments/english/conventions/3_2_1978.pdf, (accessed August 12, 2015).

acquired right and historic ratios in the water of the Tigris and the Euphrates and their tributaries.²²⁶ Hence, as a country in possession of the so-called acquired right, Iraq has all the right to argue its case in all international forums and bilateral and international meetings and also through exchanging official memos with the riparian countries to adhere to this right in addition to other rights that it has as a downstream country against the upstream countries.²²⁷

The agriculture and water experts interviewed stated that Iraq was the first to use the water of the Tigris and Euphrates and their tributaries for agriculture, irrigation and navigation.²²⁸ It was the first to establish hydraulic installations and dams and was the first to do land reclamation and extend irrigation networks to irrigate farmlands.²²⁹ Consequently, and in accordance with international customary rule, which respects the historical rights, Iraq is considered the owner of an acquired right by getting its historic ratios of the water of these rivers. The rest of the states should respect and protect this right in addition to applying the international customary rule which is one of the sources of International Law.

On the other hand, an academician who was also interviewed by the researcher asserted that Iraq has an acquired right towards the rest of the watercourse states based on international customary rule that emphasizes the respect of the historical acquired right

²²⁶ Walid Shiltagh 'ambassador and director of the Legal Department', interviewed by Omar Ahmed in person (Ministry of Foreign Affairs, May 18, 2015).

²²⁷ Ibid.

²²⁸ Abdulmutallab Mohammad Ali, 'Agricultural Expert', interviewed by Omar Ahmed, in person (Ministry of Agriculture, March 22, 2015). See also Shaukat Saeb Jamil, 'Agricultural Expert', interview by Omar Ahmed, in person (Ministry of Agriculture, March 22, 2015). See also Abdul-Khaliq, 'Water Expert'. See also Murtadha Al-Sudani 'Water Expert', interviewed by Omar Ahmed, in person (ministry of water resources, April 10, 2015)

²²⁹ Ibid.

to any country. Since Iraq is the owner of the oldest use of the water of these rivers, it has the right to enjoy the protection of the international customary rule and the necessity of respecting other countries to this rule and to give Iraq its historical acquired right in the water of these rivers.²³⁰

On the other hand, some Turkish writers have argued that there is no such thing as acquired right in terms of using international watercourse under international law and that the concept of acquired right is just an idea advocated by Iraq.²³¹ This line of reasoning is in fact a fallacy bearing in mind that the concept of acquired right is considered as one of the international principles of the international law which has been stated in many previous agreements such as Helsinki's Rules, Convention of Egypt and Sudan 1929, etc. Besides, many international jury committees adopted this principle in many verdicts such as the verdict issued on Helmand River between Afghanistan and Iran in 1951.

From the above, we can see that right from the very beginning Iraq had a constant and acquired right compared to the upstream countries of the Tigris and the Euphrates i.e., being the first to use the water of these two rivers for various purposes such as agricultural, commercial and industrial etc.

²³⁰ Basim Ghunawi 'lecturer', interview by Omar Ahmed, in person (Diyala University-College of Law and Political science, March 2, 2015). See also Adnan Dawood 'lecturer', interview by Omar Ahmed, in person (Diyala University-College of Law and Political science, March 2, 2015).

²³¹ Zuhair Jamal and Mohammed Amin Brbinar, "Cross-border water in Turkey and around: historical development, and legal dimensions of the proposed solutions," in Cross-Border Waters And Turkey, n.d., Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world, Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.), <http://www.waterexpert.se/Turkia.htm> (accessed April 17, 2014).

2.7 Conclusion

From the foregoing discussions above, it becomes evident that the use of the water of the Tigris and Euphrates Rivers in Iraq existed since the earliest historical times. The banks of the Tigris and Euphrates witnessed the emergence of the oldest human civilizations in that Iraq's name was linked to these two rivers. Therefore, Iraq historically had an acquired and constant right to the usage of the water of the Tigris and Euphrates as a downstream country by sharing the water with the upstream countries, namely, Turkey, Syria and Iran; a right confirmed by international rules and principles such as the Helsinki Rules which emphasizes on the historical right to use the water of the river. Article 109 of the Peace Agreement known as the "Treaty of Lausanne" 1923 also stressed the concept of acquired right for each country which had previously used these two rivers. It is clear that based on international law, Iraq historically has acquired right compared to the rest of the riparian countries of the two rivers, the Tigris and the Euphrates. These countries should respect the rules of international law and give Iraq its historical ratios according to the concept of acquired right. In addition to the above, this chapter also answered the first research question as well as achieved the first research objective apart from laying down the conceptual framework of the study.

CHAPTER THREE

THE LEGAL STATUS OF THE TIGRIS AND THE EUPHRATES

UNDER INTERNATIONAL LAW

3.1 Introduction

This chapter examined the legal status of the Tigris and the Euphrates in the light of the rules and principles of International Law. First of all, the stages of the development of the concept of ‘International River’ have been addressed, and then the legal sources and the most important legal theories related to it were presented as well. Following that, the most important legal rules contained in the UN Convention 1997 were studied and analysed. Besides, the bilateral conventions between the countries sharing these two international rivers were analysed so as to indicate the international legal status of these rivers in order to address the rights of the upstream and downstream countries. This chapter has worked on answering the first and second research questions and achieving the first and second research objectives.

3.2 Stages of the Development of the Concept of International River

This section dealt with the types of rivers and the most important stages of the development of the concept of International River.

3.2.1 Types of Rivers

International jurisprudence divides rivers in terms of their international legal status to national and international rivers:²³²

- National Rivers: They are those rivers that are located from upstream to downstream with all their tributaries within the territory of one country.²³³ This type of river does not arise any international legal problem due to being located under the absolute sovereignty of the country and it is subject to its domestic law. It is the country where the river is located that has the right to use the water of this river and organise its affairs.²³⁴
- International Rivers: International jurisprudence divides international rivers into two types;²³⁵ the first type is the sequential river which runs through two or more countries sequentially.²³⁶ The second type is the adjacent (border) which forms a watershed boundary between two or more countries, i.e., it runs along the borders of countries to form international border intervals.²³⁷ It is worth mentioning that international law does not differentiate between the two types of rivers and no legal implications are set to distinguish between them.²³⁸

The interest in the topic of international rivers started to increase with the increasing economic, industrial and social uses because people's concerns have no more constraints by using the river water for agriculture and navigation exclusively. On the contrary, the possibility of using the river water has been expanded to include the

²³² Al-Atiya, *International Law*, 316.

²³³ Ibid.

²³⁴ Ibid.

²³⁵ Salah Anwar Hamad Abdulla, *Legal Problems of the International Rivers and Solving their Disputes: An Analytic Comparative Study* (Beirut: Zain Legal Publications, 2015), 47.

²³⁶ Ibid., 49

²³⁷ Ibid., 48

²³⁸ Ibid., 50

production of electric power, land reclamation, drinking water and tourism etc., which on the whole led to increasing competition among the nations to protect the rights and interests of international rivers, and here launched the international efforts to develop the legal regulation concerning international rivers.²³⁹

3.2.2 Development of the Concept of International River

The first signal concerning the concept of International River emerged in Paris Peace Treaty on 30th May 1814, which was held as a result of the expansion of international trade and the urgent need for the use of international rivers in navigation and international transportation.²⁴⁰ It defined ‘International River’ as “the river that separates or runs through the provinces of two or more counties”,²⁴¹ and the concept of International River was developed. The final document of the Vienna Conference 1815 defined ‘International River’ as a “navigable river that separates or runs through several provinces or states.”²⁴² We note from the definition that the concept of ‘International River’ depends on the extent of its ability for navigation which is the economic function of the river in addition to the geographical criterion.²⁴³

In 1911, the Institute of the International Law issued Madrid Declaration which unequivocally confirmed the priority of navigation to be regarded as an international river.²⁴⁴ It did not allow setting up projects that consume large amounts of water.

²³⁹ Saeed Salim Al-jweli, “Law of International Rivers”, in the Arab Water and the Challenges of the Twenty First Century, ed. Muhammed Ibrahim Mansour and Muhammed Rafat Mahmoud (Egypt: Future Studies Centre Asyout University, 1999), 67-68.

²⁴⁰ Al-khairu, *Euphrates River*, 9.

²⁴¹ *Ibid.*, 9.

²⁴² *Ibid.*, 10.

²⁴³ Al-Adili, *International River*, 105.

²⁴⁴ *Sources Of the International Water Law* (Rome: Food and Agriculture Organization of the United Nations, 1998), 269, <ftp://ftp.fao.org/docrep/fao/005/w9549E/w9549E00.pdf>, (accessed October 2, 2016). See also, Al-Rubaie, *Crisis of the Tigris and Euphrates Basins*, 37.

Besides, it did not permit the state to establish facilities to exploit the river water without the consent of other countries.²⁴⁵

In the twentieth century, the international community adopted the subject of international rivers, and the League of Nations on 20th April 1921 called for a conference about communication and transport in the Spanish city of Barcelona.²⁴⁶ The conference issued the Convention and Statute on the Regime of Navigable Watercourses of International Concern – Barcelona, which was an important stage in the development of international law concerning international rivers.²⁴⁷ The Convention stated on the freedom of navigation for the ships of all the countries that signed it, and it also stated on preventing any country from taking any action that would impede navigation in the international river.²⁴⁸ Among the most important points presented by the Convention is that, it added the concept of the basic economic function with the emphasis on the principle of the right for navigation due to being an international river. The concept of the river capability for navigation was no longer a key to consider an international river unless the economic function was formed for that river.²⁴⁹ The report of the preliminary committee of the Barcelona Conference stated that:

Since the Vienna Conference, technical and economic development led to another result. A hundred years ago, the main use of the navigation routes was only to navigate but this matter is no longer new because the navigation routes currently meet the other needs in addition to the navigation needs. Some of the navigation methods or ways could become a valuable source of electrical power. In this regard, navigation cannot remain as the absolute priority anymore. It should be expected in some cases that business has

²⁴⁵ Al-Rubaie, *Crisis of the Tigris and Euphrates Basins*, 38.

²⁴⁶ *Sources of the International Water Law* (Rome: Food and Agriculture Organization of the United Nations, 1998), 7. Al-Adili, *International River*, 107-109.

²⁴⁷ Ibid.

²⁴⁸ Al-Atiya, *International Law*, 321.

²⁴⁹ Al-Adili, *International River*, 108.

become essential, and however, it can at the same time affect the navigation function. Yet, the work of developing the techniques stood against the monopoly of international rivers by navigation in two ways: the first way by developing other ways and other means of transport that made navigation lose a lot of its importance and the second way by opening new horizons in the world of using waterways.²⁵⁰

From the above statement, it could be argued that the concept of International River has taken a new curve which is the economic right or the economic function of the river as well as criterion of its navigable ability to be considered an international river.²⁵¹ Hence in the context of this study, it is inevitable to point out that since the Tigris and the Euphrates are considered international rivers, it becomes vital for both the upstream and downstream countries to be aware of their obligations under international law. For example, the upstream countries in exercising their rights to use these two rivers they have to bear in mind that they have a corresponding obligation to the downstream countries as well such as not to deprive them of sufficient amount of water needed for developmental purposes like in the agricultural and industrial sectors.

With the advent of the global renaissance, the importance of water increased in non-navigation affairs and navigation ranked secondary.²⁵² Accordingly, the economic use of the international river has become the title for the new era with regard to using the water of the international rivers and this is what Herbert Smith stated in his book *Economic Uses of the International River* when he says “The System of the river constitutes, according to nature, an indivisible physical (natural) unit whose resources must be developed to maximize the utility to the human society regardless of the political

²⁵⁰ Al-Adili, *International River*, 109.

²⁵¹ Ibid.

²⁵² Hisham Hamza Abdul Hamid, “Study of the concept of the river in the international waters of international law and its application in the Nile Basin agreement,” *African Perspective* 11, no. 39 (December 2013):134, <http://www.sis.gov.eg/newvvr/afakar/9.pdf>, (accessed February 12, 2014).

boundaries.”²⁵³ Based on this, the concept of International River has shifted from the traditional terminology to another new terminology to move from the concept of navigation, as the main purpose of the international river, to other non-navigational purposes for using the water of the international river.²⁵⁴

In 1961, the Institute of International Law issued ‘Resolution on the Use of International Non-Maritime Waters Salzburg, 11 September 1961’ which used the concept of the ‘river basin’.²⁵⁵ One of the main recommendations issued by the Institute stipulates that each country of the Basin Countries has the right, within its territory, to use the river water, but the right is limited and restricted due to the right of the rest of the river basin countries. The recommendation also states the need for a prior notification before proceeding with the implementation of any measures on the river basin in addition to the need to negotiate according to the principle of goodwill between the river basin countries. In the case of failure to reach a solution or an agreement, it is to resort to arbitration to decide the matter.²⁵⁶ What is noticed from the recommendation of the Institute of International Law that it adopted a number of legal principles concerning international rivers, including the principle of not causing damage to others, principle of prior notification, principle of international cooperation, and the principle of fair use.

The International Law Association (ILA) focused on the subject of international rivers and organised several conferences the most important of which was the conference held in Helsinki in 1966. The ILA issued a set of rules for the international rivers now known as “Helsinki Rules” about the use of the water of the non-navigational international

²⁵³ Abdul Hamid, “Study of the concept of the river,” 134.

²⁵⁴ Ibid.

²⁵⁵ *Sources Of International Water Law* (Rome: Food and Agriculture Organization 1998), 275.

²⁵⁶ Ibid.

rivers and it adopted a new concept for international river which is the “international drainage basin” because it is in line with the economic developments and uses of international river. It defined ‘river basin’ in Article II as “an international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.”²⁵⁷

What distinguishes the international drainage basin adopted by the ILA is that it includes the surface water, ground water and the geographical area in which the rain falls which then forms the springs that are headed to pour into the international river. Accordingly, the concept of the drainage basin looks at each basin as an integrated unit,²⁵⁸ so the concept includes whatever is related to the watercourse such as groundwater or surface water like tributaries or lakes. It is sufficient that one of the tributaries is international for the river to be considered as an international river. Because this term keeps pace with the contemporary uses of International River, many international conventions, including Ecuador and Peru Convention on the Amazon River 1998, has adopted this term.²⁵⁹

Finally, the UN realized the importance of this issue. It sees that water has become of growing interest among nations and peoples for economic and industrial developments and for the increase of population growth. This water resource is limited in nature so it requires a lot of work to safeguard and protect it because it is of great importance. Moreover, the General Assembly issued, in its fifty one session, the decision

²⁵⁷ “The Helsinki Rules on the Uses of the Waters of International Rives,” August 1966, *International Law Association*, conference 52.

²⁵⁸ Musaaed Abdul Ati Shtewi, “The legal rules that govern the use of international rivers in the Non-Navigational Affairs with Applied Study on the Nile River” (PhD diss., University of Cairo- College of Law, 2012), 18-19.

²⁵⁹ Ibid.

(A/RES/51/229) on 8th July, 1997 to recommend the “Convention on the Law of the Non-navigational Uses of International Watercourses” and this Convention defined Watercourse, International watercourse and Watercourse State in Article 2:²⁶⁰

(a) It defines watercourse as “a system of surface water and groundwater constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus”; (b) it defines international watercourse as “a watercourse, parts of which are situated in different States”. On the other hand, (c) it defines Watercourse State as “a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organisation, in the territory of one or more of whose Member States part of an international watercourse is situated”.

According to some scholars, the new concept adopted by the United Nations, i.e., the Watercourse, is a major development in the field of international law because it avoided the geographical term of the concept of international drainage basin which no longer keeps pace with the modern economic and technical developments which prevents the optimal use of the international watercourse.²⁶¹ Hence, the researcher in the present study adopted the concept of ‘Watercourse’ to express or stand for international rivers.

3.2.3 Sources of International Law for International Rivers

Like all other international legal systems, International Rivers Law has sources from which rules are derived. Article 38 (1) of the statute of the International Court of Justice (ICJ) determined the sources of the international law, namely, the International

²⁶⁰ General Assembly, The Convention on the Law of the non-navigational.

²⁶¹ Shtewi, “The legal rules that govern,” 27.

Conventions, International Custom, the General Principles of Law as recognized by Civilized Nations, Judicial Decisions and the Teachings of the Most Highly Qualified Publicists.²⁶²

3.2.3.1 Original sources

According to Article 38(1) of the Statute of the ICJ, the original sources of international law are the International Conventions, International Custom and the General Principles of Law as recognized by Civilized Nations and these have been discussed below.

3.2.3.1.1 International Conventions

International Conventions are considered the main source of the contemporary international law today. Its importance as a means of formulating legal rules governing the international relations in a legal framework has increased tremendously.²⁶³ Article 2(a) of the Vienna Convention on the Law of Treaties 1969 defines ‘International Treaty’ as “an international agreement concluded between States in a written form and governed by the international law, whether embodied in a single instrument or in two or more related instruments with whatever designation.”²⁶⁴

International Convention is an agreement between two or more parties of the general international law designed to bring about certain legal implications.²⁶⁵ There are two types of international Conventions: general and bilateral.

²⁶² International Court of Justice, Chapter II Competence of the Court, <http://www.icj-cij.org/documents/?p1=4&p2=2>, (accessed September 13, 2015).

²⁶³ Amer, *An Introduction to the Study*, 179.

²⁶⁴ United Nations, “Vienna Convention on the Law of Treaties 1969,” *United Nations*, <https://treaties.un.org/doc/Publication/UNTS/Volume%201155/volume-1155-I-18232-English.pdf>, (accessed August 12, 2015).

²⁶⁵ Al-Atiya, *International Law*, 105.

3.2.3.1.1.1 General Conventions

They are made between large groups of countries that agree on establishing legal rules that are of interest to all countries,²⁶⁶ and with respect to the International watercourses (International Rivers), there are many general conventions dealing with international rivers, including:

- Treaty of Fontainbleau 1785 between Germany and the Netherlands was the first international bilateral treaty governing the rights of using the common rivers among countries.²⁶⁷
- Barcelona Convention 1921 which approved the equality principle among the countries concerning navigation in the international river although it was limited to the countries that joined the Convention.²⁶⁸
- Conventions related to the Development of Hydraulic Power affecting more than one State and Protocol of Signature, Geneva, 9 December 1923,²⁶⁹ which touched on the issue of the production of the hydraulic power for the benefit of more than one country. The Convention stated in its Articles the right of the member countries to use the water of an international river within their territories to support the hydraulic development taking into account the provisions and rules of international law. The Convention also committed the member states not to cause any damage resulting from using the water of the international rivers.

²⁶⁶ Al-Atiya, *International Law*, 133.

²⁶⁷ *Ibid.*, 55.

²⁶⁸ *Sources of the International Water Law* (Rome: Food and Agriculture Organization of the United Nations, 1998), 7. See also, Al-Atiya, *International Law*, 321.

²⁶⁹ *Ibid.*, 21.

Besides, the Convention stipulated that countries involved in the international river to go through consultations before the implementation of projects.²⁷⁰

- Finally, the United Nation was able in 1997 to issue a comprehensive framework treaty “Convention on the Law of the Non-navigational Uses of International Watercourses” to govern the use of the non-navigational international watercourses which entered into force on 17th August, 2014.²⁷¹ It was the only general Convention issued by the United Nations which controls the non-navigational international watercourse. By this, the feature that the international river is not controlled by any international Convention was no more.²⁷²

3.2.3.1.1.2 Bilateral Conventions

It is held between two or a limited number of countries to regulate a specific affair and only the countries concerned abide to it.²⁷³ There are a number of bilateral Conventions on international rivers. The United Nations has published until 1974 more than 300 bilateral Conventions on international rivers, and among these Conventions are:²⁷⁴

- The former Soviet Union treaty with Turkey 1927 which was about using and apportioning the water and how to regulate the use of the international rivers.

²⁷⁰ Permanent Representative of the Republic of Iraq to Arab League, International legal development, 4.

²⁷¹ The French Ministry of Foreign Affairs, “The entry into force of the UN Convention on the Use of International Watercourses non-navigational purposes 1997,” www.diplomatie.gouv.fr/ar/politique-etrangere-de-la-france/ai, (accessed January 8, 2015).

²⁷² Salman Muhammed Ahmed Salman, “Arab Countries and the UN Convention on the International Watercourses,” *Arab Future Journal*. Issue no.433, (March 2015) 165: http://www.caus.org.lb/PDF/EmagazineArticles/mustaqbal_433_salman_mhmd.pdf, (accessed December 11, 2015).

²⁷³ Al-Atiya, *International Law*, 104.

²⁷⁴ Al-Adili, *International River*, 54.

The treaty stipulated that each country takes half of the amount of water in all the rivers and streams governed by this treaty.²⁷⁵

- The treaty of distributing the Indus River water between India and Pakistan 1960. This treaty approved the Principle of Compensation in Article 5. In Article 8, it referred to the formation of a committee called the ‘Standing Committee of the Indus River’ for the joint management of the international stream (international river) which was composed of experts from the two countries.²⁷⁶ The treaty states that:

India and Pakistan shall each create a permanent post of a commissioner for Indus Waters, and shall appoint to this post, as often as a vacancy occurs, a person who should ordinarily by a high-ranking engineer competent in the field of hydrology and water-use. Unless either Government should decide to take up any particular question directly with the other Government, each Commissioner will be the representative of his Government for all matters arising out of this Treaty, and will serve as the regular channel of communication on all matters relating to the implementation of the Treaty, etc.²⁷⁷

One of the advantages of this treaty was that it developed a method to resolve the disputes that may arise through negotiations and mediation by a third party which was represented in this treaty by the World Bank which was a party in this treaty and for this, it signed as a witness.²⁷⁸

We conclude from the above that the public and private international conventions that set international legal rules are the first source of contemporary international law. Such conventions include international legal rules that oblige their parties to implement them and get restricted as they define the mutual rights and obligations of the countries who

²⁷⁵ Ibrahim, Law of Rivers, 392.

²⁷⁶ Worldbank, "The Indus Waters Treaty 1960", *Worldbank*, <http://siteresources.worldbank.org/INTSOUTHASIA/Resources/223497-1105737253588/IndusWatersTreaty1960.pdf>. (accessed October 2, 2016).

²⁷⁷ Ibid.

²⁷⁸ Ibid. See also, Ibrahim, Law of Rivers, 415-419.

are members to such conventions. Besides, the effect of some of these agreements and international legal rules may extend to countries who are non-parties to such conventions because of their special nature. An example of this is the customary rule of the permanent Swiss neutrality decided in the Vienna Congress 1815 where protest is not limited to confront the countries who are parties to the Vienna Congress 1815, but according to which all countries also protest.²⁷⁹ Another example is the London Conference 1830-1831, under which Belgium was set and placed in the state of permanent neutrality to face all countries in the world and not only the countries that signed the Treaty of London etc.²⁸⁰

With regard to the international rivers, there are many international agreements, which are currently in force, providing international rules and principles in the field of international rivers such as the principle of international cooperation through the exchange of data and information, consultation and negotiation. These agreements also stipulate the principles of fair use, principle of compensation, principle of not harming others, etc. The international conventions, which provide for the international principles and rules are confirmation that these principles and norms are in force and have the force to compel the international community and the need to be respected and applied.

²⁷⁹ Swiss info.ch Olivier Pauchard, "The Day Switzerland Became Neutral - SWI Swissinfo.Ch", *SWI Swissinfo.Ch*, last modified 2015, http://www.swissinfo.ch/eng/congress-of-vienna_the-day-switzerland-became-neutral/41335520, (accessed October 3, 2016). See also, Amer, *An Introduction to the Study*, 306.

²⁸⁰ Alexander Fuehr, "The Neutrality Of Belgium", *Talleyrand.Org*, http://talleyrand.org/TalleyrandBe/neutrality_of_belgium.htm. (accessed October 3, 2016). See also, Amer, *An Introduction to the Study*, 307.

3.2.3.1.2 International Custom

International custom is considered as the second source of international law according to Article 38(1) of the Statute of the ICJ, “international custom, as evidence of a general practice is accepted as law.”²⁸¹

With regard to international rivers, international customs initiated through the practices of an iterative process of riverine countries with the commitment of these countries of this practice gave a legal value across the frequency of using these practices for a long period of time.²⁸²

Custom has a key role in international law which cannot be dispensed with under the contemporary international community. It cannot be denied that custom in most domestic jurisdictions is considered as a source of law. Hence, the position seems to be the same as far as international law is concerned. It is, therefore, important to note that the United Nations formed the International Law Commission in 1947 and entrusted with the task of systematization and development of international law. Many international treaties issued which involved the systematization of the previous international customary law such as the Vienna Convention on Consular Relations 1963, Geneva Conventions on the Law of the Sea in 1958, etc. Although the customary rules were systematized in the form of a legal rule in certain agreements, they remained distinct in their customary origin which ensures its end even before the end of the Convention. This is because the customary rules remain in force even beyond the countries who are parties to such Conventions. They are considered as binding on all

²⁸¹ International Court of Justice, Chapter II Competence of the Court.

²⁸² Shtewi, “The legal rules that govern,” 33.

countries even those that have not joined the international Convention and this was confirmed by ICJ in its judgment in the case of the continental shelf of the North Sea.²⁸³

Besides, the court went on to say that the international customary rules are those rules that will be applied in the same conditions and circumstances and not be a subject of exclusion by one or more countries in their own will.²⁸⁴

With regard to the present study, customary rules have prominent and essential role in the creation and formation of the rules of international law dealing with international watercourses bearing in mind that this is due a relatively new law. It must be pointed out that though customary international law is unwritten; it is said to arise spontaneously from the decentralized practices of nations; it is said to bind all nations in the world; and it does not contain within itself a mechanism for resolving disputes and enforcing norms. Nonetheless, conventional wisdom holds that the obligations created by customary international law binds nations with the same force as treaties. Based on Article 38(1)(b) of the ICJ statute, it is vital to note that “international custom” is a source of international law subject to two requirements which are state practice and acceptance of the practice as obligatory. Hence, in the context of this study the challenge is how can one tell when a particular line of action adopted by a state reflects a legal rule or is merely prompted by courtesy?

In response to the question above, it is important to note that the duration of a particular international state’s practice is what qualifies it into customary international law. Customary law systems generally suppose that the rule that they apply are long

²⁸³ Amer, *An Introduction to the Study*, 349-372.

²⁸⁴ *Ibid.*, 362.

established. However, in the *North Sea Continental Shelf Cases* in 1969,²⁸⁵ the ICJ expressly accepted the possibility that a wide spread and representative practice could generate a rule of customary international law even without the passage of any considerable period of time. This is referred to as instant customary law.

Furthermore, the most prominent customary rules of the international rivers adopted by international law on international rivers include the equitable and reasonable use of the water of the international watercourse, not causing harm to other countries, and prior cooperation and consultation, etc.²⁸⁶ Hence, there is no doubt that notwithstanding the provisions of the 1997 UN Convention on the Non-navigational Uses of International Watercourses and other conventional provisions expressly concerned with the protection of international watercourses, a number of customary international legal rules and principles can be argued to have developed in recent decades which might be expected to have a role to play in this regard.

3.2.3.1.3 General Principles of Law Recognized by Civilized Nations

It is the third source of international law according to Article 38(1) of the Statute of the ICJ.²⁸⁷ Many of the international treaties concerning international rivers have stipulated on the international principles governing the use of international rivers. Among such principles are the principles of good-neighbors, goodwill, not to cause harm to others, not to abuse the rights of others, etc.²⁸⁸

²⁸⁵ International Court of Justice, "North Sea Continental Shelf Cases", *Www.Icj-Cij.Org*, last modified 2016, <http://www.icj-cij.org/docket/files/51/5537.pdf>. (accessed November 3, 2016).

²⁸⁶ Ibid.

²⁸⁷ International Court of Justice, Chapter II Competence of the Court.

²⁸⁸ Shtewi, "The legal rules that govern," 34-35.

In addition to the above, it is worth mentioning that Humphrey Waldoc who was a judge in the International Court of Justice had this to say: “The general principles and the customs are two branches from the same tree, and the custom is the weakest branch. If the custom applies to a certain behavior and with repetition and for a period of time it becomes a compulsory rule, the general principles are often more abstract and applied to a particular behavior and different conditions such as Nuremberg’s principles for war crimes and the principle of preventing genocide and others, for sure the general principles do not need the repetition element”.²⁸⁹ Based on the sentiment echoed by Waldoc above, it could be argued that there is a strong linkage between general principles of law and custom under international law, especially if the usage of the custom has been in place for a very long period of time. Among the general principles concerning the international rivers are the principles of utilization and equitable and reasonable participation and the principle of not harming others etc.²⁹⁰

It is important to note that examples of these general principles of law are *lashes*, good faith, *res judicata*, and the impartiality of judges. Hence, international tribunals rely on these principles when they cannot find authority in other sources of international law. Therefore, it would suffice to note that these general principles of law can be found in decisions of international tribunals and national courts; references to them may also be found in the teachings of the “most highly qualified publicists” (i.e., eminent international law scholars). Hence, it is pertinent to note that Article 38 includes judicial decisions (of both international and municipal tribunals) and scholarly writings as

²⁸⁹ Mansour, *The issue of water*, 119.

²⁹⁰ *Ibid.*

“subsidiary means for the determination of rules of law;” in other words, these are not authorities, rather they are evidence of the sources of international law.

3.2.3.2 Secondary sources

According to Article 38(1) of the Statute of the ICJ, the secondary sources of the international law include Judicial Decisions and the Teachings of the Most Highly Qualified Publicists.

3.2.3.2.1 Judicial Decisions

Judicial decisions are considered among the evidentiary sources that can be used according to Article 38(1) of the Statute of the ICJ. In the Statute of the ICJ, judicial decisions are not only listed later than conventions, customs, and general principles, they are explicitly identified as “subsidiary”. Hence, judicial decisions have an important role in stabilizing the rules of the international law in general and the international law related to the international rivers, in particular, for being a relatively recent law. Judicial decisions issued by the international justice and involving international rivers are few. The reason behind this is that any country cannot be forced to submit the dispute before international courts or international arbitration. This poses a barrier in front of the affected countries being unable to resort to the international justice or the international arbitration unless that country obtains the consent of the other party to do so. Among the international judicial decisions related to international rivers are:

- The verdict issued by the Permanent Court of the International Justice (PCIJ) in the case of Meuse between Netherlands and Belgium on June 28, 1937, (diversion of water from Meuse (Neth. v. Belg.), 1937 P.C.I.J. (ser. A/B) No. 70

(June 28) Judgment No. 25). The river stems from France and flows to form the border between Netherlands and Belgium for a distance of a few kilometres and then it turns to the depth of the Dutch lands. The Netherlands implemented a channel to carry water from the river, as well as Belgium set up a channel to carry water from the river to its lands. On 1st August 1936 the Netherlands requested a lawsuit at the court in which it objected to the Belgium's digging of Albert Channel and diverting the water from the Meuse River which constituted a violation of a treaty signed in 1863 between the two countries. The Belgium government replied stating that it did not breach the 1863's treaty and questioned the Dutch project on the Meuse River. After the deposit of the documents of the written pleadings in the Court, the Court examined the case starting from April 1937. A summary of the case is that the court had to know whether the projects established on the Meuse River aim to transfer large amounts of water that affects the other country and also to see if there was a violation of the bilateral treaty between the two countries. On 28th June 1937,²⁹¹ the court issued its decision to give the right to both countries to use the watercourse and to modify and expand it by adding construction provided that it does not affect the water shared in Meuse River as stated by the 1863's treaty between the two countries.²⁹²

²⁹¹ International Court of Justice, "Permanent Court of International Justice, The Diversion of Water from the Meuse, Series A. /B. Judgments, Orders and Advisory opinions Fascicule No. 70", *Icj-Cij.Org*, http://www.icj-cij.org/pcij/serie_AB/AB_70/01_Meuse_Arret.pdf. (accessed November 3, 2016). See also, Permanent Court of International Justice, Judicial year 1937, The Diversion of Water from the Meuse, General list no. 69, Judgment no. 25, 28/June/1937, http://www.worldcourts.com/pcij/eng/decisions/1937.06.28_meuse.htm, (accessed September 19, 2015).

²⁹² Ibid. See also, Sadiq, "Iraq's Acquired rights," 150.

- The verdict issued by the Arbitral Tribunal (AT), in the case of Lake Lanoux between France and Spain (Lake Lanoux Case - Award of 16 November 1957 rendered by an Arbitral Tribunal).²⁹³ The lake is located in the eastern Albrinh Mountains between France and Spain. Alcarol River stems from this lake and it runs for a distance of 25 kilometers inside the French territory and then it enters the Spanish territory. Several treaties were signed with regard to the borders and common rivers between the two countries, the last one was in 1866 in addition to an additional document showing the common uses of the two countries. France tried to divert Alcarol River to Areej River for the purpose of power generation on the condition of returning an amount of water to Spain to meet agricultural needs. Spain objected to the French project, and submitted the dispute to the AT which issued a verdict on 16th November 1957 and came up with the following decision “in line with the principle of good will, the country of the upper course, and equally, must take all the interests of other riparian states into consideration, similar to its interests, therefore, France has the right to exercise its rights but not to neglect the rights and interests of Spain.”²⁹⁴ The verdict issued by the AT took into account the view point of France which only exercised its right. Besides, the project was implemented in France which would bear the financial burdens in addition to its guarantee to Spain to meet its needs of water by returning it through a tunnel so as not to harm the Spanish economy.²⁹⁵ Thus, the AT confirmed the principle of good will in its judgment or decision. Besides, it gave each country the right to benefit from the water of

²⁹³ *Sources of the International Water Law* (Rome: Food and Agriculture Organization 1998), 250.

²⁹⁴ *Ibid.* See also, Al-Atiya, *International Law*, 330-331.

²⁹⁵ Al-Atiya, *International Law*, 330-331.

the watercourse which flows through its territory on condition not to cause any harm to the rights and interests of the other countries sharing the international watercourse.

- The verdict of the ICJ in the case of Gabčíkovo-Nagymaros project between Hungary and Slovakia on 25th September 1997. The lawsuit was brought before the ICJ on 2nd July 1993 with a joint notice by Hungary and Slovakia. The case started when Hungary and Czechoslovak (formerly)²⁹⁶ signed on 16th September 1977 a treaty for the construction of a joint project on the Danube River titled “building and operating Gabčíkovo-Nagymaros network”²⁹⁷ which was later called the Treaty of 1977. The treaty entered into force in 1978. The joint project aimed to produce hydroelectric power, improve navigation in the Danube River and protection from flooding. Under this treaty, the two sides vowed to protect the water quality of the Danube River.²⁹⁸ The project included building a network in the Slovak Gabčíkovo and the Hungarian Nagymaros and according to the treaty, the financing, management and building the engineering works were equally shared between the two countries.²⁹⁹ In 1983, the two parties agreed on slowing the progress of the work and postponing the implementation of the hydroelectric power production. On 6th February 1983, the two sides agreed on speeding up the implementation of the joint project. On 27th October 1989, Hungary decided to abandon the engineering actions in Nagymaros and to keep them in Dunakiliti. During this period, Czechoslovakia

²⁹⁶ On 1 / January / 1993 Czech Republic and the Slovak Republic got independence after the dissolution of the Republic of Czechoslovakia.

²⁹⁷ United Nations, New York 2005, Summary of judgments and orders issued by the International Court of Justice in 1997, 2002ST/LEG/SER.F/1/Add.2, 1-4.

²⁹⁸ Ibid.

²⁹⁹ Ibid.

(previously) started to prepare studies seeking alternative solutions, the most prominent of which was known as the “Alternative C” which included the conversion of the course of Danube River by Czechoslovakia (previously) from one side in its territory for a distance of 10 km. In November 1991, the Slovak government started the work to implement the “Alternative C” project. Because the two countries did not reach into a satisfactory solution, Hungary notified the Czechoslovakian side (previously) to end the 1977 treaty between the two countries starting from 25th May 1992. In the same year, Czechoslovak (previously) initiated a dam on the Danube River to close it.³⁰⁰ The court issued a verdict on 25th September 1997 and decided that Hungary did not have the right to give up its work in the joint project. It also decided that Slovakia had the right to seek an alternative and to implement it but not after 1992 as a measure from one side. As for the procedure of Hungary in 1992 to end the 1977 Treaty, it was invalid and, therefore, the treaty was still in force and governing the relationship between the two countries. The court also decided that Hungary and Slovakia should negotiate in a good will and in accordance with the treaty 1977 in that a committee and a common system must be established to operate the dam in the Slovak lands. Finally, the Court decided that each party was to compensate the other for the damage caused to it.³⁰¹ From the verdict issued by the International Court, it is clear that the court confirmed the international norms and principles stated in the United Nations’ Convention 1997. It also approved the principle of inherited treaties.

³⁰⁰ United Nations, Summary of judgments and orders issued by the International Court of Justice in 1997, 1-4.

³⁰¹ Ibid.

- Finally, the verdict of the ICJ to settle the dispute between Argentina and Uruguay about Uruguay River on 20th April 2010. On 4th May 2006, Argentina submitted a request to the Court to raise a lawsuit against Uruguay for violating the 1975 treaty signed between the two countries and which was in force in 1976. The reason behind this was that Uruguay constructed projects and paper factories on the River of Uruguay which caused damage to Argentina and highly affected the quality of water in the river. The Court considered the case and decided that Uruguay had already violated Articles 7 and 12 of the 1975 Treaty between the two countries.³⁰² The court, according to the above decision, confirmed a number of international principles, including the principle of cooperation among the countries, the principle of consultation between the riparian countries and also respecting the principle of prior notification when establishing any project on an international river shared by more than one country in order to avoid the potential of the probable damage of the project, whether contaminating the water of the international watercourse or reducing the amount of water reaching into the other countries.³⁰³

3.2.3.2.2 Teachings of the Most Highly Qualified Publicists

Teachings of the Most Highly Qualified Publicists are considered the second evidentiary source according to Article 38(1) of the Statute of the ICJ.³⁰⁴ The role of the law jurists is represented by the studies and researches they present in addition to their views and

³⁰² International Court of Justice, *Pulp Mills on the River Uruguay (Argentina v. Uruguay)*, Summary of the Judgment of 20 April 2010, <http://www.icj-cij.org/docket/files/135/15895.pdf>. (accessed October 23, 2015).

³⁰³ Sukrani Al-Hussein, "Water Equity from the International Law Perspective," *Strategic Vision Journal*, Volume 1, issue no. 4, (September 2013): 95, http://strategicvisions.ecssr.com/ECSSR/ECSSR_DOCDATA_PRO_EN/Resources/PDF/Rua_Strategia/Rua-Issue-04/rua04_074.pdf. (accessed October 13, 2013).

³⁰⁴ *International Court of Justice*, Chapter II, Competence of the Court.

comments to explain and analyse international legal rules and principles. Besides, it is possible to rely on the Teachings of the Most Highly Qualified Publicists to confirm the legal basis or to modify it and in some cases to set up a new rule to be adopted by the international community by stating them through treaties and abide to them.³⁰⁵ With regard to the rules of the international law concerning international rivers, the Teachings of the Most Highly Qualified Publicists have a great role in updating and developing them.³⁰⁶

Having said that, it is vital to note that the Associations and International Scientific Committees have played an important role in examining the legal principles and rules related to the use of international rivers, especially after the decline of the idea of navigation and the emergence of the economic use of the international watercourse. Due to the different nature and geography of each international watercourse, it may require a lot of effort and time and an international and practical practice to formulate and issue some general legal rules related to the use of the water of the international watercourse in the non-navigational purposes. The international and regional organisation studies with regard to international watercourses are as follow:

- Institute of International law which is an informal scientific body that aims at developing international law and participating in the codification of its rules. The emergence of the subject of the non-navigational international rivers on the international arena has led the academy to invite its jurists and scientists to study this subject starting from 1910.³⁰⁷ In 1911, the Institute issued the Madrid

³⁰⁵ Al-Atiya, *International Law*, 231.

³⁰⁶ Amer, *An Introduction to the Study*, 386-387.

³⁰⁷ Shtewi, "The legal rules that govern," 40-42.

Declaration which confirmed a set of customary rules relating to international watercourses, including the rule and the principle of not hurting others. Besides, the Declaration also provided for the need to form bodies and technical committees, permanent and joint, to manage the international watercourse.³⁰⁸

It is recommended that the interested States appoint permanent joint commissions, which shall render decisions, or at least shall give their opinion, when, from the building of new establishments or the making of alterations in existing establishments, serious consequences might result in that part of the street situated in the territory of the other States.³⁰⁹

On September 11, 1961, the Institute issued a set of rules known as the Resolutions on the Use of the International Non-Maritime Waters - Salzburg, which stated that each state has the right to use the water in its territory subject to the condition of respecting the rights of the other countries sharing the international watercourse and respecting the international law's restrictions. The Resolutions also stipulated the rules to resolve the disputes between the riparian countries based on the principles of justice and equity, in addition to confirming that the riparian countries should pay attention to prior notification to other countries when holding any work on an international watercourse or having any constructions.

The works or uses referred to in the above-mentioned article may only be initiated after the due advance notice has been given to the States concerned.³¹⁰

In case of having any damage, the country should fairly compensate the affected countries for any loss or damage.³¹¹

³⁰⁸ *Sources of International Water Law* (Rome: Food and Agriculture Organization 1998), 269. See also, Shtewi, "The legal rules that govern," 41-42.

³⁰⁹ *Ibid.*, Article 7, 269.

³¹⁰ *Ibid.*, Article V, 276.

- International Law Association (ILA) is an international organisation concerned with international law. The Association focused on the topic of non-navigational international rivers, especially after the emergence of the Industrial Revolution and the European Renaissance landmarks where the importance of the water of the international rivers increased and when the use and the economic exploitation of the water of the river became the title of the era.³¹² ILA accompanied the global developments and European Renaissance and the growing importance of the water of the non-navigational international rivers with the start of the economic use of such rivers. ILA held several meetings and conferences and formed committees to study the setting of legal rules for the use, distribution and organisation of the water of the non-navigational international rivers. This interest started since the Edinburgh Conference in 1954, session (46). In its session (47), held in Dubrovnik-Yugoslavia (previously) in 1956, the Association discussed a project on the use of non-navigational international rivers and it considered it a declaration containing some general principles on the subject.³¹³

The most important point of the announcement is Article 6.

Article 6 stated that in the event of a watercourse country acting on constructing and diverting the river which affects the water use for the rest of the international river countries, consultation should be done first before doing any action. In case of failure to reach an agreement through consultation, advice should be sought by a technical committee. When there is no solution, the subject must be referred to

³¹¹ *Sources of International Water Law* (Rome: Food and Agriculture Organization 1998), 269. See also, Permanent Representative of the Republic of Iraq to the Arab League, *International legal development*, 7.

³¹² Abdul Hamid, "Study of the concept of the river," 134.

³¹³ Ibrahim, *Law of Rivers*, 341-342.

the jury to decide the matter.³¹⁴ Article 8 stated the need for cooperation among countries sharing the International River for the purpose of making full use of the international river basin as an integrated unit aiming at achieving optimum utilization for all. The Article further stated that so far as possible, riparian States should join with each other to make full utilization of the waters of a river both from the viewpoint of the river basin as an integrated whole, and from the viewpoint of the widest variety of uses of the water, so as to assure the greatest benefit to all.³¹⁵

In its conference held in New York City in 1958, the ILA issued recommendations including the principles that could control the subject of using and exploiting the international drainage basin water in that firstly considering the rivers and lakes that belong to one drainage basin as one natural unit because the basin includes the natural geographical unit which constitutes the watercourse, secondly granting the right to every country which is a member in the international drainage basin a reasonable share of the beneficial use of the water of the basin, thirdly respecting the legal rights of all member countries sharing the international drainage basin fourthly commitment to consultation between the countries before the construction of projects, and fifthly the neighbouring countries fall under the legal questioning in accordance with the international law.³¹⁶ Also, one of the recommendations put forward by ILA echoed the following sentiment:

³¹⁴ *Sources of International Water Law* (Rome: Food and Agriculture Organization 1998), Article 6, 286.

³¹⁵ *Ibid.*, Article 8.

³¹⁶ *Ibid.* See also, Al-Adili, *International River*, 112-113.

Except as otherwise provided by treaty or other instruments or customs binding upon the parties, each co-riparian State is entitled to a reasonable and equitable share in the beneficial uses of the waters of the drainage basin³¹⁷

The most important and famous ILA conferences on the non-navigational international rivers was a conference held in Helsinki, in its 52 edition from which what are known as the 'Helsinki Rules' on the Uses of the Waters of International Rivers were issued. ILA conducted a study on the subject of the international drainage basin as a single unit that must be exploited by all basin countries and to the extent that achieves the biggest benefit to them all.³¹⁸ Helsinki Rules were considered as the first full international legal system including the rules and principles of using international watercourses for non-navigational purposes. Helsinki Rules include 37 Articles (see Appendix 2). One of the most important Articles is Article II: This Article defines international drainage basin as "a geographical area extending over two or more States determined by the watershed limits of the system of water, including surface and underground water, flowing into a common terminus."

It is clear from the definition of international drainage basin that it consists of three elements determining and showing its features, namely (a) the geographical area determined by the water catchments across two or more countries. What distinguishes this component is the geographical area a term which is not mentioned in any definition of the international river. (b) The presence of water network containing the surface and underground water and it is a unit of an

³¹⁷ *Sources of International Water Law* (Rome: Food and Agriculture Organization 1998), Principle 2.

³¹⁸ *Ibid.* See also, Ibrahim, *Law of Rivers*, 343.

integrated nature which cannot be cut into pieces. (c) The common downstream for the surface and ground water.

Many treaties have adopted the term “international drainage basin” to express international river including the treaty between Peru and Ecuador about the Amazon Basin in 1998.³¹⁹

Chapter 2 of the Helsinki Rules deals with using the water of an international drainage basin equitably. Article IV (see Appendix 2) emphasizes on the right of every country of the basin countries in the utilization of the water of the international basin in a reasonable manner. This Article recognizes that every basin country has equal and interdependent rights with the rights of each country sharing the basin. This does not mean that each country receives a matching and equal share equivalent to other countries. This means that the use of each basin country must take into account the economic and social needs and previous uses of each of the countries sharing the international basin so as to estimate its share. Therefore, the ILA in accordance with Article IV has refused the absolute sovereignty theory (theory Harmon).³²⁰

Article V (see Appendix 2) identifies the factors and criteria taken into consideration to calculate the fair and reasonable share for each country of the international drainage basin countries. These include the geography of the river basin, hydrological regime of the basin, the prevailing climate, the former uses of water in the river basin, the economic and social needs of each country etc.³²¹

These two Articles are extremely important since the Articles place in front of

³¹⁹ Abdul Hamid, “Study of the concept of the river,” 136-141.

³²⁰ Sadiq, “Iraq’s Acquired rights,” 197.

³²¹ Amer, “United Nations Convention,”.

the countries sharing the international basin (international river) the rules they must follow in order to avoid problems with each other and also to determine the quota and to ensure the equitable and reasonable distribution for all countries. These rules are in fact only a translation of the good-neighboring principle because without cooperation and goodwill between the countries sharing the international watercourse problems and troubles will definitely increase.³²² Chapter 3 of the Helsinki Rules deals with the subject of the pollution of the water of the international drainage basin and the necessity of working to combat and eliminate pollution. Article IX (see Appendix 2) identifies and states the intended meaning of water pollution which refers to all the change in water quality or the change of the natural composition of the water or the change in the contents of the water in the drainage basin that results from the human use.³²³ Chapter 6 of the Helsinki Rules reflects the procedures used to prevent and resolve disputes related to the international drainage basin. Articles XXVI, XXVII, XXVIII, and XXX state the need to resolve and settle disputes by legal means and to adhere to the UN Charter to end disputes by peaceful means. Article XXIX asserts the principle of cooperation and the exchange of information available between the countries sharing the international drainage basin. It also confirms the requirement of prior notification, so any riparian country must notify the other countries of the measures intended to be done on

³²² Ibrahim, *Law of Rivers*, 346.

³²³ "The Helsinki Rules," Article 9.

the international river and grant these countries a period of time sufficient to examine the information provided and answer the notification.³²⁴

Based on the aforementioned, Helsinki Rules can be considered the outcome of the efforts of ILA, though they did not reach the degree of binding international legal rules issued by a doctrinal legal and scientific party and referred to by the International Law Committee due to being one of the serious studies concerning watercourses.³²⁵ Therefore, they can be considered as one of the secondary sources of international law on international rivers.³²⁶

From the foregoing discussion above, it is arguable that the development of the Helsinki Rules could be attributed to the tireless effort of the ILA. Due to the ILA effort, the United Nations developed a keen interest to start the process of a series of international dialogues to develop international law concerning the use of international rivers due to the large economic and industrial demand and of course the production of electrical energy and other uses or applications as well. The outcome of these efforts was that the United Nations issued its treaty “Convention on the Law of the Non-navigational Uses of International Watercourses” 1997.

3.2.3.3 Principles of *ex aequo et bono*

The principles of *ex aequo et bono* are considered as source of international law according to what is stated in Article 38(2) of the Statute of the ICJ.³²⁷ The Article

³²⁴ “The Helsinki Rules,” Article 29.

³²⁵ United Nations, "Yearbook Of The International Law Commission 1986 Volume II Part One Documents Of The Thirty-Eighth Session, A/CN.4/SER.A/1986/Add.L (Part 1)", *United Nations Organization*, last modified 1988, 124 and 126, http://legal.un.org/ilc/publications/yearbooks/english/ilc_1986_v2_p1.pdf. (accessed October 3, 2016).

³²⁶ Ibrahim, Law of Rivers, 343.

³²⁷ International Court of Justice, Chapter II Competence of the Court.

allows resort to *ex aequo et bono* “if the parties agree thereto”. However, it is important to note that there are several important reasons for the restriction on resort to *ex aequo et bono* adjudication in formal international bodies. For example, the continued legitimacy of international judicial bodies depends on the consent of sovereign nations to operate within an international legal order. Thus, to allow international judges to abandon such established rules based on their preferences of what is “just” would jeopardise the rule of law. Despite the controversy over the judicial use of *ex aequo et bono*, the invocation of “equity” as a principle of international law in international dispute resolution cannot be underestimated. Besides, the international courts resort to the principles of *ex aequo et bono* in many cases due to being a complement to the rule of law.

The courts and international arbitration courts often resort to the principles of justice and equity as an integral part of the legal base. An example of this is what the French-Mexican Reparations Committee announced in the issue of *George Benson* in 1928 due to the fact that the justice rules constitute a complementary component to law when the postural law is devoid of judgment. The International Law Commission in its commentary on the project of international inheritance materials in non-treaty matters stated that the most prevailing feature of equity is that it is a balancing element and a corrective factor intended to maintain a reasonable link between the transferred money of the country and the province. It counts the principles of justice and equity among the general principles that dominate the law in general as a matter inherent to the proper

application of the law.³²⁸ Consequently, the rules of equity and justice are considered a secondary source for the International Legal Rule.³²⁹

3.2.4 Legal Theories of International Rivers

In order to address and settle interstate river disputes, one has to acknowledge the fact that the need to develop some legal theories of international rivers in international law became high on the agenda. This saw scholars putting forward multiple legal theories aiming at finding a legal discipline governing the use of international rivers. Among the most prominent of such theories are:-

3.2.4.1 Theory of Absolute Territorial Sovereignty

This theory goes to launch the hands of the upstream country on the international watercourse (international river) to use and exploit the water passing through its own territories. In other words, it means giving the absolute sovereignty within its territory to use the water of the international watercourse without any regard to the rights of the rest of the riparian countries sharing the international watercourse and without any regard to the negative effects that may result from their use on the rest of the riparian countries, especially the downstream country.³³⁰ This theory is known as the Harmon Theory due to the American prosecutor who coined this theory in 1895 because of the controversy between the United States and Mexico on the use of Rio Grand River.³³¹ The United States modified this theory and solved the dispute with Mexico on the river according to the water distribution agreement for the purpose of agriculture in 1906.³³² This theory

³²⁸ Amer, *An Introduction to the Study*, 393.

³²⁹ Ibid.

³³⁰ Ibid., 460.

³³¹ Ibrahim, *Law of Rivers*, 68.

³³² Ibid.

faced a severe criticism from scholars of international law because it allows the interests of the upstream country without taking into account the interests of the downstream country such as the principle of not causing harm to others. In addition, this theory does not pay any consideration to the interests of the riparian countries sharing the international watercourse. Because of the frequent criticisms of the theory and the difficulty of applying it in the present time, it has no application in the international work and even at the level of the United States itself due to its non-suitability with the present time and it also violates the principle of equality.³³³

3.2.4.2 Theory of Absolute Regional Unity of the River

This theory is the opposite of the previous theory.³³⁴ It does not allow the riparian countries to use the water of the international river in a way that violates the rights of the rest of the other riparian countries. In other words, this theory does not allow any country through which the international watercourse passes, to take any action that would alter or change the course of the international river or any action that would reduce the amount of water or change its quality so as to preserve the rights of other countries sharing the international watercourse.³³⁵ This theory calls for the rights of the downstream country. So, according to this theory, the downstream country can ask the rest of the riparian countries, especially of the upstream country, the same quantity and quality of water. It also has the right to object and to eliminate any use of the international river course by the upstream country in the event it wishes to establish on the international river a project which would consequently lead to changing the course of

³³³ Ibrahim, *Law of Rivers*, 92.

³³⁴ Amer, *An Introduction to the Study*, 461.

³³⁵ *Ibid.*

the river or to changing the amount of water reaching into the downstream country or changing the quality or content.³³⁶ This theory faced many criticisms in that it ignores the international cooperation principle. It did not find any backing from the international courts.³³⁷

3.2.4.3 Theory of Restricted Territorial Sovereignty

This theory represents a balanced attitude between the two previous theories.³³⁸ It is based on the ground that each riparian country has the right to use the water of the international watercourse within its own territory subject to the condition of paying attention to the rights of other riparian countries. In other words, the use of the riparian countries of the waters of the international watercourse is harmless and does not affect the rights of other countries.³³⁹ The theory is based on a number of international principles, including the principle of good-neighboring and the principle of not causing harm to others.³⁴⁰ This theory gained the approbation and support at the international level and the international courts also relied on this theory. PICJ issued several decisions based on the concept of this theory, including the decision of 1929 about Oder River as well as of 1937 about Meuze River between Belgium and the Netherlands, while many of the scholars of international law supported this theory, including Max Huber and Smith and others.³⁴¹ This theory has been criticised for ignoring the account that the

³³⁶ Ibrahim, *Law of Rivers*, 93-94.

³³⁷ Shtewi, "The legal rules that govern," 70-71.

³³⁸ *Ibid.*

³³⁹ Amer, *An Introduction to the Study*, 461.

³⁴⁰ Ibrahim, *Law of Rivers*, 123.

³⁴¹ Shtewi, "The legal rules that govern," 72-74.

international river is one integrated unit.³⁴² It asserted the concept of country's sovereignty on the part of the international watercourse passing through its territories.³⁴³

3.2.4.4 Theory of Unit of Interests

It is one of the most developed theories of international rivers.³⁴⁴ It is based on ignoring the political boundaries between the countries that share an international river and looks at the river basin as one basin constituting an economic and geographical unit. This is based on the idea that the international river forms from its source to its estuary a Hydrographical Basin.³⁴⁵ This theory received considerable support and has been adopted by some of the conventions dealing with international rivers including for example, Lake Chad Convention 1964, the River Senegal Convention 1975 and others. Besides, this theory got the support of a large number of scholars of public international law.³⁴⁶ The international judiciary adopted this theory, including the verdict issued by the PICJ in the case of the territorial specialty of the River Oder in 1929. It was also adopted by the ICJ in the dispute between Hungary and Slovakia in 1997.³⁴⁷ This theory avoided the criticism of the previous theories. In short, this theory is nothing but an application of the principle of equitable and reasonable use of water.³⁴⁸

³⁴² Shtewi, "The legal rules that govern," 73.

³⁴³ Ibid., 73-74.

³⁴⁴ Amer, *An Introduction to the Study*, 461.

³⁴⁵ Ibid., 462.

³⁴⁶ Ibid.

³⁴⁷ Ibid., 461.

³⁴⁸ Shtewi, "The legal rules that govern," 75.

3.3 Convention on the Law of the Non-navigational Uses of International Watercourses 1997

The United Nations was able in 1997 to issue a comprehensive framework agreement to govern the use of the non-navigational international watercourses which entered into force on 17th August 2014. It is the only general agreement issued by the United Nations which controls the non-navigational international watercourses and by this, the idea that the international river was not controlled by an international convention came to an end.³⁴⁹

3.3.1 Stages of issuing the Convention

The international rivers and their uses for non-navigational purposes gained significant and pervasive concern by the United Nations.³⁵⁰ The efforts of the United Nations General Assembly started to encourage work on the progressive development of the law of the international watercourses and recording them. The General Assembly adopted on 21st November 1959 Resolution 1401 (session 14) under the title “a preliminary study on the legal problems related to the use and exploitation of the international rivers.”³⁵¹ The Resolution stated that the General Assembly finds it desirable to initiate studies on the above subject to determine the suitability of the notation. The same Resolution required from the Secretary-General of the United Nations to prepare a report depending on the information of the countries about their domestic laws and legislations, in addition to a summary of the bilateral agreements on the subject and a summary of the decisions of

³⁴⁹ Salman, “Arab Countries and the UN Convention,” 165.

³⁵⁰ Amer, *An Introduction to the Study*, 465.

³⁵¹ United Nations, 'Preliminary Studies On The Legal Problems Relating To The Utilization And Use Of International Rivers, 1401(14).', *United Nations*, http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/1401%28XIV%29, (accessed October 13, 2014).

international courts and international arbitration, and a summary of the studies conducted by the organisations concerned with the international law and the NGOs.³⁵² In 1963, the Secretary General presented his report which included a reference to many international conventions, domestic legislations and judicial decisions in addition to the studies issued by the non-governmental legal bodies concerned with the exploitation of international rivers.³⁵³ In the light of this and due to the growing interest of the non-navigational international rivers, the United Nations General Assembly adopted Resolution 2669 (session 25) on 8th December 1970 entitled “Gradual development of the rules of the international law related to the international watercourses, and recording them.”³⁵⁴ The General Assembly was of the view that water by virtue of the increase in population and the increasing demands and needs of human beings has become of growing interest to humanity, and that the available resources of fresh water is limited, therefore, all nations must preserve and protect this natural resource.³⁵⁵ The General Assembly also realized the importance of the legal problems associated with the use of the international watercourses. Thus, it recommended a referral of the matter to the International Law Commission at the United Nations to study the law on the use of the international watercourses for non-navigational purposes in order to develop and code it gradually.³⁵⁶ It also called for the Secretary General to continue his study of the subject and to prepare a supplementary report on the legal problems related to the subject.³⁵⁷ In

³⁵² United Nations, 'Preliminary Studies On The Legal Problems.'

³⁵³ United Nations, 'Progressive Development And Codification Of The Rules Of International Law Relating To International Watercourses, 2669(25).', *United Nations*, http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/2669%28XXV%29, (accessed October 3, 2014).

³⁵⁴ Ibid.

³⁵⁵ Ibid.

³⁵⁶ Ibid.

³⁵⁷ Ibid.

the light of this, ILC started to include the topic on its agenda starting from its Session 23 in 1971. Five rapporteurs worked on this topic and 15 reports were conducted until the completion of a draft law in this regard.³⁵⁸ Then, this law was put on the agenda of the General Assembly of the United Nations in 1994 which decided to submit it to the Sixth Committee.³⁵⁹ The Committee met in its 51 Session with the purpose to prepare a Framework Convention on the Law of the use of international watercourses for non-navigational purposes. Due to the inability of the Sixth Committee to finalize its work, a second session in 1997 was held during which the Committee completed its work and submitted a draft agreement to the General Assembly for the purpose of adopting it.³⁶⁰ On 21st May 1997, the General Assembly adopted the Convention of the Law of using the international watercourses for non-navigational purposes according to Resolution A/RES/51/229. This Resolution stated the importance of international watercourses and the successful blogging of the rules of international law which helped in promoting and implementing the principles of the United Nations. It also took into account the problems caused by the increased consumption and the use of the waters of international watercourses in addition to the increasing pollution. This required a Framework Convention to ensure the proper use of the international watercourse and its administration and development and the work to achieve the sustainable use and the preservation of this resource for future generations. In order to achieve this, there should be an international cooperation according to the principle of good-neighboring.³⁶¹ The Convention was approved by 103 countries with the objection of three countries

³⁵⁸ Salman, "Arab Countries and the UN Convention," 165-166.

³⁵⁹ Mufti, "A study on the convention of the law,".

³⁶⁰ Muhammed Jousuf Alwan, "UN Convention Regarding the International Watercourse in 1997," In *the Arab Water and the Challenges of the Twenty First Century*, ed. Muhammed Ibrahim Mansour and Muhammed Rafat Mahmoud (Egypt: Future Studies Centre in Asyout University, 1999), 113.

³⁶¹ General Assembly, The Convention on the Law of the non-navigational.

(Turkey, China and Burundi) and 27 countries abstained from voting after more than two decades of assigning the ILC to prepare the law.³⁶² Because of the time factor regarding the adoption of the Convention, Article 36(1) asserted the need for three months from posit of 35 to join, agree or ratify the Convention. After more than forty years on the Resolution of the General Assembly (1401) about the waterways in 1970, and after seventeen years on the adoption of the Convention by the UN in 1997, the Convention entered into force on 17th August 2014 after the completion of the number of approved ratifications amounting to 35 ratifications when Vietnam deposited its ratification of approval on the Convention on 19th May 2014.³⁶³

Iraq joined the Convention according to Law No. 39 in 2001 and stated the reasons as to why it joined the Convention, “because the Convention would ensure the use of the international watercourses, development, maintenance, management, and labor to make use of them to benefit the countries in a fair and reasonable way. Because this Convention is one of the most important actions of the United Nations in the field of international rivers, as well as by adopting it would ensure the rights of Iraq in the shared rivers, so Iraq Parliament passed this law.”³⁶⁴ Iraq deposited the ratification instrument to access the United Nations on 9th July 2001.³⁶⁵ But Syria signed the Convention on 11 August 1997 and ratified it on 2nd April 1998.³⁶⁶ On the other hand,

³⁶² Stephen C. McCaffrey and Mpazi Sinjela, "Current Development: The 1997 United Nations Convention On International Watercourses", *Www.Lexisnexis.Com.Eserv.Uum.Edu.My*, last modified 1998, <http://www.lexisnexis.com.eserv.uum.edu.my>. (accessed November 3, 2016).

³⁶³ United Nations, "UNTC", *Treaties.Un.Org*, https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-12&chapter=27&lang=en, (accessed October 16, 2015).

³⁶⁴ Republic of Iraq Ministry of Justice, Iraqi Proceedings-laws, No. 3876 dated on 30 / April / 2001, “*Law No. 39 of 2001 Joining the Convention on the Law of the Non-navigational Uses of International Watercourses*,” .312.

³⁶⁵ United Nations, "UNTC", *Treaties.Un.Org*.

³⁶⁶ *Ibid.* See also Amer, “United Nations Convention,”.

Turkey refused to adopt the Convention when voting on it in 1997 and has not yet signed the Convention and the same with Iran.³⁶⁷ The reason why Turkey and Iran did not adopt the Convention raises a question on the implications of the non-accession to this Convention.

Regardless of the position taken by Turkey and Iran, it is important to note that the Vienna Convention on the Law of Treaties 1969, could still be extended to states who are not a party to a given treaty due to their special nature. Among such cases highlighted by the international practices are the treaties that systematize a customary rule or establish an international customary rule, treaties of the ways of the international transport and treaties that establish a new international entity etc. In such cases, the effects of the treaty extend not only to a limited number of countries, but to all countries of the world, parties and non-parties to the treaty.³⁶⁸

As for the customary rules that are set by a treaty and its impact extends to other third-party countries, Article 38 of the Vienna Convention on the Law of Treaties 1969 states:-

Nothing in Articles 34 to 37 precludes a rule set forth in a treaty from becoming binding upon a third state as a customary rule of international law, recognized as such.³⁶⁹

Based on Article 38 above, it would suffice to note that those treaties that contain a systematization of customary rules, their impact extends to third countries, i.e., for any treaty systematizing a customary rule or revealing it, commitment is not limited to the states which are parties in the Treaty, but its impact extends to other countries that are

³⁶⁷ United Nations, "UNTC", *Treaties.Un.Org*.

³⁶⁸ United Nations, "Vienna Convention on the Law of Treaties 1969," Article 38. See also, Amer, *An Introduction to the Study*, 305-307.

³⁶⁹ United Nations, "Vienna Convention on the Law of Treaties 1969,".

not parties in this Treaty.³⁷⁰ An example of this is what Nuremberg Court issued in the trial of war criminals by saying ‘despite the fact that some of the fighting states are not parties in that convention, it is not necessary to rely on this argument, because the land war rules that came in the Hague Regulations (attached to the fourth Hague Convention on land war) represented, with no doubt, a new development of the International Law which existed at the time of conducting the Convention. The Convention has plainly highlighted that it was an attempt to revise the general norms of war that existed at that time. Therefore, this Convention revealed and declared the laws and customs of war that existed before which were recognized by the civilized countries at the beginning of the war’.³⁷¹

The same applies to the permanent neutrality of Switzerland which was approved by Vienna Congress 1815. The effect of this Treaty extended to all countries even those not members. All countries of the world are now committed to put Switzerland in Permanent Neutrality. Therefore, the countries who are non-parties to the Vienna Congress were committed to a treaty in which they were not part of it. The same applies to the Belgium neutrality stated in London Treaty in 1831 which established Belgium and put it in permanent neutrality. The effect of this treaty extends to all the countries of the world. A similar case is the treaty of Antarctica disarmament signed by 12 countries with an impact extending to countries not parties in the treaty but they are obliged to implement it.³⁷² The PCIJ got the chance to be exposed to the special nature of this range of treaties when it gave the verdict in the case of Wimbledon Ship, where the court held that when

³⁷⁰ Amer, *An Introduction to the Study*, 306.

³⁷¹ Ibid.

³⁷² Ibid., 307.

a waterway is allocated to permanently link two open seas for the use of the whole world, such a way is similar to the natural straits so that even the passage of warships through which does not constitute a violation of the neutrality of the country in which the channel is located. The court made it clear that despite the fact that this system was set according to a signed treaty by a limited number of countries, it gave the right to all the countries to be respected.³⁷³

With regard to the current study, the United Nations Convention 1997 has systematized and revealed the international customs established and in force by the international community such as the rule of not causing harm to others, notice of prior notification, the rule of equitable and reasonable use etc. and they are all customary rules governing the use of the non-navigational international watercourse.

With regard to the above inquiry, it is concluded that, based on Article 38 of the Vienna Convention on the Law of Treaties 1969, the application of the UN Convention 1997 can be extended to countries which are not parties to it, such as Turkey and Iran. This is due to the nature of this special agreement as it has systematized many customary rules that are internationally recognized as binding.³⁷⁴ Stephen C. McCaffrey, who was appointed a special rapporteur for the topic 'law of the non-navigational uses of international watercourses' by the International Law Commission at its 37th session, in 1985, emphasized that the United Nations Convention has codified a number of international customary rules in force such as prevention of significant harm, prior notification, and etc.³⁷⁵ Thus, that the source of the rules of this convention is the

³⁷³ Amer, *An Introduction to the Study*, 308.

³⁷⁴ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses."

³⁷⁵ Ibid

customary international law and these rules binding on all states even the states not join to the UN convention 1997.³⁷⁶

The expert at the World Bank Salman Mohammed Ahmed Salman said that the United Nations Convention has codified international customary rules and principles on international rivers. Therefore, it is binding to all other countries that are non-members in the Convention, due to the fact that these principles reflect the rules of the customary international law. The International Court of Justice confirmed this in two cases related to the international watercourses, namely, the issue of the Danube in 1997 and the issue of Pulp Mills in 2010, where the court adopted international customary rules stipulated in the United Nations Convention 1997. It is worth mentioning that the countries parties in the conflict were not part of the Convention, but they were committed to implement the decisions of the International Court of Justice.³⁷⁷

In relation to the above point, the main characteristic of this Convention is that it is a framework agreement. When drafting the law, ILC focused on the special nature of the non-navigational international watercourse and took into account the variation of the geological, hydrographic and climatic factors in addition to the versatility of the uses of international watercourses especially in the economic, industrial and energy production areas which necessitate versatility of rules specific to each of the international rivers. That is why the agreement was issued in framework format. It developed a general a framework represented by a set of rules, general principles, and judgments on the subject

³⁷⁶ Stephen McCaffrey, "Dr. Stephen McCaffrey: The Entry Into Force Of The 1997 Watercourses Convention", *International Water Law Project Blog*, last modified 2014, <http://www.internationalwaterlaw.org/blog/2014/05/25/dr-stephen-mccaffrey-the-entry-into-force-of-the-1997-watercourses-convention/>. (accessed November 5, 2016).

³⁷⁷ Salman, "Entry Into Force Of The UN Watercourses Convention: Why Should It Matter?", 11.

of using water in the non-navigational international rivers on the basis of which the water resources were shared. In other words, it sets the general rules relating to the use of the non-navigational International Watercourses and the basic rules on which the water resources of the International Rivers are to be divided. Then, there were special agreements for each of the rivers which were set between the countries sharing the international watercourse. It was based on the general rules stipulated by the UN Convention taking into consideration the specific situations of each river.³⁷⁸

The provisions contained in the UN Convention 1997 affected the negotiation of treaties on the international watercourses, such as the revised Protocol on the watercourses shared between the countries of the Southern African Developmental Countries (SADC) signed in August 2000. The provisions also had influence on the ICJ, where it quoted from it in its judgment in the issue of Gabčíkovo-Nagymoros Project, paragraph 85 of the court report in 1997.³⁷⁹

3.3.2 Main Provisions of the Convention

The Convention is divided into seven sections and it includes 37 Articles in addition to having a special supplement for arbitration consisting of 14 Articles. The most important points in this Convention include:

The first part of the Convention is an introduction which consists of four Articles: Article 1 deals with the scope of the Convention (see Appendix 1). Paragraph 1 shows that the Articles of this Convention apply to the uses of the international watercourses. This is a broad term in that the scope of the Convention covers the use of international

³⁷⁸ Amer, *An Introduction to the Study*, 474.

³⁷⁹ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses."

watercourse itself in addition to the uses of its water and even it extends over the transferred water from an international watercourse. The Article also states the maintenance, precautions and management measures related to the uses. The precautions intended here are not only the measures taken by the country to prevent or stop the deterioration of the water quality of the international watercourse (pollution), but the measures are extended to solve all the problems such as flood control, water leak salt, etc. Paragraph 2 of Article 1 excludes the navigational uses, but not in absolute terms; whenever it affects the uses of water and the watercourse, it is subjected to this Convention.³⁸⁰

Looking at the Convention, it is vital to note that the United Nations adopted in 1997 the term “watercourse” despite the objections of some countries, including Turkey, which prefers to use the term “transboundary”.³⁸¹ The report of the ILC in 1993, paragraph 360 stated that:-

On the basis of comments by Governments, the Special Rapporteur saw no reason for any changes in Article 1. He noted that some Governments, in their comments, had reopened the question of the appropriateness of the term “watercourses”. In the light of the fact that the term was the result of a compromise, he felt that it would not be prudent to change it. As regards to the suggestion that the term “transboundary waters” be used because of its use in the Convention on the Protection and Use of Transboundary Watercourses and International Lakes, he found it a matter of drafting and found no substantive difference between that term and the one used in Article 1.³⁸²

³⁸⁰ United Nations, *Report of The International Law Commission on The Work of Its Forty-Sixth Session, 2 May - 22 July 1994, Official Records of The General Assembly, Forty-Ninth Session, Supplement No. 10, Document A/49/10* (United Nations, 1994), 89-90, <http://legal.un.org/ilc/reports/>, (accessed October 10, 2015).

³⁸¹ United Nations, *Report of the International Law Commission on the Work of its Forty-Fifth Session, 3 May - 23 July 1993, Official Records of the General Assembly, Forty-Eighth Session, Supplement No. 10, Document A/48/10*, (United Nations, 1993), 87, <http://legal.un.org/ilc/reports/>, (accessed October 10, 2015). See also, Al-Adili, *International River*, 150-151.

³⁸² *Ibid.*, 87.

Consequently, it is understood from the above paragraph that both terms carry the same meaning and they are in fact only an expression of the international river. Therefore, the term ‘watercourse’ adopted by the United Nations Convention 1997 is the umbrella term which united all the terminology such as the cascade river and the border river. Hence, what Turkey calls a distinction between the international river, Cascade River, and the border river is not accepted under international law because in fact all these terms reflect the international river. This is a matter of drafting, no more and consequently, the Tigris and the Euphrates are considered international rivers.

Article 2 defines the terminologies used in the Convention, namely, Watercourse, International watercourse, Watercourse State and the Regional organisation of economic integration (see Appendix 1). Article 2(a) defines Watercourse as “a system of surface waters and ground waters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus.” From this definition, it becomes clear that watercourse consists of three elements, namely, the surface and underground water system, the natural relationship between surface water and underground water, and their flow towards a common terminus.³⁸³ As for the first component which is the water network, it consists of a number of different elements through which water flows above the ground and below the ground such as rivers, lakes, glaciers, canals, reservoirs, etc. This term was used previously in many agreements to refer to the river and its tributaries and channels connected to it.³⁸⁴ This term echoes well with the natural and hydrological reality and also with the mutual relationship between all parts of the water system,

³⁸³ Abdul Hamid, “Study of the concept of the river,” 146.

³⁸⁴ Alwan, “UN Convention Regarding,” 115-116.

surface and groundwater, which constitutes and forms the watercourse.³⁸⁵ As for the second element, which is the natural relationship between surface and groundwater, water and groundwater elements should be connected and linked to each other. Therefore, the surface water and groundwater form a water network connected by virtue of their natural relationship and form a single whole system. The relationship between the two is a reciprocal relationship that forms an international watercourse. The use of any country of the water of the watercourse, whether surface water or groundwater, affects the rest of the international watercourse countries. On the other hand, the confined groundwater and which has no natural relationship with the surface water is not to be considered among the water network and it does not fall within the scope of these Articles.³⁸⁶ Concerning the third element, a water network flows normally into a common terminus, the viewpoints inside the ILC agreed to add the word “usually” to the third element of the definition in order to reconcile between the opposing views of the term “common terminus” that exclude some of the water watercourse as well as being an incorrect statement from the hydrological point of view and the views calling for and supporting the “common terminus” with the argument to put some restraint and clarity to the geographical scope of the Convention.³⁸⁷ The intent behind adding the word “usually” is to express modern hydrology in order to complicate the flow of water.³⁸⁸ An example of this is the two different international basins which are related by a channel between the two does not make them part of one “watercourse” because each basin has

³⁸⁵ Alwan, “UN Convention Regarding,” 115-116.

³⁸⁶ Ibid.

³⁸⁷ United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 90.

³⁸⁸ Ibid.

its own independent water network which is separate from the other.³⁸⁹ The overall definition of watercourse is that it is a water network of surface and groundwater, which are interconnected with each other naturally and they form a single connected whole flowing into the sea entirely through the surface water or partly through the ground water or even through a series of distribution points (Delta).³⁹⁰

According to this definition, the Tigris and the Euphrates are considered international watercourses, separate and independent from each other and each of them has its own independent watercourse network which feeds with water and each one of them also has its own basin.

Article 2(b) defines international Watercourse as “a watercourse, parts of which are situated in different States” in the sense that any watercourse is international once part of its water network is located in different countries, whether rivers, lakes or canals or connected ground waters etc. Article 2(c) defines ‘Watercourse State’ which is based on a geographical criterion so as to state and identify the watercourse country.

Article 3 addresses the position of the international Convention from the previous agreements in force. The drafted United Nations Convention was formed as a framework agreement which would provide for the member countries the general rules and principles governing the use of the non-navigational international watercourses in the absence of any agreement between the riparian countries.³⁹¹ It would also provide guidelines for negotiations in the future agreements. The United Nations Convention

³⁸⁹ United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 90.

³⁹⁰ Ibid.

³⁹¹ Ibid.

does not affect the rights and obligations emerging from earlier agreements even if countries joined the United Nations Convention.³⁹² In case one of the watercourse countries wishes to adapt or modify previous agreements with the rules of the United Nations Convention, then there must be negotiations and consultations between the watercourse countries in accordance with the principle of goodwill to amend the previous agreements.³⁹³

It has become clear from the text of the Article above that this Convention is an orientation convention, i.e., it is a guide for future agreements related to international watercourses. As for the previous agreements, it is in force on all the states that signed it. Such countries have the will to adjust the previous agreements and make them suitable to what is stated by the United Nations Convention.

According to Article 3, the bilateral agreements conducted between Iraq, the downstream country of the Tigris and the Euphrates and their tributaries and the upstream countries such as: Lausanne Treaty 1923, the Treaty of Friendship and Good Neighboring 1946 between Iraq and Turkey, the agreement of 1990 between Iraq and Syria to share the Euphrates River, water and also the 1975 agreement between the Iraq and Iran to invest the border watercourses are in force and that all states should implement the rights and obligations stated in these agreements. Moreover, Iraq in consultation with these countries has the right to modify these agreements in force or hold a comprehensive agreement between all states to regulate the management, use and utilisation of these rivers and their tributaries.

³⁹²McCaffrey and Mpazi Sinjela, "Current Development: The 1997 United Nations Convention On International Watercourses". See also, Jweli, *International Rivers Law*, 24.

³⁹³ Jweli, *International Rivers Law*, 24-25.

On the other hand, Iraq is to have a consultation with Syria, which is a member of the United Nations Convention, to harmonize the 1990 Convention with the principles set out in the UN Convention 1997 and the need to consider all the imports of the Euphrates and its Syrian tributaries within the new agreement. Besides, the two countries should abide to the rights and obligations stated in the UN Convention 1997. For all these to be possible and bearing in mind the effect of Article 3 of the UN Convention 1997, Iraq and Syria will have to respect the previous agreements in place at all cost. In other words, if the two countries want to make changes or adjustment to the previous agreements, then they should enter into the process of negotiation and consultation.

As for Turkey and Iran, which have not joined the UN Convention 1997 until now, Article 3 requires the need for a full commitment to the implementation of the previous Treaties on international watercourses, and accordingly, the previous Treaties between Iraq and Turkey or Iraq and Iran are in force and binding against them. For example, the Treaty of Friendship and Good Neighboring between Iraq and Turkey 1946 and the 1975 Treaty between Iraq and Iran concerning the investment of the border watercourses are said to be enforced and binding as well. This is by virtue of Article 3 of the UN Convention 1997, which acknowledges the binding nature of previous treaties that were in force. This was confirmed by the ICJ in its verdict concerning the Gabcikovo-Nagymoros dispute in 1997. The decision stated that Slovakia inherited from Czechoslovakia the treaty of 1977. That is why Slovakia was not to end the 1977 treaty without notifying Hungary. The Court stated that this action was not to be ended by a

law and that the 1977 treaty remained valid to control the relationship between Slovakia and Hungary.³⁹⁴

That Hungary's notification of termination of the 1977 Treaty and related instruments on 19 May 1992 did not legally terminate them (and that they are consequently still in force and govern the relationship between the Parties); and that Slovakia, as successor to Czechoslovakia became a party to the Treaty of 1977.³⁹⁵

On the other hand, based on Article 38 of the Vienna Convention on the Law of Treaties 1969, it could be argued that all the upstream countries i.e., Turkey, Syria and Iran, should abide by the international customary principles and rules adopted by the UN Convention 1997 such as the rule of not causing harm to others etc. because they have become binding rules for all countries without any exception. The agreement is seen on a large scale as a codification of international customary law with regard to at least three commitments embodied in the Convention, namely: equitable and reasonable use, not to cause a significant harm and prior notification of the planned measures.³⁹⁶

According to Part II of the Convention, it provides the general principles for the use of the international watercourses for non-navigational purposes through Articles 5-10. Article 5 sets out the most important and famous international legal principles concerning international rivers, namely, the principle of equitable and reasonable utilization and participation (see Appendix 1). This principle means that all riparian countries have the right within their territories of a fair and reasonable share of water in addition to the other advantages so as to meet the economic, humanitarian, industrial,

³⁹⁴ United Nations, Summary of judgments and orders issued by the International Court of Justice in 1997.

³⁹⁵ International Court of Justice, "Case Concerning Gabcikovo-Nagymaros Project (Hungary/Slovakia) Judgment", *Www.Icj-Cij.Org*, last modified 1997, <http://www.icj-cij.org/docket/index.php?pr=267&p1=3&p2=1&case=92&p3=6>. (accessed November 4, 2016).

³⁹⁶ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses."

agricultural, and health uses. But this right is restricted in that the participation and utilization of the water of the international watercourse should be fair and reasonable and does not harm the rights and interests of the rest of the watercourse countries that have the same rights of use and participation of the international watercourse.³⁹⁷ The international watercourse countries have to cooperate in a fair and reasonable manner to protect the international watercourse and work on its development through cooperation with each other to ensure the optimal utilization of all the international watercourse countries.³⁹⁸ Article 5 states the basic rights and duties of each of the international watercourse countries with regard to use and participation. The first paragraph of the Article states the principle of equitable and reasonable use, while the second paragraph stipulates the principle and rule of fair and reasonable participation. The first paragraph, about the fair use, has been formulated in a binding manner and it expresses the mutual right of the watercourse countries each in its territory in a reasonable and equitable share of the uses of an international watercourse with the commitment not to deny the right of the rest of the watercourse countries of their equitable right. Moreover, the same paragraph obliges the watercourse countries to work on the development of the International watercourse for the purpose of ensuring the use of it in a sustainable manner, noting that what is meant by the optimal utilisation and benefits does not mean the maximum use of the resources. It also does not mean that the country has the economic, technological, scientific and financial capacity so as to have the right to use and benefit from international watercourse than others. The intended meaning of the optimal and equitable benefit is to achieve the benefit to all watercourse countries in

³⁹⁷ Ibrahim, *International Law*, 538.

³⁹⁸ Ibid.

order to meet the different needs with the need to provide the necessary protection, i.e., to take the necessary measures such as combating pollution, mitigation of the severity of the drought, combating the salt leak to the water of the international watercourse etc. The same paragraph emphasized the principle of sustainability which is the planning to develop and manage water resources in an integrated manner in the short and long run which together include all the economic and environmental sectors, etc.³⁹⁹ The second paragraph of Article 5, which stipulates the principle of equitable participation, it is mainly based on the principle of international cooperation. Therefore, the international watercourse countries should cooperate with each other through participation and on a fair and reasonable basis so as to obtain the optimum utilisation of the international watercourse to ensure its protection.⁴⁰⁰ Here, it becomes clear that the principle of participation is complementary to the principle of equitable utilisation. To obtain the optimum utilisation and benefits, there must be full cooperation between the international watercourse countries through the participation among themselves to protect, secure, and develop the international watercourse and, therefore, any country of the international watercourse countries has the right to obtain the cooperation of other countries to take the measures of protection and development of the international watercourse such as the programs of decontamination and the plans of mitigating drought severity, etc.

To conclude, Article 5 states the rights and duties of the international watercourse countries and any riparian state has the right to use the water of the international

³⁹⁹ United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 97.

⁴⁰⁰ Ibid.

watercourse within its territory according to the principle of sovereign equality among all countries. But this does not mean that each country from the international watercourse countries has the right to get an equal share of the water of the international watercourse or its uses and benefits. The meaning of this is that, each country has the right to make use of the international watercourse and to use it in a fair and reasonable manner the identification of this right must be made according to several criteria, already mentioned in Article 6.

With regard to the current study, diplomats, water experts and academics interviewed confirmed that Iraq respects the customary rule which deals with the equitable and reasonable use adopted by many international treaties, including the United Nations Convention 1997.⁴⁰¹ According to them, all states have the right to use and share the water of these rivers but in a fair and reasonable way, i.e., sharing the water in a fair and equitable way among the riparian states. Consequently, any state has no right to use the water alone without the rest of the other countries sharing the international watercourse.⁴⁰²

Still on Article 5 of the Convention, it is vital to make reference to the position taken by Turkey. Turkey interprets this principle (customary rule) on the basis of dividing the uses of water, but not dividing the water between the two countries.⁴⁰³ Quotas or distribution terms are unacceptable ideas and what is meant by determining the amount

⁴⁰¹Hassan Al-Janabi 'ambassador', interview by Omar Ahmed, in person (Ministry of Foreign Affairs, May 4, 2015). See also Shiltagh 'ambassador and director of the Legal Department'. See also Abdul-Khaliq, 'Water Expert'. See also Al-Sudani 'Water Expert'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'.

⁴⁰² Ibid.

⁴⁰³ Permanent Representative of the Republic of Iraq to the Arab League. *Arab water resources*, 48-50. See also, Al-Adili, *International River*, 336.

of water is not the distribution of water among the countries concerned but it means determining the amount of water on a fair and reasonable basis. Accordingly, Turkey offered its project, called the project of three-stage plan.⁴⁰⁴

The Turkish arguments and explanations are not acceptable because the customary rule which deals with the right of equitable and reasonable benefit and use has been adopted by many international treaties, including the United Nations' Convention 1997, basically means sharing and distributing water quotas between the states sharing the international watercourse. Furthermore, Turkey has also used the word 'distribution' in the Protocol it signed with Syria in 1987.⁴⁰⁵ Turkey was committed to distribute the Euphrates River water in that it granted a quota of 500 cubic meters to Syria and Iraq at the Turkish-Syrian border.⁴⁰⁶ The same applies to Syria and Iran.

Having analysed the provisions of Article 5 of the United Nations Convention 1997 above, it could be argued that the upstream countries of the Tigris and Euphrates violated this rule which is originally a customary rule before being systematized by the United Nations Convention 1997,⁴⁰⁷ which is in force and binding on all watercourse states, whether structured within the United Nations Convention or not. The upstream countries have continued to use the water of these rivers and their tributaries in an

⁴⁰⁴ Ministry of Foreign Affairs-Turkey, "Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters", *Sam.Gov.Tr*, <http://sam.gov.tr/wp-content/uploads/2012/01/WATER-ISSUES-BETWEEN-TURKEY-SYRIA-AND-IRAQ.pdf>. (accessed October 6, 2016). See also, Yeshar Yakeesh, "Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin," Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world, Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.), <http://www.waterexpert.se/Turkia.htm> (accessed April 17, 2014). See also, Permanent Representative of the Republic of Iraq to the Arab League. *Arab water resources*, 41.

⁴⁰⁵ Permanent Representative of the Republic of Iraq to the Arab League. *Arab water resources*, 36. See also, Radhwan, *Water problem*, 146.

⁴⁰⁶ Radhwan, *Problem of water*, 124.

⁴⁰⁷ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses."

individual will without any regard to the interests of the downstream country, Iraq. They have constructed many projects on these rivers, such as the Ataturk Dam in Turkey, Qashlagh Dam in Iran and Tabaqa Dam in Syria etc. These projects have greatly affected the water quality and quantity. This has led to shortage and lack of water entering Iraq, drastically affecting its economic development. In other words, Iraq's right to enjoyment of the water resources of these two rivers has been deprived by the upstream countries as a result of constructing the dams without paying attention to the needs of Iraq as a downstream country. According to Article 5, to be equitable and reasonable, the use must also be consistent with adequate protection of the watercourse from pollution and other forms of degradation.

This does not mean that the upstream countries do not have the right to use the watercourse, but it has the right to use the watercourse in a fair and reasonable way and not to damage the rest of the watercourse countries. Turkey, Syria and Iran have the right to benefit and use these rivers and their tributaries within their territories. However, this right has to be exercised in a fair and reasonable and not to damage the rest of the countries sharing these two rivers such as Iraq, the downstream country.

Article 6 states the factors that must be taken into account in determining the right of equitable and reasonable use among the international watercourse countries (see Appendix 1). It is impossible to apply the principle and rule of equitable and reasonable use spontaneously, but there should be some factors for the application of this rule. These factors vary, some of them are natural factors related to the characteristics of the international watercourse such as water quantity, quality etc., geographical, hydrographical, hydrological, and also economic and social factors related to water such

as the achievement of food security and economic development, etc. Besides, there is the historical factor which is related to the previous uses of the waters of the international watercourse and other factors mentioned in the Article above. These factors vary from one case to another; therefore, each factor must be examined separately. Then, all factors related to the status of each international watercourse must be studied for the purpose of reaching a decision to determine the equitable and reasonable utilization of the international watercourse.⁴⁰⁸ Based on Article 6 of the Convention, it is evident that these factors are of paramount importance in helping the watercourse states to reach to a satisfactory solution in the event of a dispute among them.

According to the diplomats, water experts and academics interviewed pointed out that, the Tigris and Euphrates and their tributaries have special factors that must be taken into account in order to achieve equitable and reasonable use and one such factor is by way of holding an agreement.⁴⁰⁹ For example, the factor of acquired right and previous uses of Iraq concerning the water of these rivers and their tributaries should be taken into account. Besides, the needs of the population, social and economic needs, for all countries, especially for the downstream country, Iraq, should also be considered. Another example, is studying the consequences of being a downstream country. Finally, the geographic, climate and hydrologic factors of these countries should also be studied.

In conclusion, this Article has identified the factors that help to achieve the equitable and reasonable use of the watercourse, which must be taken into account. The watercourse

⁴⁰⁸ General Assembly, The Convention on the Law of the Non-navigational, Article 6.

⁴⁰⁹ Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'.

countries should jointly study these factors so as to achieve the benefit and the equitable and reasonable use of the watercourse by all countries.

Article 7 deals with the obligation not to cause a significant harm (see Appendix 1). This obligation is considered a general constraint according to customary international law, and therefore, Article 7 is a restriction on the principle and rule of equitable and reasonable use already mentioned in Article 5. Thus, the international watercourse countries, especially the upstream countries, should be careful and to take all measures in order not to cause any significant harm to the other countries along the bottom of the international watercourse, especially the downstream country. In fact, the text of the Article above is nothing but an application of the principles of good-neighboring and non-arbitrariness in using the right.⁴¹⁰ The second paragraph of Article 7 also addresses the case of significant harm and in the absence of any special agreement governing this case, the country causing this significant harm must take all appropriate measures after consultation with the affected countries so as to remove such harm or even mitigate the negative effects and discuss the issue of compensation taking into account Articles 5-6 of the Convention.

The obligation not to cause any harm is the responsibility of all the riparian states sharing an international watercourse which should take the appropriate measures to prevent significant harm to other watercourse states. This is a customary rule which existed before being stipulated by the United Nations Convention.⁴¹¹ Moreover, whether countries joined the United Nations' Convention or not, the states' obligation not to

⁴¹⁰ Shtewi, "The legal rules that govern," 126. See also Amer, "United Nations Convention,".

⁴¹¹ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses.".

cause harm to others is legally binding due to Article 38 of the Vienna Convention on the Law of Treaties 1969. This is because it is an International Customary Rule systematized by the United Nations' Convention 1997.

As for the Tigris and the Euphrates and their tributaries, all the respondents interviewed were of the opinion that the upstream countries, namely, Turkey, Syria and Iran violated this rule and caused severe damage to the downstream country, Iraq.⁴¹² The large number of projects constructed by the upstream countries on these two rivers, such as Ataturk Dam on the Euphrates, Batman Dam on the Tigris in Turkey, Tabaqa Dam in Syria on the Euphrates and qashlagh Dam on the tributary of Diyala in Iran, have led to lack of incoming water to Iraq in addition to the poor quality and lack of suitability for some uses. This has had a negative impact on Iraq, the downstream country of both rivers and severely damaged the various sectors including the agricultural sector, livestock, energy production etc.⁴¹³

Article 8 of the Convention provides for general obligation to cooperate (see Appendix 1). It states a general obligation requiring all the international watercourse countries to cooperate with each other on the principles of goodwill and good-neighboring. This cooperation is based on several foundations, including sovereign equality, mutual interest and territorial integrity so as to achieve the optimum utilization of the international watercourse while providing the necessary protection. The second

⁴¹² Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Muhammed Yasin Ahmed. 'Engineer Expert' interviewed by Omar Ahmed, in person (The hydroelectric plant for power generation in Derbandikhan Dam, March 25, 2015). See also Hassan Faleh Hussein, 'Engineer Expert', interviewed by Omar Ahmed, in person (Ministry of Electricity, March 24, 2015). See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

⁴¹³ Ibid.

paragraph sketched ways to achieve this cooperation through the formation of joint committees or mechanisms, already agreed upon, to achieve cooperation to manage and regulate the use of the international watercourse. The general obligation to cooperate among the international watercourse countries is the basic foundation to participate in the equitable uses of the international watercourse and to ensure its protection and development.

Iraq has emphasized the importance of activating international cooperation among countries to reduce the water shortage, reduce competition for water and resort to dialogue and cooperation in solving problems arising from the current and future water shortages in addition to finding effective ways to manage shared water. This is done through a fair and reasonable division among riparian states and an establishment of a regional system for managing and setting new and effective mechanisms to exploit these resources to ensure not having future problems. Besides, it is done through the exchange of hydrological and climate information among the Nile basin countries through the creation of systems to manage the water basins after reaching a fair division of water between the countries of the Nile basin in addition to the current operating plans of the dams projects as well as the implementation of future projects within the shared river basins (the Tigris and the Euphrates and their tributaries).⁴¹⁴

However, the upstream countries of the Tigris and Euphrates seem not to be keen enough to cooperate with the downstream country, Iraq.⁴¹⁵ Hence, the respondents interviewed argued that the upstream countries have not abide to this international rule

⁴¹⁴ Abdul Latif Rashid, Senior Advisor of the Iraqi President, Former Minister of Water Resources, "Water scarcity, reasons and processors," 2, <http://latifrashid.iq>, (accessed July 7, 2015).

⁴¹⁵ Permanent Representative of the Republic of Iraq in the Arab League. *Arab water resources*, 25.

and they have violated the bilateral agreements that they have signed with Iraq, which emphasized on joint cooperation, such as, the Treaty of Friendship and Good-Neighboring between Iraq and Turkey 1946 as stipulated by Article 3,⁴¹⁶ and the preamble of an agreement of Constructing a Syrian Pump Station on the Tigris between Syria and Iraq 2002.

Furthermore, the respondents interviewed (water experts, diplomats and academics)⁴¹⁷ argued that the upstream countries did not meet the conditions with good intention. This is because the upstream countries were trying to procrastinate in consultations and meetings to gain time in order to complete their projects on these two rivers without taking into account the interests and rights of Iraq, the downstream country. Thus, it would suffice to note that the upstream countries appear to have ignored the provisions of Article 8 of the Convention despite the delegations negotiating the Convention attached such significance to cooperation through joint mechanisms that they added a paragraph to Article 8 calling for states to consider the establishment of such mechanisms or commissions.

Article 9 regulates the exchange of data and information (see Appendix 1). Article 9 requires the exchange of information and data on a regular basis between the international watercourse countries to provide the essential facts and realities of these

⁴¹⁶Permanent Representative of the Republic of Iraq in the Arab League. *Arab water resources*, 25. See also, Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Muhammed Yasin Ahmed. 'Engineer Expert'. See also Hassan Faleh Hussein, 'Engineer Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

⁴¹⁷ Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also, Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'.

countries so that they can benefit from the equitable and reasonable use according to Articles 5-6-7. This Article is considered complementary to Article 8. Exchanging data and information is one of the most important aspects of cooperation among international watercourse countries. It is known that the international watercourse is a shared natural resource representing a geographical unit and its course is shared by several countries which makes the use of one of the countries of the water of the international watercourse within its territory affect the rest of the countries. This requires cooperation between all these countries to achieve an equitable, reasonable and optimum use of the water of the international watercourse in the light of the equitable and reasonable utilization basis in addition to causing no significant harm. This will not happen without the exchange of information and data between these countries and on a regular basis, including hydrological geological and ecological information. While the second paragraph of Article 9 states that in case one of the watercourse countries request information or data which is not available, then the second country must do its utmost to provide this information. Besides, the watercourse countries must do their utmost to provide such data and information.

With regard to this Article, the water experts, diplomats and academics interviewed emphasized that the upstream countries explicitly violated this article which is stipulated in the bilateral agreements such as the protocol attached to the Treaty of Friendship and Good-neighboring between Iraq and Turkey 1946. The upstream countries did not provide Iraq, the downstream country, with the geological, ecological and hydrological information concerning the situation of the shared rivers. In the case of supplying Iraq

with some information, it was incomplete and inadequate which led to huge deficiency of the information and data on the international watercourses.⁴¹⁸

The third part of the Convention specifies the measures to be taken with Articles 11-19 addressing these matters. For instance, Article 11 (see Appendix 1) commits the international watercourse countries to exchange information with each other about the possible effects of the measures in case one of the countries intends to take. Then, these countries should enter into consultations and negotiations in this regard. The text of the Article contains the phrase 'possible effects' which is a broad term encompassing all possible effects, whether beneficial or harmful, which arise from any measures taken by one watercourse country whether projects, programs, or changes in the uses of the watercourse, etc. The commitment to exchange information about the possible effect aims to avoid problems among the international watercourse countries because evaluating the possible effects will be done by all the international watercourse countries and not by one country.⁴¹⁹

Article 12 (see Appendix 1) commits any of the international watercourse countries that intend to undertake measures on the watercourse and these measures can have significant harmful effects on the rest of the international watercourse countries. Such countries should notify (inform) the rest of the international watercourse countries of the dangers officially including all the true and accurate studies, data and information and among the information is to assess the environmental impact of the measures or projects

⁴¹⁸ Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'.

⁴¹⁹ United Nations, *Report of The International Law Commission on The Work of Its Forty-Sixth Session*, 111.

that are going to be held on the international watercourse. This notification should be sent in advance so as to have sufficient time for the rest of the watercourse countries to study the information and data and evaluate the resulting impacts.

What is stated in the Articles above 11-12 in particular, and Part III of the Convention, is nothing but the application of the international customary rule which states the need for a prior notification of any measures intended by any watercourse states to implement for the rest of the states sharing a watercourse.⁴²⁰

Part III of the Convention represents the application of international customary rule which states the need for a prior notification of any measures intended by any of the watercourse countries to the other countries sharing the watercourse. The principle of prior notification of the planned measures is stated in a number of international conventions, decisions of international courts and bodies and studies prepared by international governmental and non-governmental organisations. An example of this is the Convention of 1954 between Yugoslavia and Austria on issues of water economy on Drava River, the Convention on the protecting of the Waters of Lake Constance against Pollution, the Indus waters Treaty between India and Pakistan in 1960, the Convention relating to the development of hydraulic power which is affecting more than one State in 1923 etc.⁴²¹

⁴²⁰ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses."

⁴²¹ United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 112.

It jury adopted the case of Lake Lanoux 1957 between France and Spain. Among the international studies that have adopted this principle is the one concerning Helsinki Rules 1966, Article XXIX.⁴²²

In addition to the above, the fact that the basic obligation to provide prior notification of such changes was accepted as a part of the Convention by most delegations is, in itself, important: it provides further evidence that the international community as a whole emphatically rejects the notion that a state has unfettered discretion to do as it alone wishes with the portion of an international watercourse within its territory.⁴²³

Accordingly, this international customary, systematized by the United Nations Convention 1997, is binding on all the international community states. Its impact extends to all countries even those that are not within the Convention due to being an international customary convention even before systematization. This is by virtue of Article 38 of the Vienna Convention on the Law of Treaties 1969.

Regarding the position of Tigris and Euphrates rivers, the diplomats, water experts, and academics interviewed stated that the upstream countries i.e., Turkey, Syria and Iran have violated this international legal customary rule. This is because these countries have established a number of projects such as dams and irrigation canals etc. For example, Turkey established Batman Dam and Qaral-Qizi Dam on the Tigris and Kara Kaya Dam and Beera Jek Dam on the Euphrates, etc. As for Syria, it established

⁴²² United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 112-113. See also, United Nations, "Yearbook of the International Law Commission 1987, volume II part 1, Documents of the thirty-ninth session, A/CN.4/SER.A/1987/Add.1 (Part 1)", New York, 1989, *United Nations*, 35-37. http://legal.un.org/ilc/publications/yearbooks/english/ilc_1987_v2_p1.pdf, (accessed October 6, 2015).

⁴²³ The doctrine of "absolute territorial sovereignty", which would support such unfettered discretion, has long been rejected by the state that invented it. See also, Stephen McCaffrey, "The Harmon Doctrine One Hundred Years Later: Buried," *Natural Resources Journal* 36, (1996): 588-590.

Tishreen Dam on the Euphrates and Basil Dam on Khabour, a tributary of the Euphrates inside Syria, etc., while Iran established Karzal Dam and Mahabad Dam on the small Zab tributary Zab and on the tributary of Diyala it established Gavoshan Dam and Garan Dam and others.

The upstream countries when implementing such projects did not provide Iraq with any information or data and in rare and few cases they notified Iraq, the downstream country, about their intentions and projects but they did not present sufficient information for these projects or they submitted inaccurate information in other cases.⁴²⁴

The lack of cooperation from the upstream countries with the downstream country is clear by not being notified of the measures to be implemented on these rivers and their tributaries. Iraq was not supplied with data and information related to these measures to allow studying these measures and possible effects. This represents a breach and a blatant violation of the international customary rule. The upstream countries should take their international responsibilities and abide to the international norms, principles and rules. Besides, there should be an exchange of information and data, consultation and negotiation on the measures to be implemented or under implementation now on these two international rivers and their tributaries with the downstream countries of Iraq.

Part IV of the Convention deals with the protection, conservation, and management of watercourse: it reflects the high interest in the maintenance and protection of the environment and the work to improve it. Article 20 (see Appendix 1) emphasizes the general obligation to protect and preserve the ecosystem of the international

⁴²⁴ Al-Janabi ‘ambassador’. See also Shiltagh ‘ambassador and director of the Legal Department’. See also Al-Sudani, ‘Water Expert’. See also Abdul-Khaliq, ‘Water Expert’. See also Ghunawi ‘lecturer’. See also Dawood ‘lecturer’.

watercourse. The obligation to protect the ecosystem is just a qualitative application of Article 5 which states that the international watercourse countries should develop it with an adequate provision of protection. The watercourse countries must protect the ecosystem of the international watercourse from damage, injury, or any serious threat. Besides, the international watercourse countries should be committed to saving the ecosystem especially fresh water preservation and keeping its natural state as much as possible. In other words, the countries of the international watercourse should individually or collectively collaborate with each other on a fair basis to protect and preserve the ecosystems of the international watercourse.⁴²⁵

Iraq has been working on the conservation and protection of the marshlands which are part of the ecosystem of the Tigris and the Euphrates. But the lack of the amount of water, led to the drying up of vast tracts of these marshes. It also led to the poor quality of water which in turn negatively affected the marshes environment and led to a decrease in the living organisms and biodiversity in these areas.⁴²⁶ Moreover, Iraq has finally succeeded in annexing part of its marshlands to the list of UNESCO World Heritage.⁴²⁷

The legal rule mentioned above imposes on all watercourse states to cooperate with each other to protect and preserve the ecosystem of the international watercourse, but the upstream countries of the Tigris and the Euphrates did not save and protect this system.

⁴²⁵ United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 119-120.

⁴²⁶ Republic of Iraq, The National Committee for Marshes and Wet Lands, *Report of Environmental Threats in Iraq for 2011*, 29.

⁴²⁷ UNESCO Centre, "The Ahwar of Southern Iraq: Refuge of Biodiversity and the Relict Landscape of the Mesopotamian Cities", *Whc.Unesco.Org*, last modified 2016, <http://whc.unesco.org/en/list/1481>. (accessed October 7, 2016).

Their projects negatively affected the amount of Iraq's imports from these rivers in addition to their impact on the quality of such imports. Water experts and agriculture experts interviewed confirmed that water shortages and its poor quality negatively affected the marshlands and this led to a decrease in their size and also affected the biodiversity of the marshes by decreasing the quality and quantity of fishes, birds, animals and vegetation.⁴²⁸

The annexation of the Iraqi Marshlands to the World Heritage List means that they have become among the unique sites that must be protected from extinction. The UNESCO's mission is to watch them. This means that they have become under the joint international responsibility that requires an international cooperation to protect this international natural heritage.⁴²⁹ It is important to note that Article 20 of the Convention makes it an obligation to exercise due diligence to protect and preserve watercourse ecosystems. This standard takes into account the sensitivity of the ecosystem as well as the capability of the state involved.

Having said that, all of the Tigris and Euphrates countries and their tributaries have an international commitment to work to protect and guarantee this international archaeological site. The marshlands mainly depend on the fresh water coming from the Tigris and the Euphrates and their tributaries. Therefore, these countries, individually and collectively, have to work on ensuring the arrival of water to the marshlands to ensure their survival.

⁴²⁸ Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

⁴²⁹ BBC Arabic, "Iraqi Marshlands: What Does it Mean to be Included in the List of World Heritage? - BBC Arabic", *BBC Arabic*, last modified 2016, http://www.bbc.com/arabic/artandculture/2016/07/160718_iraq_marshes_unesco_world_heritage. (accessed October 7, 2016).

Article 21 (see Appendix 1) is about the prevention of pollution, its reduction and control. The first paragraph of the Article defines pollution of an international watercourse as “any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct.”⁴³⁰

Based on this definition, which is general and comprehensive, the pollution of an international watercourse means any change in the composition of water, mineral or chemical substances, or a change in its quality and whether this change or pollution may result directly or indirectly from human behaviour. The second paragraph states the process of binding the international watercourse countries, individually if they are the cause of pollution or in combination if pollution is a collective output and result from more than one country. In this case, the countries causing pollution should cooperate collectively with each other to prevent, reduce and control the pollution of an international watercourse which causes a significant damage to the international watercourse countries or to the environment, especially downstream country. The third Paragraph states the consultation between the watercourse countries at the request of one of the countries to agree on finding ways to prevent the pollution of the watercourse and working to reduce and control pollution.

Regarding the rivers of the Tigris and the Euphrates and their tributaries, the big decrease of the imports of these rivers and their tributaries entering into Iraq is due to the large expansion in the agricultural projects by the upstream countries, namely Turkey, Syria and Iran, and their use of chemical fertilizers and pesticides, which has affected the quality of the water. For example, the salt concentrations in the Euphrates reached to

⁴³⁰ General Assembly, The Convention on the Law of the non-navigational, Article 21(1).

800 per million and it can be up to 1350 per million.⁴³¹ This constitutes a significant economic, technical and social burden on Iraq to reclaim its lands and get rid of the salinity left by the water after irrigating the farmlands.⁴³²

The damage and the seriousness of the deterioration of water quality can be estimated by giving an example. When the concentration of salt rises from 300 mg/L to 1300 mg/L, it will add one million ton of salt per billion cubic meters of water, i.e., if Iraq needs 19 billion cubic meters of the Euphrates water, it will bear at least 19 million tons of salt added to the lands, in addition to its impact on public health, livestock, industry, energy, etc. All this is a result of the deterioration of water coming from the upstream countries.⁴³³

The upstream countries have an international responsibility to prevent the pollution of the Tigris and the Euphrates and their tributaries, and to work with Iraq to prevent, mitigate and control the pollution of the water of the watercourses. By way of reading Articles 20 and 21 together, of course, it is arguable that pollution that would harm only the environment of the state of origin would have to be controlled pursuant to Article 20.

Article 23 (see Appendix 1) tackles a serious problem, namely, the contamination of estuaries and its impact on the marine environment. This Article obliges the international watercourse countries individually or collectively to take all possible measures to protect the estuaries of the international rivers and keep them from all types of pollution in order to ensure the protection and preservation of the marine environment.

⁴³¹ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 17 and 23.

⁴³² *Ibid.*, 23.

⁴³³ *Ibid.*

Iraq being a downstream country and by virtue of these two rivers meeting in southern Iraq to form the Shatt al-Arab, which flows into the Arab Gulf it cannot be denied that the shortage of water in the Tigris and the Euphrates and their tributaries due to the large number of projects constructed by the upstream countries, has led to lack of water in the rivers of Tigris and Euphrates, and consequently, lack of fresh water in Shatt al-Arab. This has led to the rush of the Arab Gulf salt water into the city of Basra, across the Shatt al-Arab due to the phenomenon of sea tide which has resulted into the destruction of aquatic life and the destruction of orchards and palm trees and a change of environment, in addition to the suffering of the population of the salt water which is unfit for use.⁴³⁴ Hence, all countries sharing the Tigris and the Euphrates and their tributaries should work in order to keep the marine environment and the estuaries of these rivers protected according to the provisions and rules of the International Law.

Part V of the Convention is about harmful statuses and emergencies. Article 27 (see Appendix 1) requires all the international watercourse countries individually or collectively to take all measures to prevent the occurrence of any conditions related to the international watercourse which results in causing harm to other countries or working on mitigating them regardless of the source of these harmful conditions, whether natural or man's made or a combination of both, such as floods, siltation, salt water intrusion, drought, desertification and so on.⁴³⁵

With regard to the current study, the academics interviewed stated that the upstream countries have not taken any measures to prevent harmful conditions. On the contrary,

⁴³⁴ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 31.

⁴³⁵ Alwan, "UN Convention Regarding," 134.

the upstream countries of these two rivers contributed in increasing the harmful conditions to the downstream country Iraq. Iraq suffers from saltwater and drought leak and from increasing desertified land and the reason behind this is the large number of projects constructed by the upstream countries on these two rivers, which have heavily affected the quantity and quality of the water of the Tigris and the Euphrates and their tributaries.⁴³⁶

From the foregoing discussion above, we can conclude that the United Nations Convention 1997 was the first that came to codify the rules of international law on the non-navigational international watercourses and to organise its affairs, management, safeguarding and protection in addition to defining the mechanisms of resolving disputes. The most important characteristic of this Convention is that it is a framework comprehensive convention that contains many of the principles and international norms related to non-navigational international rivers such as the principle of equitable and reasonable use, principle of not doing harm to others, principle of prior consultation, principle of cooperation and exchange of information etc.⁴³⁷ This Convention also defines the rights and obligations of the international watercourse countries and provides the general framework for the bilateral and regional agreements. One of the characteristics of this Convention is its quest to maintain this natural and finite resource for present and future generations through achieving an integrated management of the international watercourse with cooperation among the international watercourse countries to achieve the optimum use and the fair and equitable benefit for everyone without causing harm to others.

⁴³⁶ Ghunawi 'lecturer'. See also Dawood 'lecturer'.

⁴³⁷ McCaffrey, "Convention on the Law of the Non-navigational Uses of International Watercourses."

3.4 Conventions Related to the Tigris and the Euphrates Rivers

This section studied and analysed the conventions applicable to the Tigris and the Euphrates between Iraq, the downstream country, and Turkey, Syria and Iran, the upstream countries.

3.4.1 Iraqi-Turkish Conventions

3.4.1.1 1920 Treaty (San Remo Treaty)

This Treaty was signed between the Mandate countries, Britain for Iraq and France for Syria with Turkey.⁴³⁸ Article 3 of the Treaty states the necessity of the formation of a joint committee from Turkey, Syria and Iraq and its mission was to address the special problems of the water of the Tigris and Euphrates especially in the case of creating geometric facilities at the top of these rivers. Such facilities might have a significant impact on the quantity and distribution of the discharges of these rivers in the region of Mesopotamia (Iraq). The governments of Iraq and Syria inherited this Treaty from the countries of the Mandate, Britain and France, according to the principle and the rule of international inheritance, and consequently, this Convention was an overture or initiation for all parties.⁴³⁹

3.4.1.2 Treaty of Peace (Lausanne Treaty)

Treaty of Peace with Turkey was signed at Lausanne on 24th July 1923.⁴⁴⁰ This treaty was signed after the end of World War I in the city of Lausanne, Switzerland between Turkey on one side and the countries of the Mandate, Britain for Iraq and France for

⁴³⁸ Permanent Representative of the Republic of Iraq. *Arab water resources*, 33. See also, Radhwan, *Water problem*, 119. See also Al-Rubaie, *International Law*, 134.

⁴³⁹ Permanent Representative of the Republic of Iraq to the Arab League, *International legal development*, 34.

⁴⁴⁰ Baskent University Center for strategic research, "Treaty of Peace with Turkey," Signed at Lausanne, July 24, 1923.

Syria, and Article 109 states that “In default of any provisions to the contrary, when as the result of the fixing of a new frontier the hydraulic system (canalisation, inundation, irrigation, drainage or similar matters) in a State is dependent on works executed within the territory of another State, or when use is made on the territory of a State, in virtue of pre-war usage, of water or hydraulic power, the source of which is on the territory of another State, an agreement shall be made between the States concerned to safeguard the interests and rights acquired by each of them. Failing an agreement, the matter shall be regulated by arbitration.”⁴⁴¹ The treaty stated the need for an agreement between the riparian states of the Tigris and the Euphrates to regulate the rights of using them. It also confirmed the principle of acquired right for each country according to the previous uses of these rivers. It showed that in the case of failure to reach an agreement between the parties to regulate the benefit and use of these rivers, one should resort to arbitration to resolve the dispute and regulate the use of the two rivers between all states.⁴⁴² Turkey’s signature on this agreement is considered an international recognition of the concept of acquired right of Iraq in the Tigris and the Euphrates stemming from the historical utilization and use of Iraq (Mesopotamia) of the water of the Tigris and the Euphrates for various purposes and uses. On the other hand, the agreement obliges Turkey to notify other countries of the need to reach an agreement before implementing any project on these rivers so as to ensure that no harm’s caused to the rest of the states. The same applies to Syria which inherited the agreement on behalf of France. It recognizes the acquired right of Iraq in these two rivers and it is bound to notify Iraq and to reach an

⁴⁴¹ Baskent University Center for strategic research, “Treaty of Peace with Turkey,” Signed at Lausanne, July 24, 1923.

⁴⁴² Al-Hayali, “The Euphrates River,” 208. See also Al-Rubaie, *International Law*, 134.

agreement with it before the implementation of any project on these rivers or their tributaries.⁴⁴³

3.4.1.3 Aleppo Treaty

Aleppo Treaty was signed between Turkey and the states of the Mandate, Britain for Iraq and France for Syria, on 3rd May 1930 and it was based on the Treaty of Lausanne 1923.⁴⁴⁴ According to this treaty, it was agreed on the demarcation of the borders between Turkey, Syria and Iraq at the course of the Tigris River in accordance with Altaluk Line. The treaty affirmed the commitment to set rules to exploit the river between the three states.⁴⁴⁵ The academics interviewed emphasized, and according to this treaty, that Turkey recognized the Tigris as an international river and it also recognized that it is independent and separate from the Euphrates.⁴⁴⁶

3.4.1.4 Treaty of Friendship and Good-Neighboring between Iraq and Turkey

Friendship and Good-Neighboring Treaty between Iraq and Turkey (see Appendix 3) was signed in Ankara on 29th March 1946 and was ratified by Iraq by Act No. 17 of 1947.⁴⁴⁷ Article 6 of the Treaty has six protocols attached to it. The first protocol was devoted to regulate the water of the Tigris and the Euphrates and their tributaries.⁴⁴⁸ The preamble of the protocol, the first attachment, provides that the agreement between the governments of Iraq and Turkey on the organisation of using the water of the Tigris and the Euphrates so as to sustain a regular supplier of water and on the establishment of a

⁴⁴³ Al-Hayali, "The Euphrates River," 208.

⁴⁴⁴ Permanent Representative of the Republic of Iraq to the Arab League, *International legal development*, 34. See also, Al-Hayali, "The Euphrates River," 208. See also, Radhwan, *Problem of water*, 124.

⁴⁴⁵ Al-Hayali, "The Euphrates River," 209.

⁴⁴⁶ Ghunawi 'lecturer'. See also Dawood 'lecturer'.

⁴⁴⁷ Fouad Al-Rawi, *Lexicon of treaties, conventions, protocols, conventions, covenants and alliances that Iraq linked with the states, international organizations and foreign institutions starting from 1921* (Baghdad: Planning Council and the Ministry of Planning, 1977) 1947, 464-267.

⁴⁴⁸ *Ibid.*, 464.

permanent measuring plants in Turkey to record the amounts and discharges of water and to report to Iraq of the readings. It also states that the work to be done on the two rivers must be as convenient as possible for the benefit of both countries, whether for the purposes of irrigation or production of hydroelectric power.⁴⁴⁹ The Protocol consists of 6 Articles. Article 1 states that Iraq can send associations and committees of technicians to Turkey to conduct studies on water and geological surveys so as to choose the site for creating dams, plants for measurement in addition to other actions and engineering measures on the Tigris and the Euphrates rivers. Besides, the Turkish side should secure the necessary maps and create the surveys needed on the condition that Iraq bears all financial expenses. Article 2 requires the Turkish side to cooperate with the Iraqi side and to provide all facilities, information and data for the purpose of completing the work by a professional staff. Article 3 details out whatever concerns the measurement plants. It requires the Turkish side to establish, operate and maintain the permanent measurement plants to measure the amount of water and the drainage of both the Tigris and the Euphrates. Such plants are to be checked by technicians from Iraq and Turkey on a regular basis. As for the operation expenses for these plants, both countries share equally. This Article also requires the Turkish side to notify Iraq every day during the floods period and through half monthly reports about the water level of the Tigris and the Euphrates in other times of the year. Article 4 provides that, with the exception of permanent measurement plants, any actions to be implemented should be under an agreement held between the two countries stating all the details including the work site and its cost, administration, and maintenance. When using these actions, whether for irrigation or electrical power generation, there must be a convention between Turkey and

⁴⁴⁹Al-Rawi, *Lexicon of treaties, conventions, protocols, conventions*, 1971, 469.

Iraq, i.e., it is not permitted to establish any actions on these rivers unless there is an agreement between the two countries on these projects regardless of what the quality or the uses. Article 5, which is considered the most important Article of the Protocol, commits Turkey to inform and notify Iraq of any project or special measure the Turkish government intends to implement or create on the Tigris and the Euphrates and to provide all data and information related to the project to Iraq in order to make sure that these preventive actions intended by Turkey serve the Iraqi interests and the Turkish interests as well. Therefore, these actions must be made in order not to harm Iraq. Besides, the Article stipulates that these actions will be for preventive purposes on both rivers. The rest of the actions such as irrigation and power generation have been recognized by the previous Article which requires the approval of Iraq and the agreement between the two countries to regulate whatever is related to these actions and projects.

Based on this agreement signed by Turkey, it could be argued that the Turkish government has committed itself to a number of obligations, including the state of Turkey officially recognized that the Tigris and the Euphrates are international rivers, acknowledged that both rivers are separate and independent each has its own independent water network, and recognized the historical and acquired right of Iraq in these two rivers. The Treaty also committed Turkey to provide information and reports on discharges and quantities of these rivers on a daily basis or bi-monthly. The most important Turkish commitments are not to come up with projects for irrigation or power generation without an agreement with Iraq and also to reach an agreement for each job or project regulating all matters related to business such as location, cost and

management and other things. Regarding the prevention work that Turkey intends implement, in particular, it must notify the Iraqi side and provide it with all data and information on the preventive action which will serve the interests of both countries and will not cause harm to Iraq. On the other hand, this agreement granted Iraq several rights including the right to establish permanent measuring stations to know the quantities and discharges of both rivers, right to send technicians and committees and bodies to carry out geological surveys as well as monitoring the work of the permanent measuring stations, Iraq's right to get the Turkish cooperation by notifying Iraq and informing it of all the data and preventive action it intends to do, right not to suffer from any harm due to the establishment of Turkey and of preventive actions on these rivers, and finally right to use and utilise the water of the Tigris and Euphrates.

The academics, diplomats and water experts interviewed asserted that the Turkish government has breached this international treaty. Turkey has established many irrigation projects and power generation projects without obtaining Iraq's consent and without holding any bilateral agreement governing such acts. This is a breach of Article 4 of the Protocol. Besides, Turkey has not supplied Iraq with any information or data on the preventive and engineering actions carried out on these rivers except in very few cases where the information was not accurate as the case of Keban Dam. This constitutes a violation of Articles 4 and 5 of the Protocol attached to the Treaty of Friendship and Good-Neighboring between Iraq and Turkey established in 1946.⁴⁵⁰

⁴⁵⁰ Ghunawi 'lecturer'. See also Dawood 'lecturer'. Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'.

3.4.1.5 Protocol of Economic and Technical Cooperation

The Economic and Technical cooperation Protocol between Iraq and Turkey was signed in Ankara on 17 January 1971 and ratified by Iraq under Law No. 52 of 1971.⁴⁵¹ It consists of 5 Articles. Article 3 deals with the topic of shared water and it states that both parties should tackle the problems related to shared water in the region and they agreed on the following: (1) the Turkish authorities, during the development of Keban Dam program, should do all the useful consultations with the Iraqi authorities in order to secure the water needs of Iraq and Turkey, including filling Habbaniyah Tank and Keban Tank, (2) both parties embark, as soon as possible, the discussions about shared water starting with the Euphrates with the participation of all parties.⁴⁵² Paragraph 2 of Article 3 states that the two countries are committed to consultation and discussion with regard to shared water, especially around the Euphrates. What we can draw from this Article is that, Turkey has recognized that the Euphrates River is completely independent of the Tigris River. Besides, both countries emphasized the principle of good will and good neighbouring between the two countries in addition to the principle of not causing harm and the emphasis on equitable utilization and equitable use of the water of these two rivers for both countries.

3.4.1.6 Economic and Technical Cooperation

Economic and Technical Cooperation was signed between Iraq and Turkey on 25th December 1980 in Ankara and Syria joined the Protocol in 1983.⁴⁵³ The agreement consists of several chapters and Chapter V is about the subject of territorial waters. It

⁴⁵¹ Al-Rawi, *Lexicon of treaties, conventions, protocols, conventions*, 1971, 466.

⁴⁵² Ibid.

⁴⁵³ Permanent Representative of the Republic of Iraq to the Arab League, *International legal development*, 21.

consists of two Articles. Article 1 states that “the parties agreed to cooperate in the field of controlling over the pollution of the shared water in the region” and Article 2 states that “the parties agreed to establish or form a joint technical committee within two months to study the issues related to territorial waters (and in particular the basins of the Tigris and Euphrates) and the committee is requested to submit its report to the governments of the three countries within two years that can be renewed for another year. In the light of the receipt of the report, the three governments will be invited to a meeting at the ministerial level to assess the results of the work of the Joint Technical Committee so as to decide on the methods and procedures recommended by the Joint Technical Committee to get to determine the appropriate and reasonable quantity of water needed by each country of the shared countries.”⁴⁵⁴ Under Article 1, the states sharing the Tigris and Euphrates are committed to cooperate and work together in order to control the issue of water pollution and to maintain the quality so as to ensure not to cause any harm to any state sharing these two rivers, especially the downstream country. Article 2 stipulates on the formation of a Joint Technical Committee to study all topics related to the basins of the Tigris and the Euphrates and to submit its final report to the three countries for the purpose of discussion and adoption of the appropriate methods to determine reasonable and appropriate amounts of water for each of the three countries. In other words, it should determine the equitable and reasonable use for each of the three countries. The committee has not submitted its final report yet despite the elapse of approximately 35 years of its formation. We note that Turkey has already approved and recognized that the Tigris and the Euphrates are separate and independent international

⁴⁵⁴ Permanent Representative of the Republic of Iraq to the Arab League, *International legal development*, 21.

rivers. Besides, Turkey has pledged to maintain the quality of the water of the Tigris and the Euphrates, prevent and combat their pollution.

3.4.2 Syrian-Turkish Conventions

3.4.2.1 Economic Cooperation Protocol

The Syrian-Turkish Economic Cooperation Protocol was signed by both countries in 1987.⁴⁵⁵ This protocol commits Turkey to provide an annual rate of the Euphrates River water more than 500 cubic meters/second at the Turkish-Syria borders.⁴⁵⁶ In case of lack of income during a particular month, the Turkish side undertakes to indemnify the difference during the following month. Work on this rate should continue until reaching into a final distribution of the water in the shared international rivers. The Protocol also commits Syria and Turkey to work with Iraq to distribute the water of the Tigris and the Euphrates. Syria recorded this agreement in the UN on 1st June 1993.⁴⁵⁷ What can be observed in this agreement is that Turkey recognized explicitly that the Tigris and Euphrates are international separate and independent rivers and Syria and Iraq have the right to use and utilise the water of these rivers. Besides, the Protocol confirmed the need to cooperate and discuss the final formula governing the management and use of water of these rivers by the three countries. Furthermore, we find that the Syrian-Turkish agreement did not take into consideration the rights and interests of Iraq in the water of the Euphrates in that determining the amount of water as 500 cubic meters/second at the Turkish-Syrian borders severely damaged Iraq as it did not meet the minimum requirement of Iraq's need of the water of the Euphrates River. Iraq's demands that the

⁴⁵⁵ Radhwan, *Problem of water*, 124.

⁴⁵⁶ *Ibid.*, 125.

⁴⁵⁷ *Ibid.*, 126.

amount of water needed from Euphrates at the Syrian-Turkish border be 800 cubic meters/ second.⁴⁵⁸

3.4.2.2 Syrian-Turkish Memorandum of Understanding

It was signed on 23rd December 2009 in Damascus.⁴⁵⁹ The content of agreement stipulates that Syria would have to draw water from the Tigris River for its project by constructing a pumping station. Syria previously held an agreement with Iraq on the same subject in 2002.⁴⁶⁰ It included the Syrian-Turkish agreement on constructing a pumping station by Syria on the Tigris River at the Syrian territory to draw water from the river and to pump it deep into the Syrian territory. It also included the exchange of information and cooperation between the two countries.⁴⁶¹ We notice first that this agreement was set between Syria and Turkey. It was done on a bilateral basis without informing Iraq, the downstream country, which was the most affected by lack of imports of water. Secondly, it agreed on setting up a new site to construct the project which was not the one earlier agreed upon between Syria and Iraq. Thirdly, the Syrian government did not allow any Iraqi delegation to visit the project site despite Iraq's claim to do so more than once.⁴⁶² Besides, Syria did not provide Iraq with any information and data on the new site of the project between Syria and Turkey.⁴⁶³ Finally, comes Iraq's invitation

⁴⁵⁸Samer Mukhaimar and Khaled Hijazi, *Water crisis in the Arab region, the facts and possible alternatives* (Kuwait: the world of knowledge, 1996), 96-100. See also, Mohammed, *Water and International Relation*, 71.

⁴⁵⁹ Muhammed Al-Anbari, "Lights on the Syrian project to pull the Tigris water to the Syrian region," Damascus, *Iraqi Ministry of Foreign Affairs*, 2011, 6.

⁴⁶⁰ Ibid.

⁴⁶¹ Ibid., 6.

⁴⁶² Ibid., 6-60.

⁴⁶³ Ibid.

of the Syrian side for consultation about the project for which Iraq did not receive any response from the Syrian side on all diplomatic memoirs and letters.⁴⁶⁴

3.4.3 Iraqi-Syrian Conventions

3.4.3.1 1920 Treaty (Paris Treaty)

This Treaty was held between the states of the Mandate, France for Syria and Britain for Iraq, dated on 23rd December 1920.⁴⁶⁵ Article 3 of the Treaty provides for the formation of a joint committee to study any project prepared or implemented by France (on behalf of Syria) to regulate irrigation in Syria that might lead to lack of water in the Euphrates and the Tigris to clear and substantial degree when entering the Iraqi territory.⁴⁶⁶ This Treaty gave Iraq as a downstream country the right to access any project implemented by Syria on the Euphrates and the Tigris through a joint committee formed for this purpose to study the project so that its implementation does not lead to water shortage in a great amount in these two rivers and to ensure not to cause any harm to the rights of Iraq, including the right to enjoyment of the water resources of the Tigris and Euphrates. Both Syria and Iraq inherited this Treaty from the states of the mandate in accordance with the principle of international inheritance and therefore it is at work. This agreement provides for the principle of prior notification about planned measures by Syria on the Euphrates and the Tigris in addition to the principle of international cooperation through forming a joint committee between the two countries.

⁴⁶⁴ Al-Anbari, "Lights on the Syrian project," 6-60.

⁴⁶⁵ Al-Adili, *International River*, 316. See also, Al-khairu, *Euphrates River*, 237.

⁴⁶⁶ Ibid.

3.4.3.2 Agreement between Iraq and Syrian 1990

Iraqi-Syrian Agreement 1990 was held in Baghdad and it dealt with the issue of sharing the water of the Euphrates River between Syria and Iraq whereby Iraq's share is 58% of the amount of water from the Euphrates River entering into the Syrian territories at the Turkish-Syrian borders.⁴⁶⁷ The share of Syria is 42% the amount of the water of the Euphrates River entering into the Syrian territories.⁴⁶⁸ The agreement was a temporary agreement between Iraq and Syria until they reached into a final agreement between all the states sharing the water of the Tigris and the Euphrates. This agreement divided the water imports of the Euphrates River entering into the Syrian territories at the Turkish-Syrian border between Iraq and Syria, and it did not count the imports of the tributary of the Euphrates River inside the Syrian territories within the process of division. Thus, this agreement has deprived Iraq of its portion of the Syrian tributaries of the Euphrates River.

3.4.3.3 Iraqi–Syrian Agreement 2002

Iraqi-Syrian Agreement 2002 (see Appendix 4) deals with the setting up of pumping station on Tigris.⁴⁶⁹ In 2002, the two countries agreed to set up the Syrian pumping station on the Tigris. The agreement consists of 9 Articles. Article 1 explains some of the technical terms. Article 2 deals with the purpose of establishing the station which is that of quenching an area of 150,000 net hectares of the Syrian territory. Article 3 identifies the amount of water drawn by the Syrian pumps from the Tigris estimated by 1,250,000 cubic meters a year after having met two conditions: the first is that Syria has

⁴⁶⁷ Al-Adili, *International River*, 323. See also Radhwan, *Problem of water*, 125.

⁴⁶⁸ Ibid.

⁴⁶⁹ “Convention of setting up a Syrian pumping station on the Tigris River,” April 9, 2002, *Republic of Iraq-Ministry of Foreign Affairs, Legal Department, Department of International Water*.

to withdraw this amount from the Tigris when the river revenue at the Turkish border city of Jazra or at the measuring station at Fishkhabour city is within the normal level.⁴⁷⁰

The second condition is that the water revenue for the River Fishkhabour, a tributary of the Tigris River, should not be considered within the revenues of the Tigris River account for the purpose of calculating the amount of water that is pulled which is specified by this Article.⁴⁷¹ Paragraph 4 of the same Article states that in case of lack of imports of the Tigris River from the annual natural rate, the annual water withdrawal decreases by the Syrian pumping station by a ratio equivalent to the shortfall of the imports of the Tigris River. The fifth paragraph identifies an agenda for the annual rate of withdrawal in accordance with the table attached to the agreement. Article 4 of the Agreement commits the Syrian side to notify Iraq of each stage of the implementation of the project and the plan of operation, cultivated land and the amount of water being withdrawn every six months. Article 5 of the Agreement states that Syria has to establish a measuring station for measuring the discharge of the Tigris River in addition to equipping, operating and maintaining it. It also states the formation of a joint committee to monitor the readings and the quantities of water drawn from the pumping station once a month. Article 6 commits the Syrian side not to discharge and to return the agricultural and the hygienic drainage and other water into the Tigris River or any watercourse entering into Iraq from inside the Syrian territory because this is considered a cause of contamination of the water of the river. To ensure this, there should be a comparison between the results of tests of the water of the Tigris and when noticing any differences, a meeting is to be held to find ways to combat this pollution by Syria and to make the

⁴⁷⁰ “Convention of setting up a Syrian pumping station on the Tigris River,” Article 3(2).

⁴⁷¹ Ibid., Article 3(3).

water suitable for all uses. Article 7 of the Agreement states that the United Nations Convention 1997 is the reference supplementing any issue not provided by the bilateral agreement. Article 8 states that in the event of any dispute, it should be resolved through direct negotiations between the two countries. It is noticeable that the Syrian side did not abide by this agreement as a bilateral agreement. Instead, it held another agreement with the Turkish side without any previous notice being given to Iraq. The Syrian side started the implementation of the project without notifying Iraq of the stages of the work in addition to changing the location of the pumping station to another place other than that identified in the agreement with Iraq.

3.4.4 Iraqi-Iranian Conventions

3.4.4.1 Convention of the International Borders and Good-Neighboring Relations between Iraq and Iran

The Convention of the International Borders and Good-Neighboring Relations between Iraq and Iran, known as the International Border Convention (Algeria Convention) was signed on 6th March 1975 and this Convention includes some attached protocols. As for the joint border rivers between Iraq and Iran, including the tributaries of the Tigris River, they were organised by an agreement attached to the Convention under the title of an agreement between Iraq and Iran related to the investment of border watercourses (see Appendix 5).⁴⁷² This Convention aims to organise and utilise the joint international watercourses between Iraq and Iran to achieve the joint utilization and use of the two countries on the basis of the principle of good neighboring. Article 1 states that the provisions of this Convention apply to the following watercourse: (a) adjacent

⁴⁷² "Treaty of International Borders and good neighboring between Iraq and Iran," March 6, 1975, *Republic of Iraq-Ministry of Foreign Affairs, Legal Department, Department of International Water*, 87.

watercourses that follow the border line between the two countries (b) sequential watercourse that cut the border line between the two countries.⁴⁷³ This Article identifies the scope of the agreement to the entire shared watercourse between the two countries. The Article defines two types of watercourses which are adjacent watercourse and the sequential watercourse. Article 2 (see Appendix 5) identifies the shared international watercourses between two countries and it divided them into three sections and each section includes special provisions to organise it. The first section is divided on the basis of suitable points and sites already agreed upon, and the second section is divided according to the minutes of the sessions of the Iranian-Ottoman committees of determining the borders in 1914 (when Iraq was part of the Ottoman Empire, and which ended with the end of the First World War) or according to current practice in the region. The third section is about dividing the shared international watercourses according to this bilateral agreement. Article 3 of the Convention (see Appendix 5) deals with the formation of a permanent joint technical committee responsible for studying whatever issue related to the shared international watercourses between the two countries. Under Article 5 of the Convention (see Appendix 5), the two countries are committed to ensure the natural flow of water in the joint international watercourses and also committed to refrain from the use of the joint international watercourses in case it causes damage to the interests of the other country. Several issues can be noticed from this Convention including Iran's recognition of the internationality of the shared rivers and watercourses between the two countries, its commitment not to inflict any damage to Iraq resulting from the use of the shared international watercourses, Iran's commitment to ensuring water flow in these shared watercourses and not diverting them

⁴⁷³ Treaty of International Borders and good neighboring between Iraq and Iran.

into the Iranian territories. Iran did not abide by this Convention in that it converted a lot of shared international watercourses deep into the Iranian territories and it stopped the flow of some of the shared international watercourses.⁴⁷⁴ It also violated its commitment not to cause damage to the other side, i.e., Iraq, by depriving it of its right to use the water of the shared international watercourses and also deprived Iraq of its economic right to use its natural resources to achieve a comprehensive development. For example, the projects constructed by Iran had the greatest impacts in reducing the amount of water entering into Iraq through the Diyala River.⁴⁷⁵ After having an overall rate of up to 5.5 billion cubic meters a year, it fell down to 1.1 billion cubic meters in 2008 and to 1.2 billion cubic meters in 2009.⁴⁷⁶ The shortage of water in the Diyala River has had an impact on the various sectors in the country such as the agricultural, hydroelectric power and Industrial etc.⁴⁷⁷

The conclusion that can be made as a result of the study of the rules and principles of international law relating to the non-navigational international watercourses shows that there are common rights for the upstream and downstream countries in the international watercourses in addition to the special rights of the downstream country in the international watercourse. The bilateral and tripartite agreements held between the Tigris and the Euphrates countries stipulated on a set of rights already mentioned by the international norms and principles related to the international watercourses. Among the shared rights between the upstream and downstream countries are the right of equitable

⁴⁷⁴ Sahib Al-Rubaiy, "Water war between Iraq and Iran: Motives and Reasons", *Waterexpert.Se*, <http://www.waterexpert.se/Iran.htm> (accessed April 21, 2014). See also, Firas Abdul-Jabbar Al-Rubaie, "Impact of the Iranian water policy on the Iraqi rivers", *International Journal of the Environment and Water* 1, no. 3 (2011): 136, <http://ijew.ewdr.org/component/k2/item/225>, (accessed December 19, 2014).

⁴⁷⁵ Abdullah, "Joint border," 119.

⁴⁷⁶ Ibadi, "Water resources management," 139.

⁴⁷⁷ Abdullah, "Joint border," 126.

and reasonable use of water, the right of collaboration among the international watercourse states, the right not to inflict any damage to the rest of the watercourse states, the right of goodwill during interaction and the right of good-neighboring. As for the rights of downstream country (Iraq), which are drawn from the knowledge of the international conventions and bilateral agreements, they include the right of equitable and reasonable use of water, the right not to inflict any significant harm to downstream country, the right to protect the quality of the water of the international watercourse from pollution, the right to protect the riverine environment, the right of joint cooperation, the right of the downstream country toward the upstream countries by informing them of any actions or projects intended to be implemented on an international watercourse, the right to consult and negotiate with the upstream countries about their works and projects intended to be implemented on the international watercourse, the right of a fair share of the water of the international watercourse to meet the requirements and uses, the right of the downstream country to the use of natural resources including the water resources for the economic development of the country, the right of the downstream country to maintain this wealth for future generation, the right to compensate for any significant damage caused by the upstream countries to the downstream country, the acquired historical right of Iraq in the water of the Tigris and the Euphrates, and right of the downstream country (Iraq) towards the upstream countries not to abuse by using their granted right to use the international watercourse.

3.5 Important Issues put forward by the Riparian Countries Regarding the Position of the Tigris and the Euphrates Rivers

The riparian countries of the Tigris and Euphrates Rivers have taken some drastic stand regarding the position of these two rivers. In other words, each riparian country has taken a different stand or position regarding the water of the Tigris and Euphrates Rivers. This has culminated into some important issues put forward by the riparian countries, which require careful consideration.

3.5.1 Issues Raised by Turkey

3.5.1.1 The first issue

Turkey does not recognize the internationality of the Tigris and the Euphrates.⁴⁷⁸ Turkey's official position is that both the Tigris and the Euphrates are Transboundary Rivers and not international rivers.

A former leader in the True Path Party Mr. Suleiman Demirel, ex-president of the Republic of Turkey, stated that "Turkey has sovereignty over its water resources, and the construction of the Turkish dams on the Euphrates and the Tigris must not create any international problem. Everyone must be aware that the Euphrates and the Tigris are not International Rivers. They are Turkish rivers until the point where they leave the Turkish territory".⁴⁷⁹

⁴⁷⁸ Food Organization, aquastat, 8. See also, Ministry of Foreign Affairs-Turkey, "Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters". See also, Yakeesh, "Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris-Euphrates basin,". See also, Ali Jamalo, *Euphrates: The Struggle for Water in the Middle East* (London-Beirut: Riad El-Rayyes Books Ltd, 1996), 66, Memorandum Embassy of the Republic of Turkey-Baghdad, 6600/17/96.

⁴⁷⁹ Mansour, *The issue of water*, 187.

Turkey differentiates between the term 'border rivers' and 'sequential rivers'. 'Border Rivers' basically represent the boundary between two or more states separated by a river. Turkey considers 'Border Rivers' as international rivers. On the other hand, 'sequential rivers' are not international rivers but national and they are subject to national sovereignty. Hence, Turkey uses 'sequential river' to represent "Transboundary" watercourses to describe the Tigris and Euphrates. In other words, the Tigris and Euphrates Rivers are not international watercourses, but rather 'Transboundary' watercourses. This is the position taken by Turkey. This position is not acceptable at all. It is not accepted by the rules of international law and the international conventions, as well as by the bilateral agreements held with the other countries, Iraq and Syria. According to the rules of international law, Turkey raised this term 'transboundary watercourse' during the meetings of the ILC responsible for preparing a draft law on the non-navigational international watercourses.⁴⁸⁰ The Turkish proposal was rejected as it did not find any endorsement by the Commission and it was suspended "It found it a matter of drafting and found no substantive difference between that term and the one used in Article 1."⁴⁸¹ It is just a draft and there is no difference between the two terms and that it falls under the concept of an international watercourse. Then, the United Nations Convention 1997 was issued and it used the term 'international watercourse'. As for the Helsinki Rules 1966, the term used is 'international drainage basin'. Therefore, the Turkish position was rejected by the rules of international law and the Tigris and the Euphrates Rivers are international rivers under international law. As for the bilateral agreements held between Turkey, Iraq and Syria since 1920 until today,

⁴⁸⁰ United Nations, *Report Of The International Law Commission On The Work Of Its Forty-Fifth Session*, 87. See also, Al-Adili, *International River*, 150-151.

⁴⁸¹ Ibid.

the Turkish position is incompatible with these conventions, as Turkey recognizes these bilateral agreements on the basis that the Tigris and Euphrates Rivers are international rivers. Thus, the Turkish position against the internationality of the Tigris and the Euphrates Rivers and that they are only transboundary waters is rejected and it is violating the rules and principles of the international law on the one hand and the bilateral agreements held between Turkey, Iraq and Syria on the other hand.

3.5.1.2 The second issue

Turkey considers the Tigris and the Euphrates as one basin because the two rivers are related to each other through the Industrial Canal of Thirthar established by Iraq within its territory, in addition to the second reason which is that these rivers unite together at the downstream southern part of Iraq to form one watercourse which is that of Shatt al-Arab which flows into the Arab Gulf.⁴⁸² The Turkish pretexts are rejected because they are in conflict with the rules and principles of international law and the bilateral agreements related to these two rivers between Turkey, Iraq and Syria. First, it came in the report of the ILC in 1994 when explaining the concept of the watercourse contained in the second article of the UN Non-navigational International Watercourses Convention, paragraph 6 of the report commented on the phrase “And normally flowing into a common terminus.” The Commission reported the following “the fact that two

⁴⁸² Yakeesh, “Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris-Euphrates basin.” See also, Jamal and Mohammed Amin Brbinar, “Cross-border water in Turkey and around: historical development, and legal dimensions of the proposed solutions.” See also, Funda Yakar, “Turkey’s Transboundary Water Policy: Dominance of the Realist Paradigm?” (the Degree of Master of Science in Middle East Studies, The Graduate School of Social Science of Middle East Technical University, 2013), 75-76, <http://etd.lib.metu.edu.tr/upload/12616161/index.pdf>, (accessed October 7, 2016). See also, Jamalo, *Euphrates: The Struggle for Water in the Middle East*, 66, Memorandum Embassy of the Republic of Turkey-Baghdad, 6600/17/96

different drainage basins were connected by a canal would not make them part of a single "watercourse" for the purpose of the present articles."⁴⁸³

The Commission made an example of the Rhine and Danube Rivers in that they are international rivers and they are independent from each other. By all means, they do not constitute a single network for the flow of water between them at some times of the year. The sound and practical judgment requires that the Danube and Rhine remain independent. What is meant by the word "usually" is the expression that the modern hydrological knowledge is done by the complexity of the movement of water. The international rivers are composed of surface and underground water network, which constitute by virtue of their nature one inseparable whole. They flow into the sea directly through the surface water or indirectly through the groundwater or others.⁴⁸⁴ The explanation of the Commission and its example applies to the Tigris and the Euphrates Rivers and consequently the Tigris and the Euphrates are two separate rivers, each of which is considered an international independent and separate watercourse, and each has its own separate water network even with the existence of the artificial industrial Canal of Thirhar that links both rivers, or even when they meet at the downstream southern Iraq to form Shatt al-Arab River.

3.5.1.3 The third issue

This issue revolves around the water of these two rivers (Three-Staged Plan). Turkey confirms on the principle and the rule of equitable utilization of the water of the Tigris and the Euphrates Rivers. During the Joint Technical Committee meeting in 1984,

⁴⁸³ United Nations, *Report of the International Law Commission on the Work of its Forty-Sixth Session*, 90.

⁴⁸⁴ *Ibid.*, 90-91.

Turkey raised for the first time its project to use the waters of the two rivers according to its view and analysis of the principle of equitable use which is known as a 'Three-Stage Plan'.⁴⁸⁵ Turkey is still committed to this plan, which includes three phases; the first is to study the water resources of the two rivers such as the water flows, temperatures, the amount of evaporation of water, rain, snow, etc. The second stage involves performing studies on the territory of all the riparian countries sharing the Tigris and the Euphrates such as studying soil classification, studying crop species cultivated etc. Finally, the third phase which is based on the study of water and land resources including studying and determining the irrigation methods, identifying the needs of each country of the irrigation water, determining the amount of water evaporation etc. The plan also includes the study of the possibility of transferring water between the Tigris and the Euphrates and also studying the supply and demand of water. Moreover, the Turkish plan includes a discussion of the different economic feasibility of the various projects in the riparian countries of the two rivers.⁴⁸⁶

Based on the discussions above, it becomes clear that Turkey poses several misconceptions which are contrary to the principles and rules of international law and the bilateral agreements among which it uses the term 'transboundary waters' in its plan, and it is a rejected term by the international community as well as by Syria and Iraq. As for the Turkish concept of the 'optimal utilization', which means the apportionment of

⁴⁸⁵ Yakeesh, "Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris-Euphrates basin,". See also, Yakar, "Turkey's Transboundary Water Policy:76. See also, Jamalo, *Euphrates: The Struggle for Water in the Middle East*, 65, Memorandum Embassy of the Republic of Turkey-Baghdad, 6600/17/96. See also, Jamalo, *Euphrates: The Struggle for Water in the Middle East* , 51, Memorandum Embassy of the Republic of Turkey in Syria, 595 in 30/12/1995.

⁴⁸⁶ Minthir Khaddam, *Arab Water Security: Reality and Challenges* (Beirut: Centre of Arab Unity Studies, 2003), 244.

water uses rather than division of water among the countries,⁴⁸⁷ has been proposed by Turkey through its plan. It is completely contrary to what the International Law Commission poses in its commentary on the text of Article 5 of the UN Convention draft on the non-navigational watercourses. It showed that the meaning of the phrase ‘optimal utilization’ and its benefits does not mean the maximum use of resources. It also does not mean that the state, which has the economic, technological, scientific and financial capacity, has the right to use and benefit from the international watercourse more than others. The meaning of the phrase ‘optimum utilization’ is to achieve a benefit for all watercourse states in order to meet the different needs with the need to provide the necessary protection which means to take the necessary measures such as combating pollution, mitigating the severity of the drought, combating the salt leak into the water of the international watercourse etc.⁴⁸⁸ The sixth committee came to add a phrase to the text of Article 5, namely, ‘taking into account the interests of the concerned watercourse states.’⁴⁸⁹ This phrase, in its truth, is to clarify and restrict the principle of ‘optimal utilization’ in that all the international watercourse states must adhere to it when utilizing the international watercourse taking into account the interests and rights of the rest of the international watercourse countries and not to cause any significant harm in addition to providing the required protection of the watercourse.⁴⁹⁰

Furthermore, the research found that the Turkish plan of raising the concept of soil classification as an essential and major factor in the estimation of the water needs of the

⁴⁸⁷ Jamalo, *Euphrates: The Struggle for Water in the Middle East*, 64, Memorandum Embassy of the Republic of Turkey-Baghdad, 6600/17/96.

⁴⁸⁸ United Nations, *Report of The International Law Commission on The Work of Its Forty-Sixth Session*, 96-99.

⁴⁸⁹ Ibid. See also General Assembly, *The Convention on the Law of the non-navigational*.

⁴⁹⁰ Khaddam, *Water Security*, 247.

three countries.⁴⁹¹ This concept is not mentioned in the rules and principles of international law dealing with international rivers and the classification of soil has nothing to do with the subject of utilization and use of the water of the international watercourse. Article 6 of the United Nations Convention 1997 stipulates on the factors that are taken into consideration to achieve the equitable and reasonable utilization of the international watercourse. None of these factors state the subject of soil classification as a factor to determine the optimum and equitable utilization. The same applies to Helsinki's Rules. Article 5 of the Helsinki Rules states the factors that determine the fair and reasonable share and no factor can be considered for the adoption of soil classification as a basis for determining the fair and reasonable share for any state of the international watercourse countries. Consequently, what Turkey calls for is groundless in the international action and has no legal basis. On the other side, all the bilateral agreements held between Turkey and Iraq and between Turkey and Syria do not state this factor as a basis for determining the fair and reasonable utilization or for determining the water quotas of the Tigris and the Euphrates Rivers for the riparian countries.

From the aforementioned, it is clear that the Turkish three-staged plan violates the rules and principles of international law concerning the use of international watercourses. It is baseless at the international level and it is baseless in all bilateral agreements concerning the rivers of the Tigris and the Euphrates. Basically, this plan and the Turkish demands are designed to meet the Turkish needs only and to achieve its interests and do not look at the rights and interests of other countries, especially the downstream country which

⁴⁹¹ Jamalo, *Euphrates: The Struggle for Water in the Middle East* , 51, Memorandum Embassy of the Republic of Turkey in Syria, 595 in 30/12/1995.

has rights and interests in these two rivers, namely, the right of Iraq to use and utilise the water to develop the country and to achieve a comprehensive development in various sectors according to its right in the water of the Tigris and the Euphrates.

3.5.2 Issues Raised by Syria

Syria views the Tigris and the Euphrates as international rivers being shared between Turkey, Syria, and Iraq. Besides, Syria considers these rivers separate and independent from each other and each one of them has its own independent water network and its own basin. Therefore, Syria sees that there should be a collective bargaining to reach into a final solution to share and regulate the use of the water. Iraq agrees with Syria on these points, however, there are some issues relating to the use of these two rivers between Syria and Iraq. The following are the issues:-

3.5.2.1 The first issue

This issue is represented by the Syrian attitude towards the imports of the tributaries of the Euphrates River inside the Syrian territory. While negotiating with the Iraqi side, Syria made it clear not to include the water imports of the tributaries of the Euphrates River that flow through it which is located inside the Syrian territory in the discussions and negotiations and Syria considered them internal rivers and it has the absolute freedom to act out.⁴⁹² According to the definition of a watercourse, these tributaries and the amount of water that flows are considered an integral part of the Euphrates River and, therefore, the amount of water flowing from the tributaries must be included within the imports of the Euphrates River account when negotiating and discussing issues between Iraq and Syria. Syria is to grant Iraq the right of this water to make use of it in

⁴⁹² Food Organization, *aquastat*, 8. See also, Radhwan, *Problem of water*, 125. See also, Al-Adili, *International River*, 323.

the various economic, industrial, agricultural and humanitarian sectors. Iraq has the right to use the water resources to achieve an overall economic development.

3.5.2.2 The second issue

This issue is about the pumping station on the Tigris River. Syria held a bilateral agreement with Iraq in 2002 on the establishment of the Syria pumping station on the right bank of the Tigris River to pump the amount of water up to 1,250,000 cubic meters per year in the normal circumstances of the river so as to irrigate 150,000 hectares deep into the Syrian territory.⁴⁹³ In 2009, Syria held with the Turkish side a bilateral memorandum of understanding without reporting its content to Iraq.⁴⁹⁴ It was better for Syria to inform the Iraqi government formally of the agreement between Syria and Turkey in order to allow Iraq to study the policies included in that agreement and to respond to it according to the United Nations Convention 1997 which both sides agreed upon considering it a reference for whatever not included in the bilateral agreement between Iraq and Syria in 2002. Syria started the implementation of the project and set up the pumping station in a different place, not the one agreed upon with the Iraqi side. Moreover, the Syrian government did not allow the Iraqi technicians to visit and see the stages of the project according to what came in the bilateral agreement.⁴⁹⁵ The water experts and academics interviewed asserted that these works and others are considered violations by the Syrian side of the Iraqi-Syrian bilateral agreement.⁴⁹⁶

⁴⁹³ “Convention of setting up a Syrian pumping station on the Tigris River,”. See also, Food Organization, aquastat, 8.

⁴⁹⁴ Al-Anbari, “Lights on the Syrian project,”, 6.

⁴⁹⁵ Ibid., 38-58.

⁴⁹⁶ Al-Sudani, ‘Water Expert’. See also Abdul-Khaliq, ‘Water Expert’. See also Ghunawi ‘lecturer’. See also Dawood ‘lecturer’.

3.5.3 Issues Raised by Iran Regarding the Tigris Tributaries

3.5.3.1 The first issue

It is about the internationality of the joint rivers between Iraq and Iran, including the tributaries of the Tigris River. According to the rules and principles of international law such as the Helsinki's Rules 1966 and the UN Convention 1997, the tributaries that originate from inside the Iranian territory and feeding the Tigris are considered international rivers and they are part of the river basin.⁴⁹⁷ They are also considered part of the water net feeding the course of the Tigris. Besides, Iran, under the agreement with Iraq concerning the investment of the border watercourse, recognized the internationality of the shared watercourse between Iran and Iraq and, therefore, it is subject to the rules and principles of international law relating to the international watercourses. Iran rejected this and unilaterally exploited and used the international watercourses without regard to the rights and interests of Iraq in these joint international watercourses which consequently caused harm to Iraq. As a result, the rate of desertification in the lands of the Iraqi's Diyala Province has reached about 70% due to lack of water in the Diyala River.⁴⁹⁸

3.5.3.2 The second issue

This second issue concerns with the principle and basis of equitable and reasonable use of water. Iran has exploited the shared rivers and watercourses with Iraq, including the tributaries of the Tigris which flow from its territory. It has established many of the projects and works on these tributaries such as Qeshlaq Dam, Karzal Dam and Gavoshan

⁴⁹⁷ "The Helsinki Rules," Article 2. See also General Assembly, The Convention on the Law of the non-navigational 1997 Article 2.

⁴⁹⁸ News Agency, "Al-Wand River and the official and popular calls for the Iranian," <http://www.ikhnews.com/print.php?id=19277> (accessed December 3, 2014).

Dam, etc. which has led to decrease in the amount of water in these tributaries in addition to changing the quality of the water. This has consequently led to inflicting large and serious damage to Iraq, especially in the agricultural, livestock, and industrial domains and energy production.⁴⁹⁹ The Iranian attitude is considered incompatible with the principle of equitable and reasonable utilization between the states of the international watercourse as stated by many of the conventions and treaties, which have adopted by the United Nations Convention 1997 such as Article 5. Iran has also violated the agreement on the investment of border watercourse attached to the Convention of 1975 according to which both sides agreed on good-neighboring. Besides, both sides undertook according to Article 5 to ensure the natural flow of water in the shared international watercourses including the tributaries of the Tigris. Iran has used the international watercourses individually and hauled the water without any regard to the rights of Iraq and its interests in the water of the shared international watercourses.

3.5.4 Issues and Rights Raised by Iraq Regarding the Tigris and Euphrates Rivers

The position of Iraq is represented by its emphasis that the Tigris and the Euphrates are international rivers. They are international rivers according to the bilateral agreements and what is stated in the international agreements. They are separate and independent rivers, each one of them has its own basin and its own water net. Iraq believes that negotiations and talks are the best way to reach a final agreement on the Tigris and the Euphrates in accordance with the principles of good-neighboring, goodwill and not causing harm to others. Iraq has constant rights in the Tigris and the Euphrates and their tributaries, including the following:-

⁴⁹⁹ Abdullah, "Joint border," 120-126.

3.5.4.1 The first issue

Iraq's acquired right in the Tigris and the Euphrates. The use and exploitation of the water of the Tigris and the Euphrates by Iraq existed thousands of years ago and Iraq was called Mesopotamia due to the Tigris and the Euphrates.⁵⁰⁰ The oldest human civilization in history originated in Iraq. Historical discoveries showed that the Iraqis were the first to use the water systems for economic purposes such as irrigation, farming, fishing and navigation.⁵⁰¹ They were the first to write legal rules to govern the use of water for these rivers. Besides, they were the first who built dams and canals to deliver water to the farmland and cities. Iraq was the first among all the riparian countries to make use of the rivers thousands of years ago whether utilization or regulation of the watercourse.⁵⁰² In the light of this, Iraq has confirmed its acquired and historical right of the water of the Tigris and the Euphrates in various international forums. In 1962, Iraq demanded her acquired and historical rights in the waters of the Tigris and the Euphrates during the Iraqi-Syrian meeting.⁵⁰³ In 1965, and during the tripartite meeting held in Baghdad, Iraq stressed the principle of acquired right.⁵⁰⁴ According to water experts, academics and diplomats interviewed, Iraq is still affirming its acquired right in the waters of the Tigris and the Euphrates.⁵⁰⁵ Iraq's position is based on what has been acknowledged in international treaties which constitute one of the sources of international law, including the mutual talks in 1929 between the British High Commissioner and the Egyptian head of the Council of Ministers which resulted in an

⁵⁰⁰ Food Organization, aquastat, 9.

⁵⁰¹ Ibid. See also, Ameen, *Code of Hammurabi*. See also, Sadiq, "Iraq's Acquired rights," 203-218.

⁵⁰² Sadiq, "Iraq's Acquired rights," 203-218.

⁵⁰³ Ibid., 244-245.

⁵⁰⁴ Permanent Representative of the Republic of Iraq. *Arab water resources*, 38.

⁵⁰⁵ Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'.

increase in Sudan's share of the Nile water on condition that this increase does not harm the historical and natural rights of Egypt, the downstream country of the River Nile.⁵⁰⁶ Furthermore, Egypt-Sudan agreement in 1959 stated the acquired right of Egypt and Sudan in the water of the Nile.⁵⁰⁷ The treaty of San-German between Austria and the countries separated from it stipulated in Article 309 on the acquired rights.⁵⁰⁸ Among the treaties on the Tigris and the Euphrates that stipulated the acquired right was Lausanne Treaty of 1923 signed between Turkey and the states of the Mandate, Britain for Iraq and France for Syria, which was inherited according to the rule of international inheritance where Article 109 of the Treaty dealt with the issue of acquired right.⁵⁰⁹ Moreover, ILA adopted the term 'historical uses' and stated the following in the fourth paragraph of Article 5 of the Helsinki's Rules 1966, "the former uses of the water in the river basin including the current uses"⁵¹⁰ as one of the criteria that are invoked to determine the fair and reasonable share.

3.5.4.2 The second issue

This issue revolves around the principle of not inflicting harm to others in using international watercourse. Iraq believes that the upstream countries Turkey, Syria and Iran have greatly used the water of the Tigris and the Euphrates and their tributaries by constructing huge projects such as Batman Dam and Karakaya Dam in Turkey, Tabaqa Dam in Syria, Karzal Dam in Iran, in addition to irrigation projects, canals, and energy production projects, etc., which directly affected the quantity and quality of water in

⁵⁰⁶ Shtewi, "The legal rules that govern," 230.

⁵⁰⁷ Ibid., 234.

⁵⁰⁸ Sadiq, "Iraq's Acquired rights," 53.

⁵⁰⁹ Baskent University Center for strategic research, "Treaty of Peace with Turkey," Signed at Lausanne, July 24, 1923.

⁵¹⁰ "The Helsinki Rules ,".

these two rivers and their tributaries.⁵¹¹ Accordingly, the amount of water entering into Iraq significantly decreased and its quality greatly varied which then caused a serious damage to the rights of Iraq, including the right to use the natural water resources in agriculture and in the production of fish and livestock, the production of electrical power, etc. Water shortages and its poor quality has caused a lot of damage in the different sectors in Iraq, including the humanitarian, health, social and economic and others. The continuation of the upstream countries in their methods and acts on these rivers would cause more damage to the downstream country, Iraq.⁵¹² The acts of the upstream countries represent a breach of the rule and the principle of not damaging other countries as stated by the bilateral treaties on the Tigris and the Euphrates and their tributaries, including the 1920 agreement between the states of the Mandate, Britain for Iraq and France for Syria,⁵¹³ the treaty of friendship and good-neighboring between Iraq and Turkey in 1946, the agreement between Iraq and Iran on the investment of the border watercourse in 1975. Besides, many international treaties stated this principle such as the protocol signed between Turkey and Greece in 1963 where Article 19 states the prevention of damage,⁵¹⁴ which represents a violation of Article 7 and Article 27 of the United Nations Convention 1997.⁵¹⁵

3.5.4.3 The third issue

The right of collaboration, Iraq asserts on the need to cooperate among the upstream countries of the Tigris and the Euphrates and their tributaries with the downstream

⁵¹¹ Republic of Iraq The Ministry of Planning, Agricultural planning directorate, *A study of the management*, 40. See also, The National Committee for Marshes and Wet Lands, *Report of Environmental*, 21-25.

⁵¹² "The Helsinki Rules,".

⁵¹³ Al-Adili, *International River*, 382.

⁵¹⁴ Sadiq, "Iraq's Acquired rights," 65.

⁵¹⁵ General Assembly, The Convention on the Law of the non-navigational

country, Iraq, on the basis of cooperation based on the principles of good-neighboring and goodwill to achieve the optimum utilization of the water of the Tigris and the Euphrates and their tributaries to all countries. Iraq's right is represented by the cooperation of the upstream countries Turkey, Syria, and Iran to provide it with accurate and recent information and data about the hydrological and ecological state of the river. Iraq also, and according to water experts, academics and diplomats interviewed⁵¹⁶ has a right towards the upstream countries to cooperate with it through serious consultations and negotiations to reach into a final and comprehensive agreement. The United Nations Convention 1997 states this principle in Articles 7 and 8, in addition to being stated in many international and bilateral treaties such as the technical and economic cooperation in 1980 between Iraq and Turkey which Syria joined in 1983. All sides agreed upon cooperation with each other to control the pollution in the water of the Tigris and the Euphrates as well as cooperation to form a joint technical committee for water.

3.5.4.4 The fourth issue

It is about Iraq's right in pre-notification. According to water experts, diplomats and academics interviewed,⁵¹⁷ the upstream countries carried out several projects and works on the Tigris and the Euphrates and their tributaries, such as the Batman Dam and Ataturk Dam in Turkey, the Tabaqa Dam in Syria, the Karzal Dam and Qeshlaq Dam in Iran, etc. In most cases, Iraq was not informed as a downstream country of these actions and projects and was not supplied with the data and information specific of each project. Iraq was not also given a chance to study the projects and to know the effects and the

⁵¹⁶ Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'. . See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'.

⁵¹⁷ Ibid.

damages due to the implementation of these projects so as to be consulted by the state of the notification. Iraq being the country of the estuary of the Tigris and the Euphrates and their tributaries, the implication is that, it is the most affected country as a result of any project or measure implemented on these two rivers or their tributaries. The upstream countries are obliged to notify Iraq of whatever they intend to do and to provide it with sufficient information and data required for the project. Regardless of this requirement, the upstream countries have carried out many projects without notifying Iraq. Thus, they have violated international rules and principles stated by the United Nations Convention 1997 by virtue of Articles 11-19. Moreover, the upstream countries have violated the bilateral agreements signed with Iraq such as the Convention of Friendship and Good-Neighboring 1946 which obliges Turkey to cooperate with Iraq, exchange information and not to implement any project without the approval of Iraq.

3.5.4.5 The fifth issue

According to the water experts, diplomats and academics interviewed, they have confirmed that Iraq has the right to make use of the water of the Tigris and the Euphrates.⁵¹⁸ Many international conventions and treaties asserted the rule of equitable and reasonable use of the international watercourse. ILA adopted this principle in its conference in 1966 which was known as the Helsinki Rules and it stipulated this in Article 4 that each state of the international river basin has the right to make use of the water of the international river in a reasonable and fair way. Article 5 of the Rules identifies the factors and criteria for determining the reasonable and equitable utilization.

⁵¹⁸ Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'. See also Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'.

ILA has explained this principle by way of looking at the international drainage basin countries as forming a regional group, and the mutual respect for sovereignty being necessary.⁵¹⁹ As for the United Nations Convention 1997, it considers the principle of equitable and reasonable utilization and participation as the cornerstone of the convention where it is stated in Article 5 and its factors are identified in Article 6. This principle states that the country makes use of the international watercourse on its lands that it shares with other countries in a reasonable and equitable way to the other countries.⁵²⁰ ILC has explained in its report in 1994 that this principle means the fundamental rights and duties of states regarding the use of the international watercourse for non-navigational purposes. This principle reflects the basic rights and duties for all states sharing the international watercourse by using it in a fair and equitable way and for various purposes whether for irrigation or production of energy or industry etc. with the need to protect, preserve, promote and develop it at the same time.⁵²¹ On the other hand, the bilateral agreements have also adopted this principle. The Technical and Economic Cooperation Protocol 1980, which was first signed between Iraq and Turkey and Syria then joined in 1983, stressed on determining the fair and reasonable amount of water needed by each of the three countries Iraq, Syria, and Turkey.⁵²²

According to this principle and the international rule, Iraq has a right for an equitable and reasonable utilization in the water of the Tigris and the Euphrates and their tributaries. The upstream countries should abide to this international rule and grant Iraq

⁵¹⁹ Amer, "United Nations Convention,".

⁵²⁰ McCaffrey, "Convention of the Law on the Non-navigation,".

⁵²¹ United Nations, *Report of The International Law Commission on The Work of Its Forty-Sixth Session*, 181-183.

⁵²² "The Protocol of Technical and Economic Cooperation between Iraq and Turkey," December 25, 1980, *Republic of Iraq-Ministry of Foreign Affairs, Legal Department*.

all its right to make use of the water of the two rivers and their tributaries. Besides, all countries have the responsibility to protect and develop these two rivers in any way to ensure that these countries use and utilise the waters of these two rivers in an optimal way.

3.5.4.6 The sixth issue

All the respondents interviewed agreed ⁵²³ that Iraq has an economic right in the Tigris and the Euphrates Rivers. The economic right is "the right of states to invest and use of natural resources including water to achieve economic development and the infrastructure development of the country." Economic right is "the right to access essential resources such as land, water, natural sources, labor, and so forth that are basic for the economic development, and such rights must be protected by law."⁵²⁴

Because the two rivers are considered a shared natural resource, Iraq, as a downstream country of these two rivers, has the right to use this water resource to provide water for the purpose of irrigation and sustaining agriculture, to achieve food security in the country and to maintain and develop the animal resources and fisheries. Besides, Iraq has the right to use this water for the generation and production of energy and industry to achieve economic and human development.⁵²⁵ The concept of economic right means that each state has the right to enjoy using the natural resources, but such use should be

⁵²³Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Ahmed. 'Engineer Expert'. See also Hussein, 'Engineer Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

⁵²⁴ Gorga, "Toward the Definition of Economic Rights,".

⁵²⁵ Ibid.

fair and reasonable if the natural resource is being shared with another country. Moreover, there should be no harm to the others.

3.5.4.7 The seventh issue

The respondents interviewed confirmed the right to prevent pollution. Iraq has a right against the upstream countries of the Tigris and the Euphrates and their tributaries, namely, Turkey, Syria and Iran that the quality of water entering into Iraq through the shared international watercourses should be natural and suitable for use so as to be used in all fields and sectors.⁵²⁶ These countries should work hard to prevent water pollution or combat and reduce it by all the measures and means available to them. In the absence of the capacity to do so, such countries must compensate Iraq as a downstream country for the damages caused by the water pollution. Many international treaties stated the issue of water pollution including the United Nations Convention 1997, Part IV. Furthermore, the bilateral agreements have also stated the prevention of pollution such as the agreement between Turkey and Iraq in 1980 i.e., to cooperate to prevent water pollution in the Tigris and the Euphrates Rivers.

3.6 Conclusion

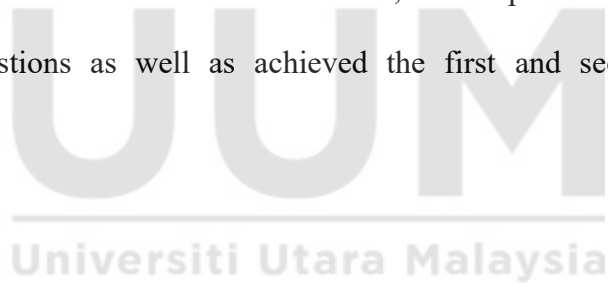
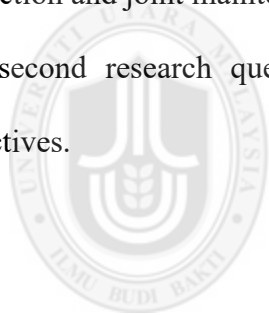
It is clear that the concept of International River is a relatively recent concept and that international law has greatly cared about it recently due to the importance of the subject and to avoid the legal problems resulting from it, especially after the economic development and the Industrial Revolution and the multiplicity and diversity of using the international watercourses. The United Nations assigned ILC, concerned with the

⁵²⁶ Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Ahmed. 'Engineer Expert'. See also Hussein, 'Engineer Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

progressive development of international law rules, to prepare (law) draft regulating the use of the international watercourses for non-navigational purposes. The work of the UN gave birth to the development of a law in the form of a Convention dealing with international watercourses for non-navigational purposes in 1997 which entered into force on 17th August 2014. With respect to the rivers of the Tigris and the Euphrates, it is concluded that these two rivers are international rivers. The Euphrates is shared by Turkey, Syria and Iraq while the Tigris is shared by Turkey, Syria, Iran and Iraq. As for the tributaries of the Tigris, they originate from the Iranian territory and they are considered international rivers within the water network of the Tigris. Besides, these two rivers are considered separate and independent of each other, and each has its own water network that feeds it. It is also concluded that the upstream countries breached the international obligations represented by the rules and principles of the international law concerning the international rivers such as the rule of not causing harm to others, the rule of prior notification, the rule of international cooperation, the rule of equitable and reasonable use, the rule of good-neighboring, acquired right, etc. The upstream countries constructed and implemented a large number of projects on the Tigris and the Euphrates and their tributaries, such as Batman Dam, Ataturk Dam, Karakaya Dam, and Sanliurfa Irrigation Tunnel in Turkey, Tabaqa Dam in Syria, Karzal Dam, Qeshlaq Dam in Iran, etc. without any regard to the rights of Iraq and its interests in these two rivers. Such projects have had negative effects on Iraq as a downstream country. For example, the lack of water quantity and deterioration of its quality has led to a serious damage in various sectors which consequently hindered the economic and human development of the country. Hence, it is indeed timely that Iraq has to secure this shared natural wealth

with the upstream countries for the sake of the country's economic development as well as the right of the future generation.

Finally, we have come to conclusion that the existing disagreement over these rivers cannot be settled without international cooperation between all the countries sharing these two rivers and through consultation, direct negotiations and on the basis of the principle of goodwill and good-neighboring with a commitment to the principles and rules of the international law. Moreover, each country should waive part of its demands in order to reach a comprehensive agreement to define the mutual rights and obligations of all countries and to regulate the use and utilization of these rivers to ensure their protection and joint maintenance. In addition to the above, this chapter answered the first and second research questions as well as achieved the first and second research objectives.



CHAPTER FOUR

IMPACTS OF THE PROJECTS CONSTRUCTED ON THE TIGRIS AND EUPHRATES ON IRAQ'S RIGHT TO ENJOYMENT OF THE WATER RESOURCES

4.1 Introduction

In this chapter, the study focused on the impacts of the projects constructed by the upstream countries, namely, Turkey, Iran and Syria on the Tigris and the Euphrates rivers and their tributaries on Iraq's right to enjoyment of the water resources of these two rivers as a downstream country. In other words, this chapter addressed the negative effects of these projects on Iraq, especially on the economic sector in the field of irrigation, agriculture and power production due to the lack and scarcity of water and the deterioration of its quality which has hampered Iraq to achieve economic and human development. These projects, built by the upstream countries, have also threatened the availability of water for future generation, in accordance with the rules and principles of international law and the bilateral agreements. Iraq has its own rights against the upstream countries in terms of the usage of the water of these two rivers i.e. to boost its economic development as well as protecting the rights of the future generation. Furthermore, this chapter answered the third research question as well as to achieved the third research objective.

4.2 Projects Constructed by Turkey on the Tigris and the Euphrates Rivers and their Tributaries

The Ottoman Empire had no projects on the Tigris and the Euphrates and their tributaries until the establishment of the modern Turkish state after the First World War, as the Turkish state initiated the preparation of plans and studies to use the water of the Tigris and the Euphrates rivers and their tributaries in various political, economic, social and military purposes etc.⁵²⁷ Turkey considered water as a cornerstone of the Modern Turkish strategy to achieve its goals. In 1953, The General Directorate of State Hydraulic Works ‘Develet Su Isleri’ (D.S.I) was established and it was concerned with water and drawing the Turkish water policy.⁵²⁸ It conducted studies and statements for the establishment of Turkish projects on the Tigris and Euphrates and it was launched since the middle of last century by establishing projects on these rivers such as dams, reservoirs and hydropower plants and channels of irrigation, etc.⁵²⁹ The number of projects within the gap and beyond reached about 100 projects, mostly for the purposes of irrigation and generating hydroelectric power and many of these projects have already been constructed and some of them under implementation and part under study.⁵³⁰ The most important Turkish project on the Tigris and Euphrates rivers is the Development Project of the Southeast Anatolia, known as ‘gap’, which is the largest and biggest

⁵²⁷Radhwan, *Water problem*, 82. See also Sadiq, “Iraq’s Acquired rights,” 224-226. See also Al-Humairi, *Bitter thirst*, 333.

⁵²⁸ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*The General Directorate of State Hydraulic Works*,” <http://en.dsi.gov.tr/> (accessed July 22, 2015).

⁵²⁹ Ibid.

⁵³⁰ Republic of Turkey-Ministry of Development, "GAP Regional Development Administration", *Gap.Gov.Tr*, <http://www.gap.gov.tr/en/action-plan-page-5.html>. (accessed October 9, 2016). See also, Unal Ozish and Elsen Ozdemir, “Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin,” Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world, Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.), <http://www.watersexpert.se/Turkia.htm> (accessed April 17, 2014).

project of development in Turkey.⁵³¹ It was planned in the middle of the last century and Turkey started its implementation since the seventies of the last century.⁵³² It included a total of 13 huge projects, 7 of them on the Euphrates River and 6 on the Tigris River.⁵³³ Each of these main projects included several secondary projects and as sub-projects. The “gap project” includes the construction of 22 major dams and 19 major plants to generate hydroelectric power and irrigation channels and networks and infrastructure etc.⁵³⁴ This project is located in the Southeast part of Turkey, in the parts bordering Syria and Iraq and it includes several Turkish provinces namely Adiyaman, Batman, Diyarbakir, Gaziantep, Kilis, Mardin, Siirt, Sanlurfa and Sirnak.⁵³⁵ This project occupies a space of 75,193 square kilometers,⁵³⁶ which is equivalent to 9.7 % of the total area of Turkey which is about 780,000 square kilometers.⁵³⁷ According to the magnitude of this project, the Turkish government has allocated about 7 % of the general budget to finance the project during the period 1970-2007. In 2008, allocation went up to 12% and 14% in addition to the loans and foreign investments.⁵³⁸ This project is of great importance to the Turkish state as it will provide water for irrigation and reclamation of the agricultural lands reaching into more than 1.8 million hectares and it will also

⁵³¹ Mansour, *The issue of water*, 162.

⁵³² Ibid.

⁵³³ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” http://www2.dsi.gov.tr/english/pdf_files/TurkeyWaterReport.pdf, 37- 38, (accessed July 20, 2015).

⁵³⁴ Ibid.

⁵³⁵ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, “*What is GAP*,” <http://www.gap.gov.tr/en/what-is-gap-page-1.html> (accessed April 23, 2016). See also Yakeesh, “Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin.”

⁵³⁶ Republic of Turkey-Ministry of Development, "Southeastern Anatolia Project (GAP) Regional Development Administration", *Gap*, last modified 2016, 4, http://www.gap.gov.tr/en/upload/dosyalar/pdfiler/GAP_ENG.pdf, (accessed October 9, 2016).

⁵³⁷ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 3.

⁵³⁸ Republic of Turkey-Ministry of Development, "GAP Regional Development Administration", *Gap.Gov.Tr*, last modified 2016, <http://www.gap.gov.tr/en/gap-finance-page-27.html>, (accessed October 9, 2016).

provide hydroelectric power up to more than 27.3 billion KW/h.⁵³⁹ The total design capacity of the hydroelectric power plants of “gap project” is 7,490 MW.⁵⁴⁰ Moreover, this project aims to secure stocks of water more than 128 billion cubic meters.⁵⁴¹ Among the aims of this project is to enable Turkey to control the water of the Tigris and the Euphrates and to use them as a means of putting economic and political pressure on the rest of the states sharing these two international rivers.⁵⁴² In this regard, and according to the water experts interviewed,⁵⁴³ Turkey has completed most of the construction of the dams, reservoirs and plants that generate hydroelectric power, irrigation projects, civil and industrial projects and other projects without any regard to the rights and interests of Iraq concerning the quantity and quality of water entering the country as a result of sharing these two international rivers. As such, Turkey did not take into account and did not abide by the rules and principles of international law such as consultation with the other countries sharing the international river, more specifically with Iraq as a downstream country. In addition to the equitable and reasonable use of water as stated by the international rules and principles under international law as well as the bilateral agreements, it could also be argued that the construction of these projects by the Turkish government inflicted a serious damage to Iraq and this is contrary to the international rules and principles governing the use of water between the upstream and downstream countries. The provisions of Article 7 of the United Nations Convention 1997 is very clear on this issue. Article 7 requires that States “take all appropriate measures to

⁵³⁹ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 38.

⁵⁴⁰ *Ibid.*, 40.

⁵⁴¹ Abbas. *Waters of Iraq*. 55.

⁵⁴² Abdul Rahman Al-Sabaawie, “Israel and the Turkish Water Projects: The Future of the Arab Water Neighboring” *Strategic Studies*, no. 10 (1997): 14 and 38. See also Al-Hayali, “The Euphrates River,” 113.

⁵⁴³ Abdul-Khaliq, ‘Water Expert’. See also Al-Sudani, ‘Water Expert’.

prevent the causing of significant harm” to other States sharing an international watercourse. The emphasis on prevention is important, since it is often difficult to stop or modify an activity once it has begun, and it can be very complicated and expensive, if indeed it is possible, to remedy harm once caused.

4.2.1 Turkish Projects on the Euphrates River

Turkey has constructed on the Euphrates some of the largest and biggest projects. For example, the “gap project” included the construction of 7 large groups of irrigation projects and hydropower generating plants on the course of this river.⁵⁴⁴ The following are some of the projects:-

4.2.1.1 Keban Dam Project and its outbuildings

This dam is constructed on the Euphrates River.⁵⁴⁵ The Turkish Water Foundation has initiated the preparation of the initial studies for this dam project since 1936, implementation started in 1965 and completed in 1975.⁵⁴⁶ It is located 10 kilometers from the confluence of the tributaries of the Euphrates (Furat Sue, Murad Su) at the Ilziz area in the city of Keban.⁵⁴⁷ It is one of the major projects constructed by Turkey and the cost of its construction at that time was 207 million USD.⁵⁴⁸ This project includes a dam and a hydroelectric power generating plant with a maximum storage of water capacity 31 billion cubic meters.⁵⁴⁹ The area of its artificial lake is 675 square kilometers, and the

⁵⁴⁴ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 37.

⁵⁴⁵ Ministry of Foreign Affairs-Turkey, “Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters”, See also, Erden, “The Tigris-Euphrates Rivers,” 3.

⁵⁴⁶ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Keban Dam*,” <http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=54> (accessed July 22, 2015).

⁵⁴⁷ Ibid. See also, Al-Adili, *International River*, 290.

⁵⁴⁸ Al-Adili, *International River*, 290.

⁵⁴⁹ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Keban Dam*”.

height of the dam is 210 meters.⁵⁵⁰ It consists of a plant project to generate hydropower with a design capacity of 1,330 MW and it produces energy of 6 billion KW/h per year.⁵⁵¹

4.2.1.2 Gap projects on the Euphrates River

These projects include 7 major projects constructed on the Euphrates River, namely, Lower Euphrates, Karakaya, Euphrates Border, Suruc-Baziki, Kahata-Adiyaman, Gaziantep, and Gaziantep-Araban in addition to secondary and sub-projects.⁵⁵² The following are some of the projects:-

4.2.1.2.1 Karakaya Dam Project

It was carried out by Turkey on the Euphrates River in the city of Diyarbakir.⁵⁵³ It is located south of Keban Dam about 166 kilometers.⁵⁵⁴ It is one of the huge projects that Turkey initiated in 1976 and completed in 1987.⁵⁵⁵ Besides, it is one of the concrete arched dams with a height of 173 meters and power storage of 9.58 billion cubic meters of water and the size of its industrial lake is 268 square kilometers.⁵⁵⁶ The main purpose of the dam is to generate hydroelectric power as it includes a plant with a power capacity of 1,800 MW consisting of 6 turbines; capacity of each is 300 MW and produces

⁵⁵⁰ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Keban Dam*”..

⁵⁵¹ Ibid.

⁵⁵² Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 37.

⁵⁵³ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Karakaya Dam*,” <http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=104> (accessed July 22, 2015).

⁵⁵⁴ Permanent Representative, *Arab water resources*, 24.

⁵⁵⁵ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Karakaya Dam*,”.

⁵⁵⁶ Ibid.

electrical energy of 7.5 billion KW/h.⁵⁵⁷ Turkey built this project with a fund from the World Bank, Swiss Bank, Italian Government and European Investment Bank.⁵⁵⁸ Turkey filled the dam's reservoir gradually, slowly and in line with its commitments to the World Bank by filling the reservoir step by step in order not to damage the riparian countries of the Euphrates River, Syria and Iraq.⁵⁵⁹

4.2.1.2.2 Lower Euphrates

This project is the largest, the most important and the most comprehensive among the Turkish state projects on the Euphrates River.⁵⁶⁰ It represents the largest part of the development of southeast Anatolia project (gap). It includes the establishment of a large number of dams and hydroelectric power plants, tunnels and channels for irrigation and other projects. Due to its being huge, this project has the capacity to lock up the Euphrates River water for 600 connected days.⁵⁶¹ The most important project is the “Ataturk Dam.” It is one of the strategic projects and the largest and greatest among the Turkish state projects executed on the Euphrates River.⁵⁶² It is the cornerstone in the “gap project” and the third project implemented by Turkey on the Euphrates River after Keban and Karakaya. It is also the fourth largest dam in the world in terms of its size and multi-project purposes.⁵⁶³ It was constructed at the southeastern Anatolia in the city

⁵⁵⁷ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Karakaya Dam*,”. See also, Selami Oguz, “Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin,” in *Cross-Border Waters And Turkey*, n.d., Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world, Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.), <http://www.waterexpert.se/Turkia.htm> (accessed April 17, 2014).

⁵⁵⁸ Republic of Turkey-Ministry of Development, "GAP Regional Development Administration", *Gap.Gov.Tr*.

⁵⁵⁹ Permanent Representative, *Arab water resources*, 24.

⁵⁶⁰ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 37.

⁵⁶¹ Permanent Representative, *Arab water resources*, 26.

⁵⁶² *Ibid.*, 24.

⁵⁶³ *Ibid.*, 25.

of SunliUrfa 200 kilometers from Karakaya Dam, away from the Syrian border 65 kilometers. The commencement of this dam started in 1983 and completed in 1989.⁵⁶⁴ As for the hydroelectric power plant, the operation started in 1992.⁵⁶⁵ The height of the dam is 169 meters and the area of its lake is 817 square kilometers.⁵⁶⁶ The storage capacity is 48.7 billion cubic meters of water.⁵⁶⁷ It also includes a plant to generate hydroelectric power with a capacity of 2,400 MW and it generates electrical energy of 8.9 billion KW/h per year.⁵⁶⁸ In addition, the project provides water to irrigate an area of land of about 872,385 hectares.⁵⁶⁹

Due to the importance of this dam, Turkey needed finance to construct this massive project. The World Bank refused to finance this project for lack of agreement between the shared states of the Euphrates River, namely Syria and Iraq, according to the rules required by the World Bank to finance such projects.⁵⁷⁰ This pushed Turkey to turn to European, Swiss, German and Italian companies and banks to finance this project.⁵⁷¹ After funding, Turkey started constructing the dam and violated the rules of international law and the Treaty of 1946 signed between Turkey and Iraq which states in Article 5 of the First Protocol attached to the Treaty that Turkey has to provide Iraq with the information concerning the projects it intends to set up on the Euphrates and the Tigris rivers. A little after starting the construction, Turkey presented some inadequate

⁵⁶⁴ Permanent Representative, *Arab water resources*, 24.

⁵⁶⁵ *Ibid.*, 25.

⁵⁶⁶ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, "Ataturk Dam," <http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=149> (accessed July 22, 2015).

⁵⁶⁷ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, "Ataturk Dam,".

⁵⁶⁸ *Ibid.*

⁵⁶⁹ *Ibid.*

⁵⁷⁰ Permanent Representative, *Arab water resources*, 25.

⁵⁷¹ Nidhal Ahmed Badr, "Geopolitical dimensions of the problem of the water of the Euphrates River Basin and its impact on the Turkish-Syrian relations" (master's thesis, Al-Azhar University- Gaza, College of Arts, 2012), 37.

information about the project to the Tripartite Commission between Turkey, Iraq and Syria.⁵⁷² Besides, Turkey committed another violation by filling the dam's reservoir as it cut the Euphrates River water off for a month in 1990 to filling the reservoir which led to dramatic water shortages in the Euphrates River entering Iraq and this consequently inflicted damages to the agriculture and power generation sectors.⁵⁷³ Moreover, one of the huge projects constructed by Turkey around Lower Euphrates is the 'SanliUrfa Irrigation Tunnels' Project, which draws water from the Ataturk Dam.⁵⁷⁴ Hence, it is important to note that since the 'SanliUrfa Irrigation Tunnels' Project consists of two parallel tunnels transferring huge amount of water from the Ataturk Dam reservoir, this has caused the loss of huge amount of water to a downstream country like Iraq. This can be seen from the fact that the two tunnels are considered as the longest irrigation tunnels in the world⁵⁷⁵ whereby the total length of each tunnel is 26.4 kilometers and a diameter of 7.5 meters and the discharge of water capacity is 328 Cubic meters /second.⁵⁷⁶ This project aims to irrigate an area of 141,000 hectares of land from the plains of SanliUrfa, Harran and Mardin.⁵⁷⁷ Furthermore, the project includes a plant to generate hydroelectric power with a capacity of 48 MW and it produces electrical energy of a capacity of 124 million KW/h annually.⁵⁷⁸ However, Iraq as a downstream country requires total amount of water from the Euphrates River at the Syrian-Turkish border equivalent to 800 cubic meters/second to be divided between Iraq and Syria according to the 1990 agreement

⁵⁷² Permanent Representative, *Arab water resources*, 25.

⁵⁷³ Ibid. See also Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'.

⁵⁷⁴ Al-Ameer, *Water balance*, 156.

⁵⁷⁵ Ibid.

⁵⁷⁶ Permanent Representative, *Arab water resources*, 27.

⁵⁷⁷ Ibid.

⁵⁷⁸ Radhwan, *Water problem*, 87.

i.e., 58% to Iraq and 42% to Syria.⁵⁷⁹ On the whole, this project alone requires approximately half the amount of water demanded by Iraq of the Euphrates River.

Based on the above, the total lands that will be irrigated by the Euphrates River in the “gap Project” are 1,094,779 hectares.⁵⁸⁰ As for the area outside the “gap project”, the irrigation by the Euphrates River will be for an area of 95,911 hectares.⁵⁸¹ Accordingly, the total area of land irrigated by the Euphrates River inside Turkey is 1,190,690 hectares.⁵⁸² As for the production of hydroelectric power, the total capacity of the hydroelectric plants constructed on the Euphrates River within the gap is 5,332 MW,⁵⁸³ in addition to Keban plant of the capacity of 1,330 MW,⁵⁸⁴ so that the overall capacity of power plants built on the Euphrates River will be 6,662 MW. Besides, the Turkish water requirement from the Euphrates River within the “gap project” will be 10,495 billion cubic meters and outside the gap water requirement will be 4.65 billion cubic meters, so that the total current Turkish annual water need from the Euphrates River is about 15 billion cubic meters.⁵⁸⁵ After completion of projects, Turkey’s annual needs of the Euphrates waters will reach 18.5 billion cubic meters.⁵⁸⁶

⁵⁷⁹ Radhwan, *Water problem*, 125. See also Al-Adili, *International River*, 323.

⁵⁸⁰ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, “*What is GAP*,”.

⁵⁸¹ Ibid.

⁵⁸² Ibid.

⁵⁸³ Ibid.

⁵⁸⁴ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Keban Dam*,”.

⁵⁸⁵ Oguz, “Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin,” in Cross-Border Waters And Turkey, n.d.,. See also, Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 41.

⁵⁸⁶ Ministry of Foreign Affairs-Turkey, “Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters”. See also, Ozish and Elsen Ozdemir, “Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin,”.

4.2.2 Turkish Projects on the Tigris River

Turkey planned within the “gap project” to construct six groups of major projects on the Tigris River in addition to many secondary and sub-projects.⁵⁸⁷ The following are some of the projects:-

4.2.2.1 The Gap Projects on the Tigris River

The gap projects include 6 major projects constructed on the Tigris River, namely, Dicle-Kralkizi, Batman, Batman- Silvan, Garzan, Ilisu, Cizre in addition to secondary and sub-projects.⁵⁸⁸ The following are the 3 major projects:-

4.2.2.1.1 Batman Dam Project

This project was constructed on the tributary of Batman at Batman city. It is a multi-purpose project which started in 1986 and completed in 1999.⁵⁸⁹ The height of the dam is 85 meters, the size of its lake is 49 square kilometers and the water storage capacity of the lake is 1,175 billion cubic meters.⁵⁹⁰ It includes a plant for generating hydroelectric power with a capacity of 198 MW with an annual production capacity of 483 GW/h.⁵⁹¹ In addition, the project irrigates a land of an area of 37,744 hectares located within the city of Batman,⁵⁹² through two projects, the first for the irrigation of the right bank of Batman 18,593 hectares of land and the second for the irrigation of the left bank of Batman 15,828 hectares of land.⁵⁹³

⁵⁸⁷ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 37.

⁵⁸⁸ Ibid.

⁵⁸⁹ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, “*Batman Dam*,” <http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=188> (accessed August 2, 2015).

⁵⁹⁰ Ibid.

⁵⁹¹ Ibid.

⁵⁹² Ibid.

⁵⁹³ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, “*What is GAP*,”.

4.2.2.1.2 Ilisu Dam Project

This dam project was established on the course of the Tigris River and it is approximately 65 kilometers from the Turkish-Iraqi borders.⁵⁹⁴ It is considered as one of the largest project constructed by Turkey on the Tigris River.⁵⁹⁵ Its construction started in 2000 and is still under process. It consists of a dam with a height of 135 meters and a length of 1,820 meters⁵⁹⁶ and the total size of its lake is 313 square kilometers with a storage capacity of 10.4 billion cubic meters of water.⁵⁹⁷ The Dam Lake will result into sinking of 15 cities and 52 villages with water.⁵⁹⁸ It also includes a plant to generate hydroelectric power with a capacity of 1,200 MW and is expected to annually produce energy of 3,800 GW/h.⁵⁹⁹

4.2.2.1.3 Cizre Project

It is a multi-purpose project which was constructed on the course of the Tigris River. It is located far south of Turkey, north of the border between Turkey and Syria in about 4 kilometers.⁶⁰⁰ This project consists of a dam and a plant to generate hydroelectric power and irrigation projects to irrigate the land of Nasaybin, Cizer, Eedle, Silopi. While Cizer Dam was established on the course of the Tigris River south of Ilisu Dam in about 35 kilometers and north of the Iraqi borders in about nearly 35 kilometers,⁶⁰¹ the height of

⁵⁹⁴ Abbasi, "Ilisu Dam project," 208.

⁵⁹⁵ Republic of Turkey, Ministry of Foreign Affairs, "*ILISU DAM*," <http://www.mfa.gov.tr/ilisu-dam.en.mfa> (accessed August 2, 2015). See also Abbasi, "Ilisu Dam project," 208.

⁵⁹⁶ Abbasi, "Ilisu Dam project," 208.

⁵⁹⁷ Republic of Turkey, Ministry of Foreign Affairs, "*ILISU DAM*,".

⁵⁹⁸ Ibid.

⁵⁹⁹ Ibid.

⁶⁰⁰ Abbasi, "Ilisu Dam project," 208.

⁶⁰¹ Ibid.

the dam is 46 meters and the storage capacity is 360 million cubic meters.⁶⁰² It includes a plant for the production of hydroelectric power with a capacity of 240 MW and an annual output of 1,200 million KW/h.⁶⁰³ The project aims to irrigate a total area of land of 121,000 hectares through two projects, the first project is (Nusaybin- Cizre- Idil irrigation) to irrigate an area of 89,000 hectares and the second is (Silopi plain irrigation) to irrigate 32,000 hectares.⁶⁰⁴

Based on the above, the total lands which will be irrigated by the Tigris River within the gap project have an area of 549,388 hectares.⁶⁰⁵ As for the area outside the gap project, the total lands which will be irrigated by the Tigris River has an area of 39,806 hectares,⁶⁰⁶ so that the total area of land that will be irrigated by the Tigris River inside Turkey is 589,194 hectares.⁶⁰⁷ As far as the production of hydropower is concerned, the total hydroelectric capacity at the plants constructed on the Tigris within the “gap project” reaches up to 2,057 MW.⁶⁰⁸ On the other hand, the Turkish annual water requirements of the Tigris within the “gap project” amounts to 5,595 billion cubic

⁶⁰² Ilisu Consortium, “Ilisu Dam and HEPP: Environmental Impact Assessment Report” (July 31, 2005),” *Hydrosen Research Center*, http://www2.dsi.gov.tr/ilisu/ilisu_ced_eng_ek1.PDF (accessed August 3, 2015).

⁶⁰³ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, “*What is GAP*,”.

⁶⁰⁴ Ibid. See also, Southeastern Anatolia Project Regional Development Administration, “Project R&d programme for sustainable Agricultural water Management in South eastern Anatolia Turkey,” *IPTRID Secretariat Food and Agriculture Organization of the United Nations, Rome*, 2003, 8, ftp://ftp.fao.org/agl/iptrid/gap_turkey.pdf (accessed August 3, 2015).

⁶⁰⁵ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, “*What is GAP*,”.

⁶⁰⁶ Ibid.

⁶⁰⁷ Ibid.

⁶⁰⁸ Ibid.

meters and outside the “gap project” is 0,242 billion cubic meters, so the total current annual Turkish water requirements of the Tigris River is 5,837 billion cubic meters.⁶⁰⁹

Thus, the total needs of Turkey of water from the Tigris and the Euphrates rivers and their tributaries within the “gap project” and outside it is 20,982 billion cubic meters, annually and it is used to irrigate 1.8 million hectares within the “gap project” and 582,310 hectares outside it.⁶¹⁰ Besides, Turkey will produce hydroelectric power within the “gap project” reaching into 27,387 billion KW/h, annually through 19 generating plants with a total capacity of 7,490 MW,⁶¹¹ and outside of “gap project” produce 1,330 MW from Keban plant, so that the overall capacity of power plants built on the Tigris and Euphrates Rivers will be 8,806 MW. It is important to note that Iraq has resorted to diplomatic solution and objected more than once on the projects implemented by Turkey, the upstream country of both rivers, including the memorandum of the Iraqi Foreign Ministry 7/8/1/1/66012 on 4th January 1996, where Iraq expressed her objection to the intention of the Turkish government to set up Qarah Qamish Dam on the Euphrates and Iraq's memorandum 7/3/4/3/66870 on 1st October 1993 in which Iraq objected to the intention of the Turkish government to set up Birchik Dam on the Euphrates. Besides, Iraq emphasized the need for consultation between the three countries to study these projects, to ensure that no damage or harm is caused to Iraq and to reach a final agreement.⁶¹² Again, it has to be pointed out that the United Nations Convention 1997 sets forth the principle of prior notification of planned measures and

⁶⁰⁹ Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 41.

⁶¹⁰ Ibid.

⁶¹¹ Republic of Turkey- General Directorate of State Hydraulic Work, “*Turkey Water Report 2009*,” 40.

⁶¹² Jamalo, *Euphrates: The Struggle for Water in the Middle East*, 55, Memorandum of the Republic of Iraq, 7/8/1/166012 in 4/12/1996.

elaborates in some detail on the various aspects of that obligation. The essence of the principle is that if a project or other measures are planned in a State and those measures may have significant adverse effect upon another State or States sharing an international watercourse, the State in which the measures are planned must provide timely notification to the other States of the plans.

In addition to the above, the principle of prior notification is to allow the States concerned or sharing the international watercourse to reach an amicable solution. For example, if the notified States believe that the planned measures would be inconsistent with the requirements of Articles 5 or 7, a process of consultations and, if necessary, negotiations follows which is intended to lead to an equitable resolution of the situation.

4.3 Projects Constructed by Syria on the Tigris and the Euphrates Rivers and their Tributaries

Since the middle of last century, Syria started conducting a numbers of studies on the use of the Euphrates River water for different purposes. Originally, the construction of the first project on the Euphrates River started in 1968.⁶¹³ As for the Tigris River, due to the difficult geographical terrain through which the Tigris flows and the short distance that Syria shares the Tigris River and from one bank in addition to Syria's need of water, it started initiating its projects on the Tigris River at the beginning of this century.⁶¹⁴ Syria has constructed dams and reservoirs, irrigation projects and plants of hydroelectric power without any regard to the rights and interests of Iraq as a downstream country in terms of the quantity and quality of water entering the country. As such, Syria did not

⁶¹³ Radhwan, *Water problem*, 70.

⁶¹⁴ Ibid., 69. See also, Organization of Syria Arab Radio and tv-Syria, "Tigris Dragged into Hasaka Project Tells 200 Thousand Hectares, Up 14% On the Total Area", *Rtv.Gov.Sy*, last modified 2011, <http://rtv.gov.sy/index.php?p=100003&id=70369>. (accessed October 9, 2016).

abide to the rules and principles of international law of waters concerning the exchange of information, prior consultation on projects and equitable use of water and other international principles and rules. In this regard, Article 4 of the Helsinki Rules 1966 asserts the right of every country of the international river basin countries to participate in the use of the waters of the river in a reasonable and just manner. Article 5 identifies some standards concerning the fair and reasonable use of the waters of the International River. Besides, the United Nations' Convention 1997 sets some customary rules on the international watercourses among which are stipulated in Article 7 concerning the obligation not to cause significant harm. The watercourse states should take the appropriate measures to prevent causing any significant harm to other countries sharing an international watercourse. As for the principle of prior notification, systematized by Part III of the Convention, any country from the international watercourse countries that plans to start a project or any other measure on the waterway must notify the other countries of such plans before the appropriate time.

The Euphrates River enters into the Syrian land at the border city with Turkey, Jarablus, and flows for a distance of 675 kilometers inside the Syrian land.⁶¹⁵ The river is fed by three main tributaries inside the Syrian land, namely, Sajur, Blekh and Khabur well as a range of seasonal valleys, then heading towards the Iraqi land to leave Syria at the Syrian town of Albu Kamal and enters the Iraqi land.⁶¹⁶ Syria has constructed several projects such as dams, reservoirs, hydroelectric power plants, irrigation projects, civil and industrial uses etc. on the Euphrates River and its tributaries, such as:-

⁶¹⁵ Mohammed, *Water and International Relation*, 128.

⁶¹⁶ Al-khairu, *Euphrates River*, 217.

4.3.1 Tabaqa Dam Project (The Euphrates Dam)

This is the largest Syrian project on the Euphrates River.⁶¹⁷ It is a multi-purpose project including a dam and a plant to generate or provide hydroelectric power to irrigation channels. The project is located in the region of Tabaqa, about 50 kilometers west of Raqa⁶¹⁸ and just 300 kilometers from the Iraqi border.⁶¹⁹ The length of the dam is 4.5 kilometers and the height is 60 meters, the area of its lake is 640 square kilometers with a storage capacity of 14 billion cubic meters of the Euphrates water.⁶²⁰ Its construction started in 1968 and completed in 1974 (the same year of establishing the Turkish dam of Keban on the Euphrates River).⁶²¹ Besides, this dam includes a plant for the production of hydroelectric power with a capacity of 800 MW producing 2.5 billion KW/h, annually,⁶²² it also irrigates an area of 640,000 hectares through six irrigation projects, namely, the project of Meskanah Basin to irrigate 166,000 hectares of land, Rusafa Basin to irrigate 25,000 hectares of land, Down Khabur Basin to irrigate 70,000 hectares of land, Mayadin Basin to irrigate 40,000 hectares of land, Down Euphrates Basin to irrigate 125,000 hectares of land, and Upper Euphrates Basin to irrigate 27,000 hectares of land.⁶²³ Syria also constructed an irrigation channel of 53.7 kilometer to irrigate the land on the left bank of the Euphrates River of an area of 45,000 hectares, a channel for irrigation of about 11,500 hectares of Raqa land and another channel for the irrigation of 7,500 hectares of Muqla land.⁶²⁴

⁶¹⁷ Mohammed, *Water and International Relation*, 128.

⁶¹⁸ Radhwan, *Water problem*, 71.

⁶¹⁹ Al-Hayali, "The Euphrates River," 129.

⁶²⁰ Radhwan, *Water problem*, 71.

⁶²¹ Al-Adili, *International River*, 292.

⁶²² Mohammed, *Water and International Relation*, 129.

⁶²³ Radhwan, *Water problem*, 74-76.

⁶²⁴ Ibid.

As for the Tigris River, Syria shares with Iraq a distance of 7 kilometres and with Turkey 37 kilometres from only one side in accordance with Al-Taluk Line which basically represents an international border between Syria, Turkey, and Iraq.⁶²⁵ Recently, Syria has started to use the Tigris water for various purposes, especially for irrigation and started to initiate projects, including:

4.3.2 The Great Tigris Project

This project is located far north of eastern Syria at the town of Ain Diwar near the border city of Al-Malikia within Turkey. The project consists of a main pumping plant which was constructed on the banks of the Tigris River to lift and pump the water from the Tigris River to the Industrial Channel of Ain Diwar with a height of 95 meters and with pumping power of 48 cubic meters per second, then, the channel transfers water for a distance of 25 kilometers and ends at Al-Malikia plant which is located near the city of Malikia.⁶²⁶ It pumps the water of Ain Diwar channel to Al-Malikia dam with a pumping power of 45 cubic meters per second with a height of 52 meters.⁶²⁷ The project also includes Krachuk Tunnel with 29.8 kilometers long and a power of 10-100 cubic meters per second, in addition to several channels for transferring water such as M-1 with a length of 132.3 kilometers and M-2 with a length of 124 kilometers.⁶²⁸ The project aims to annually withdraw 1,250 billion cubic meters from the Tigris water to the depth of the Syrian land to irrigate land of an area, as a first stage, of 150,000 hectares and then rises to become 200,000 hectares.⁶²⁹ Iraq has brought this issue to the attention of the Syrian government through an official note via the Iraqi Embassy in Damascus in 2010 to

⁶²⁵ Al-Adili, *International River*, 356.

⁶²⁶ *Ibid.*, 371.

⁶²⁷ *Ibid.*, 372.

⁶²⁸ Al-Anbari, "Lights on the Syrian project," 50.

⁶²⁹ *Ibid.*, 51.

survey and visit the pumping station on the Tigris River, but the Syrian government did not respond to the official note send by Iraq.⁶³⁰

4.4 Projects Constructed by Iran on the Tributaries of the Tigris River

Iran constructed many projects on the rivers shared with Iraq, which amounts to 42 rivers including the tributaries of the Tigris River.⁶³¹ It started to construct dams and to divert the flow of the rivers shared deep into the Iranian land and some other projects without any regard to the rights and interests of Iraq concerning the quantity and quality of water entering the country. Thus, Iran did not comply with the rules and principles of international law such as consultation with the states sharing the international watercourse. As a result of the construction of these projects, Iraq as a downstream country has suffered. Among such projects are:

4.4.1 Iranian Projects on the Little Zab Tributary

The Little Zab stems from the Iranian-Iraqi highlands, this tributary is fed by streams that stem from the Iranian land.⁶³² Iran constructed several projects on the streams and tributaries of Zab including:

4.4.1.1 Karzal Dam and Reservoir

This dam was built on the Little Zab and it includes a plant to generate hydroelectric power with a capacity of 40 MW and a total storage capacity 1,080 billion cubic meters of water.⁶³³

⁶³⁰ Al-Anbari, "Lights on the Syrian project," 38.

⁶³¹ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 20

⁶³² Al-Humairi, *Bitter thirst*, 44-45.

⁶³³ Abbas. *Waters of Iraq*. 64.

4.4.1.2 Priso Dam and Reservoir

This dam was built on the Little Zab and its storage capacity is 1,180 billion cubic meters and it includes a plant to generate hydroelectric power with a capacity of 70 MW.⁶³⁴

4.4.2 Iranian Projects Constructed on Diyala River Basin Tributary

Diyala River stems from the Iranian-Iraqi highlands. Iran has constructed several projects on this important tributary of the Tigris River which has directly affected the quantity and quality of water.⁶³⁵ Among its projects on this tributary are:

4.4.2.1 Qeshlaq Dam and Reservoir Project

This dam was established on Qeshlaq stream within the city of Sanandaj, Kurdistan province, and it is one of the streams that feeds the tributary of Diyala. The storage capacity is 960 million cubic meters.⁶³⁶ The purpose of the dam is to provide water for the irrigation of land. It was completed in 1978.⁶³⁷

4.4.2.2 Gavoshan Dam Project

It was constructed on Gavoh Road stream. It is one of the streams feeding Sirwan, the main tributary of the main River of Diyala. It is about 45 kilometers south of Sanandaj City and 90 kilometers north of Kermanshah.⁶³⁸ The project was inaugurated in 2005.⁶³⁹ The height of the project is 136 meters, the length is 647 meters and the total storage

⁶³⁴ Abbas. *Waters of Iraq*. 64.

⁶³⁵ Abdullah, "Joint border," 120-122.

⁶³⁶ Ibid., 64.

⁶³⁷ Ibid.

⁶³⁸ Shana.ir, 'Gavoshan Dam Inaugurated', last modified 2005, <http://www.shana.ir/en/newsagency/45226/Gavoshan-Dam-Inaugurated> (accessed August 2, 2015).

⁶³⁹ Ibid.

capacity of water is 550 million cubic meters.⁶⁴⁰ Moreover, the project includes a tunnel of 20 kilometers and transferring channels of a length 500 kilometers which can transfer 317 million cubic meters of water annually.⁶⁴¹ This dam also includes a plant to generate 11 MW of hydroelectric power and it ensures water to irrigate 31,000 hectares.⁶⁴²

4.4.2.3 Projects Constructed on the Tributary of Wand

It is one of the tributaries of the Diyala River which feeds the Tigris River. Iran started to construct projects on this tributary such as constructing a channel to transfer water between Shirin Palace and Khosravi to withdraw the water of Wand Tributary deep into the Iranian land to irrigate the land. The Iranian projects have lowered the levels of this tributary from 58 cubic meters per second to 3 cubic meters per second.⁶⁴³ Since 2007, Iran has started to reduce the release of the water of Al-Wand by 80%,⁶⁴⁴ and from 2008, Iran started, in every summer, to stop the flow of water in this river.⁶⁴⁵ This led the river to dry up, which consequently affected the city of Khanaqin, located in the banks of this river. This led to the destruction of 1,650 hectares of orchards and resulted in about 60% of the desertification of agricultural land of this city, which is located in the Iraqi Province of Diyala as well as affecting more than 700,000 Iraqi families due to lack of water.⁶⁴⁶

⁶⁴⁰ Shana.ir, 'Gavoshan Dam Inaugurated'.

⁶⁴¹ Ibid.

⁶⁴² Ibid.

⁶⁴³ Al-Rubaie, "Impact of the Iranian water policy on the Iraqi rivers" 138.

⁶⁴⁴ Republic of Iraq-Kurdistan Regional Government, The General Directorate for the Kurdish areas outside the region administration, "Experts: Iran's cut of Al-Wand river destroyed 6600 dunam of farms and orchards in Diyala," http://krg-kagb.org/arabic/art_detail.php?art_id=9180 (accessed December 17, 2014).

⁶⁴⁵ Republic of Iraq-Kurdistan Regional Government, The General Directorate for the Kurdish areas outside the region administration, "Diyala: Water Resources calls for Iran secured the quota of Al-wand River," http://krg-kagb.org/arabic/print.php?art_id=7587 (accessed December 17, 2014).

⁶⁴⁶ Republic of Iraq-Kurdistan Regional Government, "Experts: Iran's cut".

Moreover, other projects such as Blajo Dam, Bayoh Dam and Wasan Dam on Zarin Joy Stream in addition to other projects on Qara Tu led to the transferring of the stream water to the depth of the Iranian land.⁶⁴⁷

4.5 Iraqi Projects Constructed on the Tigris and Euphrates Rivers

The Iraqi government works to make the utmost use of the Tigris and the Euphrates Rivers through constructing dams, reservoirs, irrigation and puncture projects, power plants, and for domestic, industrial, and economic uses, etc. in order to achieve economic and human development in all parts of the country.

4.5.1 Iraqi Projects Constructed on the Euphrates River

The Euphrates River enters into the Iraqi borders at the city of Husaybah, then moving for a distance of 1,200 kilometers to meet the Tigris River at the city of Qurna, north of Basra.⁶⁴⁸ According to the agricultural experts interviewed, the Euphrates River is considered the lifeblood and the main feeder for agriculture in the central, southern and western parts of Iraq.⁶⁴⁹ It passes nine Iraqi provinces where the majority of the population depends on agriculture and animal breeding for their living. The modern state of Iraq, since its establishment in 1921, started planning, designing and constructing many projects on these rivers. Among the most prominent of these projects are:

4.5.1.1 Haditha Dam and Reservoir Project (Qadisiya Dam)

This project was constructed on the Euphrates River. It is a multi-purpose project.⁶⁵⁰ It was established north of the city of Haditha, about 7 kilometers within Al-Anbar

⁶⁴⁷ Al-Rubaiy, "Water war between Iraq and Iran."

⁶⁴⁸ Abbas. *Waters of Iraq*. 18-34.

⁶⁴⁹ Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

⁶⁵⁰ Al-Hayali, "The Euphrates River," 134.

province, west of Iraq. It was completed in 1986 with a height of 57 meters and a storage capacity of 8.2 billion cubic meters.⁶⁵¹ It includes a hydroelectric power plant with a capacity of 660 MW.⁶⁵² Besides, it provides water for agricultural purposes and for the development of the fisheries.⁶⁵³

4.5.1.2 Al-Hindiya Dam

It has been considered as the oldest Hydraulic origin on the Euphrates River recently.⁶⁵⁴ It was constructed in 1913.⁶⁵⁵ The purpose of this dam is to regulate irrigation within the most important agricultural area. Due to the importance of the dam to irrigate farmlands and due to its being very old, it was rebuilt with modern specifications leading to the same purpose and the modern construction was completed in 1989.⁶⁵⁶ The length of the dam is 240 meters and it consists of several constructions, namely (Al-Hindiya Dam Regulator, Shatt Al-Hilla Regulator, Al-Kifil Stream Regulator, Bani Hassan Stream Regulator, and New Hosseinieh Stream Regulator). Furthermore, the dam includes a plant to generate hydroelectric power with a capacity of (15) MW consisting of four generating units.⁶⁵⁷

⁶⁵¹ Permanent Representative, *Arab water resources*, 29.

⁶⁵² The Republic of Iraq, Ministry of Planning and Development Cooperation. Agricultural planning department. *The plan of developing the agricultural sector 2010-2014*.

⁶⁵³ Ibid.

⁶⁵⁴ Al-Humairi, *Bitter thirst*, 344.

⁶⁵⁵ Ibid.

⁶⁵⁶ Al-Samarrai, *Manage water use*, 110-112.

⁶⁵⁷ Ibid.

4.5.2 Iraqi Projects Constructed on the Tigris River

The Iraqi government started since 1921 to plan for using the water of the Tigris River and started to construct many projects such as dams, reservoirs, generating power plants, irrigation channels, puncture networks, etc.⁶⁵⁸ Among these projects are:

4.5.2.1 Darbandikhan Dam

According to the engineers (experts) interviewed, this dam was constructed on the stream of Diyala tributary, a tributary of the Tigris River.⁶⁵⁹ It is of the floccus type. Its construction was completed in 1961.⁶⁶⁰ The length of it is 445 meters, storage capacity is 3.8 billion cubic meters.⁶⁶¹ It also includes a plant to generate hydroelectric power with a capacity 249 MW consisting of three units, capacity of each is 83 MW.⁶⁶² Besides, the power plant was opened in 1986.⁶⁶³

4.5.2.2 Kut Dam

It was constructed on the Tigris at the city of Kut. Its construction started in 1933 and completed in 1939.⁶⁶⁴ In 1966, the dam was heightened one meter so as to organise and distribute the water of the Tigris channels and streams of irrigation, including Dujailah Project, Shatt Al-Gharraf, Al-Hussainia, Al-Hawar and the Al-Mazak projects.⁶⁶⁵

Moreover, Iraq constructed many dams and reservoirs, including Mosul Dam, Doukan Dam, Hamrin Dam, Diyala Dam, Imarah Dam, Makhoul Dam, Fatha Dam, Mandawa Dam, Kombassan Dam, and Taq Taq Dam, etc. Among the irrigation and puncture

⁶⁵⁸ Al-Zubaidi, *Iraqi Water security*, 41-60.

⁶⁵⁹ Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

⁶⁶⁰ Ibid

⁶⁶¹ Abdul Latif Rashid, Senior Advisor to the Iraqi President, Former Minister of Water Resources, "Dams, Barrages and Regulator in Iraq," 2, <http://latifrashid.iq>, (accessed July 7, 2015).

⁶⁶² Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

⁶⁶³ Ibid.

⁶⁶⁴ Al-Humairi, *Bitter thirst*, 361-362.

⁶⁶⁵ Ibid., 361-362.

projects constructed by Iraq are Jalakh Stream Project, Hiasi Stream Project, Tainal Irrigation Project, Soor Orchard Irrigation Project, Mandali, Badra, Jassan and Zurbatiyah Project, Diyala up Project, Diyala down Project, Damlaj Project, Kolos Project, Dujaila Project, Batma Project and many others.

All these projects and others indicate that the population of Iraq (the downstream country) of the Tigris and the Euphrates Rivers and their tributaries were the first to use the water resources of these two rivers for irrigation, agriculture, transport, drinking and all other purposes of life, economic and industrial etc. since ancient times through the Middle Ages as well as in the modern time when the Iraqi government constructed many irrigation and puncture projects in addition to updating and maintaining the existing ones such as Ishaqi Project. Besides, large areas of arable land were reclaimed, many huge dams and reservoirs were constructed for storing and ensuring water and many plants were constructed to generate hydro, thermal and gas power which mainly depends on water for its operation.⁶⁶⁶ The water experts, diplomats and academics interviewed have confirmed⁶⁶⁷ that the projects constructed by the upstream countries on these rivers and their tributaries were recent projects and set without taking the rights and interests of the downstream state of Iraq into account and without any compliance with the rules and principles of international law which have directly and negatively affected the sectors of irrigation, agriculture, power production and industry as well as other sectors. All this

⁶⁶⁶ Abdul Latif Rashid, Senior Advisor to the Iraqi President, Former Minister of Water Resources, “the water situation in Iraq,” 1, <http://latifrashid.iq>, (accessed July 7, 2015). See also Karim Waheed, September 11, 2013, “What is the reality of the power crisis in Iraq? 3- Water Resources and its impact on the policy of the establishment of the stations,” <http://www.kitabat.com/ar/page/11/09/2013/16598.html>, (accessed November 9, 2014).

⁶⁶⁷ Al-Sudani, ‘Water Expert’. See also Abdul-Khaliq, ‘Water Expert’. See also Shiltagh ‘ambassador and director of the Legal Department’. See also Al-Janabi ‘ambassador’. See also Ghunawi ‘lecturer’. See also Dawood ‘lecturer’.

has hampered Iraq to achieve economic and human development. Consequently, the lack of water started to threaten the right of the future generation of Iraq to obtain this natural wealth.

4.6 Negative Impacts of the Projects Constructed by the Upstream Countries on the Tigris and Euphrates and their Tributaries on Iraq as a Downstream Country

The upstream countries, namely, Turkey, Syria and Iran constructed a number of projects on these two rivers such as dams, huge reservoirs, channels of irrigation and numerous other projects. These projects constructed by the upstream countries resulted in using the water of these two rivers excessively and in large quantity which in turn has led to scarcity and shortage of water entering into Iraq through these two rivers and their tributaries. Consequently, this aspect has negatively and directly affected all sectors, including the irrigation sector, for the purpose of agriculture, the power production sector, and the industrial sector. Furthermore, it negatively had an impact on the provision of drinking water and domestic, industrial and environmental uses, etc.

4.6.1 Negative Impacts of the Projects Constructed by the Upstream Countries on the Irrigation Sector of Iraq as a Downstream Country

The many and various projects constructed by the upstream countries on the Tigris and the Euphrates Rivers and their tributaries, especially the Turkish projects, including the “gap project”, are considered the biggest and the largest projects on these two international rivers, reflect and show how these projects overcome the potential and energies of these two rivers, which in turn negatively affected the downstream country, Iraq. This has led to a negative impact on various sectors and activities. It has also affected the rights and interests of Iraq in using the water of the shared international

rivers (the Tigris and the Euphrates Rivers and their tributaries) to achieve economic and human development according to the rules and principles of international law,⁶⁶⁸ including the equitable and reasonable utilization of water represented by Articles 5 and 6 of the UN Convention 1997, Articles 4 and 5 of Helsinki Rules, in addition to the obligation not to cause a significant harm as represented by Article 7 of the UN Convention and the public commitment to cooperate and exchange information on a regular basis as represented by Articles 8 and 9 of the UN Convention, and also the requirement of notification concerning the planned measures with the possible adverse effects represented by Articles 12, 13, 14, 15, 16, 17, 18, and 19 of the UN Convention, etc.

With regard to the Euphrates River, the annual revenue rate of the water entering Iraq was registered at the city of Husaybah for the period from 1933 up to 1973 as 30.25 billion cubic meters.⁶⁶⁹ When the upstream countries started constructing their projects on the river, the annual revenue of water entering into Iraq reduced, especially for the water of the Euphrates River.⁶⁷⁰ In 1973 through 1975 Turkey opened the huge dam of Keban and also Syria opened Tabaqa dam in the same year. As a result, the annual water rate entering into Iraq dropped at the city of Husaybah to 9 billion cubic meters, which led to serious losses and damages in the Iraqi farms and crops because of the severe drought that hit the Euphrates River.⁶⁷¹ Besides, the production of power decreased and some plants were stopped due to the lack of water levels, in addition to influencing the animal resources and fisheries, etc. This became a serious problem leading into crisis

⁶⁶⁸ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 21-22.

⁶⁶⁹ *Ibid.*, 12.

⁶⁷⁰ *Ibid.*

⁶⁷¹ *Ibid.*

and threat to use military force, but the crisis was resolved by releasing additional quantities of water into Iraq.⁶⁷² After filling both reservoirs of the Turkish Dam of Keban and Tabaqa Dam in Syria, the annual revenue of the Euphrates River for the period from the 1976 rate up to 1989 reached 26.23 billion cubic meters with an annual average decline of approximately 4 billion cubic meters of the river water.⁶⁷³ Then, the rate of the annual revenue of the Euphrates River entering into Iraq dropped when the giant Dam and Reservoir of Ataturk started to fill in the period from 1990 through 1993.⁶⁷⁴ The total annual water revenue rate entering into Iraq during this period was only 11.5 billion cubic meters.⁶⁷⁵ In the first year of filling the Ataturk Dam with water, it dropped into 9 billion cubic meters causing negative impact and serious damage to the Iraqi agriculture, the animal wealth and fisheries, production of hydroelectric power and even the provision of drinking water to the towns and villages in the south of Iraq due to the low levels of the river and the poor quality of water.⁶⁷⁶ After the opening of the Ataturk Dam and several other Turkish and Syrian projects on the Euphrates River, the annual revenue rate of the Euphrates River water entering into Iraq, registered at Husaybah City between 1994-2010, dropped to approximately 18.36 billion cubic meters.⁶⁷⁷ This shows that the construction of the Turkish and Syrian projects on the Euphrates River has led to a decline in the annual revenue rate of water inside Iraq compared to the average before the upstream countries started to construct their projects

⁶⁷² Yakar, "Turkey's Transboundary Water Policy, 74-75. See also, Al-Zubaidi, *Iraqi Water security*, 201-202. See also Al-Humairi, *Bitter thirst*, 404-405.

⁶⁷³ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 12.

⁶⁷⁴ *Ibid.*, 12.

⁶⁷⁵ *Ibid.*

⁶⁷⁶ *Ibid.* See also, Permanent Representative of the Republic of Iraq. *Arab water resources*, 25.

⁶⁷⁷ *Ibid.*, 13.

and dams reached 12 billion cubic meters.⁶⁷⁸ In the years 2012, 2013, 2014, the annual revenue rate of the Euphrates River inside Iraq dropped at the city of Husaybah to 15 billion cubic meters⁶⁷⁹ with a difference of 15 billion cubic meters of its normal rates before the setting up of the projects by the upstream countries. In case the upstream countries continue their projects on the Euphrates River, especially the Turkish “gap project” which is still under construction or planning phase, the annual revenues of the Euphrates River water entering into Iraq will drop to nearly 9 billion cubic meters.⁶⁸⁰ The Turkish-Syrian bilateral agreement in 1987 identified the absolute amount of water of the Euphrates from Turkey towards Syria within a rate of 500 cubic meters per second.⁶⁸¹ As a result, Iraq has strongly objected to the Syrian-Turkish agreement and demanded that the absolute amount of water from Turkey into Syria should be 700 cubic meters per second in order to meet part of the demands of the downstream country, Iraq.⁶⁸² Here, it has become clear that the extent of damage Iraq has faced because of lack or scarcity and poor quality of the water of Euphrates River indeed affected its economy.

The total amount of water stored in the Turkish main dams (Keban, Karakaya, Ataturk, Birecik and Karkamis) constructed on the Euphrates River is 90.65 billion cubic meters,⁶⁸³ which is equivalent to three times the annual revenue rate of the water of the

⁶⁷⁸ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 13.

⁶⁷⁹ Republic of Iraq-Ministry of Water Resources (National Center for Water Resources Management-Department of Water Control and hydrological analysis, n.d.).

⁶⁸⁰ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 13.

⁶⁸¹ Permanent Representative of the Republic of Iraq. *Arab water resources*, 43-44. See also, Radhwan, Problem of water, 124.

⁶⁸² *Ibid.*, 44. See also Al-Zubaidi, *Iraqi Water security*, 205.

⁶⁸³ Food and Agriculture Organization. "Aquastat-FAO's Information System On Water And Agriculture", *Fao.Org*, last modified 2009, 5, <http://www.fao.org/nr/water/aquastat/basins/euphrates-tigris/print1.stm>, (accessed October 10, 2016).

Euphrates River and more than three times the size of stored water in both Syria and Iraq all together.⁶⁸⁴

Turkey's current needs of water from the Euphrates River, in general, is about 15.14 billion cubic meters per year,⁶⁸⁵ used to irrigate 1,094,779 hectares of land within the gap project and 95,911 hectares of land outside the gap project, so as the total land area that will be irrigated by the Euphrates River inside Turkey is 1,190,690 hectares.⁶⁸⁶ The operation of hydroelectric power plants will be of a capacity of 5,332 MW within the gap project,⁶⁸⁷ in addition to Keban Dam power plan with the capacity of 1330 MW.⁶⁸⁸ So, the overall capacity of power plants built on the Euphrates River is 6,662 MW. After the completion of the projects, Turkey's annual needs of the Euphrates waters will reach 18.5 billion cubic meters.⁶⁸⁹

As for Syria, the current annual needs of the Euphrates water is 7.1 billion cubic meters,⁶⁹⁰ and at the completion of their projects on the Euphrates River, the annual future needs will be approximately 11 billion cubic meters used for irrigating farmland, generating hydroelectric power and for domestic and industrial purposes.⁶⁹¹ We have

⁶⁸⁴ Al-Adili, *International River*, 302.

⁶⁸⁵ Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 41. See also, Radhwan, *Water problem*, 55.

⁶⁸⁶ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, "*What is GAP*,".

⁶⁸⁷ Ibid.

⁶⁸⁸ Republic of Turkey, Ministry of Forestry and Water Affairs, General Directorate of State Hydraulic Work, "*Keban Dam*,".

⁶⁸⁹ Ministry of Foreign Affairs-Turkey, "Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters". See also, Ozish and Elsen Ozdemir, "Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin,".

⁶⁹⁰ Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 42-43.

⁶⁹¹ Radhwan, *Water problem*, 55. See also, Ministry of Foreign Affairs-Turkey, "Water Issues between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters".

noticed from the above that the Turkish and Syrian projects on the Euphrates consume most of the water revenue as the Turkish and Syrian need will be $18.5 + 11 = 29.5$ billion cubic meters and that the annual natural rate of the Euphrates water is 32 billion cubic meters.⁶⁹² It is clear that what is left for Iraq from the Euphrates is 2.5 billion cubic meters while the annual needs at the moment is 19 billion cubic meters to secure its requirements.⁶⁹³ In other words, there is a shortage in Iraq's needs of about 16.5 billion cubic meters in addition to the deterioration of water quality.

Accordingly, all countries sharing the Euphrates have the responsibility to cooperate among themselves and to consult, negotiate and concede part of their demands to reach a final agreement to avoid harming any country and to ensure universal access into the water of this international river. Hence, the countries sharing an international watercourse are expected to respect the spirit of the United Nations Convention 1997 since it is widely viewed as a codification of customary international law with respect to at least three of the obligations it embodies, namely equitable and reasonable utilization, prevention of significant harm, and prior notification of planned measures.

Furthermore, the projects constructed by the upstream countries on the Euphrates River affected the quality of water entering into Iraq. Prior to the development and construction of the projects, the percentage of dissolved salts was 300 per million in the

⁶⁹² Republic of Turkey-Ministry of Development, "Southeastern Anatolia Project (GAP) Regional Development Administration". See also, The National Committee for Marshes and Wet Lands, *Report of Environmental*, 16.

⁶⁹³ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 16.

city of Qaem and it is expected to increase to 1250-1350 per million when the projects are completed on the river basin.⁶⁹⁴

As for the downstream country, Iraq, its current needs of the Euphrates water is 19 billion cubic meters⁶⁹⁵ a year to ensure water for irrigating the current agricultural land, without expansion, and also to ensure water for drinking, industry and marshes revival, etc. Here, one can see the size of the extensive damage that Iraq will face due to the great shortage of water entering its borders in the future.

Concerning the Tigris River, the annual water revenue of the river at the Iraqi-Turkish border is 21 billion cubic meters per year.⁶⁹⁶ Turkey started to construct a number of projects on the river and when the remaining projects are completed the annual revenue rate of the Tigris water inside Iraq will decrease to 9.16 billion cubic meters, annually.⁶⁹⁷

Turkey's current needs of the water of the Tigris only is approximately 6.87 billion cubic meters per year,⁶⁹⁸ used to irrigate 549,388 hectares of land within the "gap project" and 39,806 hectares of land outside the gap project.⁶⁹⁹ So the entire land to be irrigated by the Tigris inside Turkey will be 589,194 hectares,⁷⁰⁰ in addition to operating hydroelectric plants with a capacity of 2,057 MW within the gap project.⁷⁰¹ When the

⁶⁹⁴ Ibid., 17.

⁶⁹⁵ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 18.

⁶⁹⁶ Republic of Turkey-Ministry of Development, "Southeastern Anatolia Project (GAP) Regional Development Administration". See also, Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 89.

⁶⁹⁷ Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 89.

⁶⁹⁸ Ministry of Foreign Affairs-Turkey, "Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and Transboundary Waters".

⁶⁹⁹ Republic of Turkey, Ministry of development, Southeastern Anatolia Project, Regional Development Administration, "*What is GAP*,".

⁷⁰⁰ Ibid.

⁷⁰¹ Ibid.

projects are completed, Turkey's annual needs of the water of the Tigris River will reach 8 billion cubic meters.⁷⁰²

Syria also has projects on the Tigris River. It works on withdrawing 1,250 billion cubic meters of the Tigris water annually according to what is stated in Article 3 of the agreement of setting up the Syrian pumping plant on the Tigris River between Iraq and Syria to irrigate 150,000 hectares.⁷⁰³

We conclude from the above that the Turkish and Syrian need of the Tigris water after the completion of their projects will reach $8+1.250 = 9.250$ billion cubic meters and that the annual rate of natural waters of the Tigris is 21 billion cubic meters.⁷⁰⁴ It is clear that what is left for Iraq from the Tigris is 11.75 billion cubic meters, including the imports of Al-Khabou Tributary which amounts to 2.1 billion cubic meters.⁷⁰⁵

This means that the revenues of the Tigris River entering into Iraq will decrease to approximately 11 billion cubic meters annually.⁷⁰⁶ This will negatively affect the economic development of Iraq, especially the irrigation sector as the lack of water and its scarcity would deprive hundreds of thousands of hectares of farmlands of irrigation water. Besides, this will lead to the destruction of animal resources and fisheries as well as damaging the production and generation of power and other sectors.

⁷⁰² Ozish and Elsen Ozdemir, "Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin,".

⁷⁰³ Ministry of Water resources-Syria, General Commission of Water Resources, "Tigris Irrigation Project", *Gcwr.Gov.Sy*, last modified 2016, http://gcwr.gov.sy/print_details.php?page=show_det&id=11. (accessed October 10, 2016). See also, Agreement of setting a Syrian pump plant on the Tigris River, April 9, 2002, the library of the Ministry of Foreign Affairs, Republic of Iraq. See also Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'.

⁷⁰⁴ Republic of Turkey-Ministry of Development, "Southeastern Anatolia Project (GAP) Regional Development Administration". See also, The National Committee for Marshes and Wet Lands, *Report of Environmental*, 16.

⁷⁰⁵ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 18. See also, Al-Adili, *International River*, 358.

⁷⁰⁶ *Ibid.* See also, Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'.

According to the water experts interviewed, the projects constructed by the upstream countries on the Tigris River will also affect the quality of the water entering into Iraq. Before the construction and development of these projects, the percentage of salt was 250 per million at Fishkhabour city and it is expected to increase to 375-400 per million upon the completion of the projects on the river basin.⁷⁰⁷

As for the tributaries of the Tigris River, the projects constructed by the upstream countries have led to decreases flowing of the incoming water through these tributaries and sometimes dryness. An example is what Iran did in diverting the course of some of the common rivers shared with Sulaymaniyah, Diyala, Wasit and Ijarah to the depth of the Iranian land in addition to constructing dams and irrigation projects which in turn led to deprivation of more than 7 billion cubic meters annually of the shared rivers to Iraq.⁷⁰⁸ This had an indirect effect on the quality of the water.⁷⁰⁹ An example of such a case is the Diyala River which witnessed a decrease in the current annual revenue from 5.5 billion cubic meters per year to 2.5 billion cubic meters per year as well as the deterioration of the river's water quality.⁷¹⁰

As mentioned earlier, Iraq is a downstream country in relation to the Tigris and the Euphrates Rivers and the country's name was associated with these two rivers. Besides, Iraq was the first to use the water of these two rivers for agricultural purpose due to the country's good quality of soil which is suitable for agriculture as well as the availability

⁷⁰⁷ Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'. See also The National Committee for Marshes and Wet Lands, *Report of Environmental*, 17.

⁷⁰⁸ Thaer Sharif Khayoun and Iyad Slaibi Mustafa, "Water crisis in Iraq: Reality, challenges and treatments," *International Journal of Environment and Water* 1, no.4 (2012): 76, <http://ijew.ewdr.org/component/k2/item/180>, (accessed November 11, 2014).

⁷⁰⁹ Ibid.

⁷¹⁰ Ibadi, "Water resources management," 137.

of water for the purpose of irrigation.⁷¹¹ Currently, Iraq has arable soil, with multiple types, which approximately constitutes 11.125 million hectares⁷¹² and the farmlands area which is ensured with an irrigation network of 3.25 million hectares.⁷¹³ This area forms what is equivalent 30% of the arable land that Iraq has, and it is a little percentage.⁷¹⁴

Iraq has started to face a serious threat in terms of water required for irrigating the agricultural lands due to lack of water entering into Iraq from the Tigris and the Euphrates Rivers and their tributaries because of the number and magnitude of the projects constructed on these two rivers by the upstream countries. Apart from that, Iraq also takes into account the decrease in water revenue in general due to climatic changes. Despite the changes in climate, still it has to be acknowledged that Iraq is facing a serious threat in terms of the amount of water needed to irrigate about 3.25 million hectares of its total arable area due to the continued decrease in the amount of water resulting from the large number of projects constructed by the upstream countries on these rivers and their tributaries.⁷¹⁵

It is important to note that the shortage of every billion cubic meters of water leads to deprivation and exclusion of 62,500 hectares of arable land due to lack of water for irrigation and consequently, this will lead to desertification of the land and unsuitability for agriculture in the future.⁷¹⁶ Basically, Iraq suffers from desertification because 40%

⁷¹¹ Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert',.

⁷¹² The National Committee for Marshes and Wet Lands, *Report of Environmental*, 14.

⁷¹³ Ibid.

⁷¹⁴ Ibid.

⁷¹⁵ Ibid.

⁷¹⁶ Republic of Iraq, Ministry of Planning, Agricultural planning directorate, *A study of the management*, 44.

of its land is a desert in addition to 54% of its land is threatened with desertification.⁷¹⁷ Therefore, Iraq loses approximately 100,000 hectares of its arable land annually.⁷¹⁸ Among the consequences resulting from increasing the desertified and dry land and the decline of vegetation is the too many sandstorms. In this regard, Iraq suffers from sandstorms that have negative effects in that they damage the crops and also they lead to the loss of soil by removing the upper surface of the soil which is rich in organic matters and nutrients.⁷¹⁹ This in turn leads to a decline in the agricultural production as well as causing some health problems to the population. It is expected that the number of sandstorms will significantly increase in the coming years because of the decline of vegetation.⁷²⁰

As for the quality of the water flowing into Iraq, it has also been highly affected by the projects constructed by the upstream countries. Before the construction of these projects by the upstream countries on the Euphrates River, the ratio of dissolved salts in it did not exceed 300 per million at the city of Qaem, but now it is ranging from 600 to 700 and sometimes up to 800 per million.⁷²¹ It is expected that the water quality of Euphrates River, entering into Iraq, will deteriorate after the completion of the projects constructed by the upstream countries, so the dissolved salts will relatively rise to 1,250 to 1,350 per million.⁷²² Concerning the quality of the Tigris water entering into Iraq before the construction of the projects by the upstream countries, the ratio of the dissolved salts at

⁷¹⁷ United Nations-Iraq office, Climate change.

⁷¹⁸ United Nations, Office of Iraq. World Environment Day 2013: The environmental damage and its role in food insecurity in Iraq (June, 2013), *United Nations*, <http://www.iau-iraq.org/documents/1886/Factsheet-WorldEnvironment-Arabic.pdf> (accessed March 8, 2014).

⁷¹⁹ Ibid.

⁷²⁰ Ibid.

⁷²¹ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 17. See also Abdul-Khaliq, 'Water Expert'.

⁷²² Ibid. See also Ibid.

Fishkhabour city was no more than 250 per million.⁷²³ It is expected to increase to 375-400 per million after the completion of the projects by the upstream countries.⁷²⁴ This would negatively affect the animal resources and fisheries. It would also affect the soil and its fertility, the agriculture as well as having drastic effects on humans, on the power plants, on the environment and on all sectors. Such water cannot be used unless after treatment to make it safe for all uses. This by itself will add more economic burden on Iraq.

One of the negative effects of water shortages and deterioration of its quality is the immigration of the population from agricultural areas (rural) to cities and the consequent economic and social problems in addition to finding services and jobs etc.⁷²⁵

Another important issue is that the marshes will be highly affected because of the significant shortage of water in both the Tigris and the Euphrates Rivers and their tributaries and the key marshes feeders. On the whole, this will lead to the disruption of the ecosystem of these marshes because of the drought in some cases and the low levels of water in others. The marshes dwellers will suffer from environmental, social, health and economic problems that threaten their daily lives because of the lack of water changing the nature of their lives to which they are accustomed to.⁷²⁶

Furthermore, the lack of water and the deterioration of its quality has negatively affected the animal resources and fisheries in Iraq, which in turn has led to a dramatic decrease in

⁷²³The National Committee for Marshes and Wet Lands, *Report of Environmental*, 17. See also Abdul-Khaliq, 'Water Expert'.

⁷²⁴ Ibid.

⁷²⁵ Ibid., 22.

⁷²⁶ United Nation, UNESCO, "National framework for the integrated management," 72-74. See also The National Committee for Marshes and Wet Lands, *Report of Environmental*, 24.

this economic wealth of the country. Iraq's production of fish in 2005 only reached into 25.6 thousand tons while Iraq's production of fish during the seventies and the eighties of the last century was 240 thousand tons per year.⁷²⁷

The construction of dams by the upstream countries on the course of the international rivers has led to reserving the silt behind them resulting in lowering Iraq's share of silt and consequently lowering soil fertility and renewal in the long run.⁷²⁸

Among the negative effects of the lack of water in the Tigris and the Euphrates Rivers can be seen from the river of Shatt Al-Arab. The low levels of water has led to raising the salt (or the salty tongue) coming from the Arab Gulf towards the city of Basra, which has led to increase in the salinity at Shatt Al-Arab and consequently unsuitable for human use.⁷²⁹ Besides, this has led to soil salinity and it has affected the orchards and palm trees.⁷³⁰

4.6.2 Negative Impacts of the Projects Constructed by the Upstream Countries on the Production of Power in Iraq

Electric power has become the backbone of modern life where all the different sectors of life depend on it. It is very important in the civil, industrial, environmental, commercial, and health life etc. Without electricity, the economic development of a country comes to a standstill.

Iraq has three types of electric power plants, namely, steam, gas and hydroelectric plants. All these types of power use water in the generation of electricity. The steam

⁷²⁷Ibrahim Salam Atoof Kubba, "Water in Iraq: reality and treatments". Last modified 2008, <http://www.ahewar.org/debat/show.art.asp?aid=134920> (accessed May 9, 2014).

⁷²⁸ Al-Rubaiy, *Crisis of the Tigris and Euphrates Basins*, 159.

⁷²⁹ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 13.

⁷³⁰ Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'.

plants rely on water to produce steam and operate the thermal turbines in addition to cooling the plant. The gas plants use water to cool the generation system while the hydroelectric plants mainly rely on the pressure of the water stored behind the dams to run the generation turbines. The hydroelectric plants are characterized by the low cost of producing the electric power as well as maintaining the environment due to the lack of gaseous and carbonic emissions and rareness of maintenance.⁷³¹ Iraq possesses many of the hydroelectric plants and it has projects to construct new plants for the future, including:⁷³²

- Mosul Dam hydroelectric plant with a capacity of 1050 MW.
- Haditha Dam hydroelectric plant with a capacity of 660 MW.
- Dokan Dam hydroelectric plant with a capacity of 400 MW.
- Derbandikhan Dam hydroelectric plant with a capacity of 249 MW.
- Hamrin Dam hydroelectric plant with a capacity of 50 MW.
- Al-Udhaim Dam hydroelectric dam plant with a capacity of 27 MW.
- Samarra Dam hydroelectric plant with a capacity of 84 MW.
- Al-Hindiya Dam hydroelectric plant with a capacity of 15 MW.
- Kufa Dam hydroelectric plant with a capacity of 5 MW.

⁷³¹ Hussein, 'Engineer Expert'.

⁷³² Ibid. See also United Nation, UNESCO, "National framework for the integrated management," 96. See also Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

- Bekhme Dam hydroelectric plant with a capacity of 1500 MW (not completed and work has been stopped).
- Badush Dam hydroelectric plant with a capacity of 170 MW (not completed and work has been stopped).

In addition, there are other projects, planned and under study, to establish hydroelectric plants.⁷³³ It is vital to note that these plants rely heavily on the availability of sufficient water in order to generate electricity.

According to the engineers (experts) interviewed,⁷³⁴ these plants heavily rely on the existing water levels in the dams reservoirs to run. The lack of water imports and their levels in the rivers will lead to their shortages in the reservoirs and dams which will affect the hydroelectric power generation process. The plants are designed to work at a certain level of the reservoir water being dependent on the water pressure to run the generation turbines and consequently the decrease in the levels of water in the reservoirs will lead to lowering the production or even stopping it. Iraq has suffered from the decline in the flow of water from the Tigris and the Euphrates Rivers which in turn has lowered the levels of lakes and reservoirs behind the dams. According to the statistics of 2011, the lakes and reservoirs of the Iraqi dams suffered from vacuum stockpile as follows:⁷³⁵

- Lake of Haditha Dam suffered from a vacuum Stockpile of 4.02 billion cubic meters.
- Lake of Mosul Dam suffered from a vacuum Stockpile of 3.81 billion cubic meters.

⁷³³ Hussein, 'Engineer Expert'.

⁷³⁴ Ibid. See also Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

⁷³⁵ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 19.

- Lake of Dukan Dam suffered from a vacuum Stockpile of 3.94 billion cubic meters.
- Lake of Derbandikhan Dam suffered from a vacuum Stockpile of 1.34 billion cubic meters.
- Lake of Hamrin Dam suffered from a vacuum Stockpile of 1.86 billion cubic meters.
- Lake of Udhaim Dam suffered from a vacuum Stockpile of 1.09 billion cubic meters.

The engineers (experts) interviewed stated that the low level of water in the lakes (reservoirs) after building the dams affected the work of the hydroelectric plants in Iraq. The quantity of production of hydroelectric power fell down in these plants because of the low levels of water.⁷³⁶ Thus, the production retreated from 9,221,001 KW/h in 1995 to 5,958,720 KW/h in 2005, where the percentage of the decrease in the amount of hydroelectric power production was 35.4% from 1995.⁷³⁷

As for the steam power plants (thermal), they are constructed on the banks of the rivers because they need large amount of water. They use water to produce steam that is used in running the turbines and generating electricity. Besides, the steam plant needs water for the purpose of cooling the generation system and, therefore, it needs huge amount of clean water for its work which ranges between 180-250 cubic liters per hour to produce 1 MW.⁷³⁸ The engineers (experts) interviewed stated the decrease in the water levels and the flowing of water into the rivers has affected the generation and production of

⁷³⁶ Hussein, 'Engineer Expert'. See also Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

⁷³⁷ Hussein Ali Ahmed Al-Amiri, "Reality of electrical power production in the city of Basra and its future prospects," *Administrative studies* 2, no.4 (August 2008): 205. <http://www.iasj.net/iasj?func=fulltext&aId=47359>, (accessed March 3, 2014).

⁷³⁸ Hussein, 'Engineer Expert'. See also Waheed, "What is the reality of the power crisis in Iraq" 1.

electricity.⁷³⁹ It also added new burdens and additional costs for the operation of these plants represented by setting up water pump plants on the banks of the river to pull sufficient amount of water to operate the plant. Besides, the closed cycle system was adopted to cool the power plants because it consumes much less amount of water for cooling instead of the open cycle system which consumes a great amount of water and needs high discharge levels and quick flows in the river course to ensure that no warm water returns to the cooling system.⁷⁴⁰ Furthermore, the quality of water negatively affected the work of the power plants. In this vain, the heavy or difficult water that contains salts, chemicals and plankton led to the destruction and even blocking the pipes resulting in reducing the production of electric power and sometimes stopping some turbines until maintenance and repair is done.⁷⁴¹ Therefore, this added new burden leading to the increase in the cost of producing electric power due to the large amount of maintenance and replacement of the parts affected in addition to setting up water treatment plants to make the water suitable for use in the power plants. This in turn has increased the cost of power production and consequently increased the burden on Iraq. The same applies to the gas power plants that need water for cooling the generation system. It has become essential for the establishment of power plants kits to have a closed cycle type of systems to cool the plant in addition to ensuring adequate water to the specifications of the plant work.⁷⁴²

According to engineers (experts) interviewed, the shortage and lack of water levels in the rivers or lakes negatively and directly affected the production of electric power in

⁷³⁹ Hussein, 'Engineer Expert'. See also Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

⁷⁴⁰ Ibid.

⁷⁴¹ Ibid. See also Waheed, "What is the reality of the power crisis in Iraq" 1.

⁷⁴² Ibid.

Iraq in addition to other obstacles. Besides, the quality of water also affected the production of power in Iraq. It has led to a decline in the production of electric power, which in turn has negatively and directly affected the agricultural sector, which heavily depends on power to run the pump and irrigating the plants.⁷⁴³ Furthermore, the decrease in the production of electric power affected all daily activities: industrial, commercial, and economic. It has also negatively affected the overall infrastructure of Iraq, such as the plants of drinking water purification, wastewater treatment plants, oil refineries, cement factories, petrochemical and fertilizers factories, food processing factories, hospitals, schools, universities, media and communications and other activities and areas that directly or secondarily depend on the electrical power.⁷⁴⁴

4.6.3 Water Needs of Iraq

Iraq's current water needs amount to 50 billion cubic meters per year for the various sectors, agricultural, civil, industrial, environmental, energy and even the amount of vaporized water.⁷⁴⁵ As for the future needs of water, Iraq requires an amount of 77 billion cubic meters due to the increase in the population and the need to provide water for the purposes of irrigating the reclaimed land which constitute the largest consumer of water.⁷⁴⁶ The need to irrigate the agricultural land is up to 42 billion cubic meters per year with an agricultural intensity up to 120%, and the rest is used to meet the domestic and industrial requirements, the needs to generate power, the needs of the revitalization of the marshes in southern Iraq as well as the water that evaporates from the reservoirs

⁷⁴³ Hussein, 'Engineer Expert'. See also Ahmed. 'Engineer Expert' the hydroelectric plant for power generation in Derbandikhan Dam.

⁷⁴⁴ Ibid. See also Waheed, "What is the reality of the power crisis in Iraq" 1.

⁷⁴⁵ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 17. See also Abdul-Khaliq, 'Water Expert'.

⁷⁴⁶ Ibid. See also Rashid, "the water situation," 5.

and lakes.⁷⁴⁷ The total natural revenues of both rivers entering into Iraq were within the normal levels before the construction of the upstream countries for projects up to 80 billion cubic meters, where the revenues of the Tigris and its tributaries were up to 49 billion cubic meters per year and the revenues of the Euphrates were about 30 billion cubic meters per year.⁷⁴⁸ However, it has to be pointed out that to a certain extent the war in Iraq has also partly contributed to this problem. In other words, much as we address the impacts of these projects constructed by the upstream countries on the Tigris and Euphrates on Iraq's right to enjoyment of the water resources of these two rivers as a downstream country, we also have to bear in mind that the country has witnessed some serious destructions on its infrastructure as a result of war.

As for the expected revenues of the Tigris and the Euphrates Rivers entering into Iraq after the completion of the projects by the upstream countries on these international rivers, it is 44.9 billion cubic meters.⁷⁴⁹ In other words, there will be shortage of water in Iraq of more than 32 billion cubic meters, annually.⁷⁵⁰

Here, it has become clear in terms of the size of damage caused, and will be caused by the projects constructed by the upstream countries on the Tigris and the Euphrates Rivers and their tributaries on the downstream country, Iraq. For example, the projects have already caused lack of water entering into Iraq in addition to changing its quality. Consequently, this has damaged the economy of Iraq as a result of the water entering into the country is insufficient for the purpose of irrigating the crops in addition to the

⁷⁴⁷ The National Committee for Marshes and Wet Lands, *Report of Environmental*, 17-18.

⁷⁴⁸ *Ibid.*, 11-12. See also, Rashid, Senior Advisor to the Iraqi President, Former Minister of Water Resources, "the water situation in Iraq,".

⁷⁴⁹ *Ibid.*, 18. See also Abdul-Khaliq, 'Water Expert'.

⁷⁵⁰ *Ibid.*

poor quality of water. On the whole, this has led to decrease of green areas, threatening the food security of the country, decline in the vegetation and, in the end, increase the desertified land and the number of dust storms and decrease the animal resources and fisheries, the migration of the population, decline in the electric power generation, increase in the expenses of operation and maintenance.⁷⁵¹ All this hinders Iraq to achieve economic and human development and to ensure and safeguard the rights of the future generation of Iraq.⁷⁵² This is confirmed by Article 1 (2) of the ICESCR which states “All peoples may, for their own ends, freely dispose of their natural wealth and resources without prejudice to any obligations arising out of international economic co-operation, based upon the principle of mutual benefit, and international law. In no case may a people be deprived of its own means of subsistence.”⁷⁵³

Accordingly, the upstream countries of the Tigris and the Euphrates Rivers should ensure that water qualities and quantities of the shared international rivers are not affected so as to deprive the downstream country, Iraq, in terms of water utilization for the purpose of economic development in the areas of agriculture, small and large scale industrial, etc. Furthermore, the projects and works of the upstream countries conflict with the international customary rules and international principles, UN Convention 1997, the Helsinki Rules and the Bilateral Agreements in force. For example, the Charter of Economic Rights and Duties of States issued by the United Nations General Assembly in Article 3 of Chapter II states the way of “the exploitation of the natural

⁷⁵¹ United Nation, UNESCO, “National framework for the integrated management,” 92-105. See also United Nations. Iraq office. *A Page of Facts on climate change*.

⁷⁵² Shiltagh ‘ambassador and director of the Legal Department’. See also Al-Janabi ‘ambassador’. See also Ghunawi ‘lecturer’. See also Dawood ‘lecturer’. See also Al-Sudani, ‘Water Expert’. See also Abdul-Khaliq, ‘Water Expert’. See also Ahmed. ‘Engineer Expert’. See also Hussein, ‘Engineer Expert’. See also Mohammad Ali, ‘Agricultural Expert’. See also Jamil, ‘Agricultural Expert’.

⁷⁵³ United Nations, “International Covenant on Economic,”.

resources shared by two or more countries, each State must co-operate on the basis of a system of information and prior consultations in order to achieve optimum use of such resources without causing damage to the legitimate interest of others”.⁷⁵⁴

In addition, Article 30 of the Charter also focuses on “the protection, preservation and enhancement of the environment for the present and future generation is the responsibility of all States. All States shall endeavor to establish their own environmental and developmental policies in conformity with such responsibility. The environmental policies of all States should enhance and not adversely affect the present and future development potential of developing countries. All States have the responsibility to ensure that activities within their jurisdiction or control do not cause damage to the environment of other States or of areas beyond the limits of national jurisdiction. All States should co-operate in evolving international norms and regulations in the field of the environment”.⁷⁵⁵ Therefore, the upstream countries (Turkey, Syria and Iran) should ensure and safeguard the environment and quality of the water of these two rivers and not to attach any damage to the quality and the environment of the downstream country, Iraq.

Accordingly, the upstream countries have the right to use the shared natural resources, namely, the water of the international rivers, but only with a previous notice and consultation on their projects with the downstream country, Iraq, to ensure cooperation among all countries and to ensure causing no harm to any country or countries sharing

⁷⁵⁴ “Charter of Economic Rights and Duties of States,” *General Assembly -United Nations*, December 12, 1974, 2315th plenary meeting, 2281 (D-29), 52, http://www.un.org/ga/search/view_doc.asp?symbol=a/res/3281%28XXIX%29&referer=http://search.un.org/?query=3281&Lang=E, (accessed May 3, 2014).

⁷⁵⁵ Ibid.

the water of the international rivers. There is also a compulsory demand to abide the upstream countries when using the natural resources, i.e., the water of the Tigris and the Euphrates Rivers and their tributaries, to ensure and maintain water quality and preserve the natural environment of water, so as the right of the downstream country to benefit from the water of the shared international rivers to achieve economic and human development is not damaged and also to maintain these natural resources for the future generation so as to ensure the benefit for all times and ages and for all the riparian people on the course of the international rivers.⁷⁵⁶

4.7 Conclusion

The upstream countries of the Tigris and the Euphrates have constructed many huge projects on these two rivers without abiding to the rules and principles of international law and the bilateral agreements. Such projects have negatively affected the downstream country, Iraq, in that the different sectors especially agriculture and power production were damaged. This has led to a severe shortage of water and deterioration of its quality in addition to hindering human and economic development. The rules and principles of international law require the upstream countries to take responsibility by granting the downstream country all its rights concerning the usage of the shared international rivers such as not to cause any harm and to achieve the total cooperation of the international river management among all the countries. This chapter answered the third research question and achieved the third research objective. Both the third research question as well as the third research objective focused mainly on the issue of the projects

⁷⁵⁶ Shiltagh ‘ambassador and director of the Legal Department’. See also Al-Janabi ‘ambassador’. See also Ghunawi ‘lecturer’. See also Dawood ‘lecturer’. See also Al-Sudani, ‘Water Expert’. See also Abdul-Khaliq, ‘Water Expert’.

constructed by the upstream countries on the Tigris and Euphrates Rivers and their impacts on the amount of water entering Iraq as a downstream country thus affecting its economic development.



CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 Conclusion

In addressing the impacts of the projects constructed by the upstream countries on the Tigris and Euphrates Rivers on Iraq's right to enjoyment of the water resources of these two rivers as a downstream country, the thesis came up with five chapters altogether. Under the fifth chapter, the researcher has achieved the fourth research objective i.e. to recommend the necessary improvements based on the spirit of international law regarding the usage of the Tigris and Euphrates Rivers and their tributaries between the upstream and downstream countries, especially in the context of Iraq's right to enjoyment of the water resources of these two rivers.

The First chapter addressed the background of the study, problem statement, research questions, research objectives, significance of the study, research methodology, limitations of the study, literature review and outline of the chapters.

In the second chapter, the thesis focused on the historical usage of the Tigris and the Euphrates. Throughout the study, it has become clear that the Tigris and the Euphrates are separate and independent International Rivers, since each one of them has its own independent water network. As for the Euphrates, it is shared by Turkey and Syria, the upstream countries, and Iraq, the downstream country. The Tigris, on the other hand, is shared by Turkey, Iran and Syria, the upstream countries, and Iraq, the downstream

country. As such, Iraq is the downstream country of both rivers in southern Iraq where they meet to form the Shatt al-Arab River, which flows into the Arabian Gulf.

All the respondents interviewed agreed⁷⁵⁷ that Iraq was the first and oldest of these countries to use the water of these two rivers and their tributaries. In Iraq, the oldest civilizations grew up on the banks of these rivers such as Babylon and Sumerian etc. The water of these two rivers were used in various agricultural, domestic and navigational uses etc. Many dams and canals were built on these two rivers and the oldest and first laws, such as the law of Hammurabi, were enacted to regulate the use of water. The history of international water treaties dates back to 2500 BC, when the two Sumerian cities of Lagash and Umma crafted an agreement to end up a water dispute on the Tigris River.⁷⁵⁸ Due to the link between these two rivers, Iraq was called Mesopotamia. That is why Iraq has a historical acquired right to use the water of the Tigris and the Euphrates and their tributaries and the upstream countries should respect this right.

The third chapter discussed the legal status of the Tigris and the Euphrates within context of International Law. In the modern era, and with the development of economic and industrial life, the importance of water emerged in the economic life, especially navigation, agriculture, energy production, industry etc. Due to the many uses of the international rivers, the scholars of the international law have been concerned with the subject of international rivers and the formulation of international

⁷⁵⁷ Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Ahmed, 'Engineer Expert', the hydroelectric plant for power generation in Derbandikhan Dam. See also Hussein, 'Engineer Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert',.

⁷⁵⁸ United Nation, "22Nd March - World Water Day 2009", *Unwater.Org*,

legal rules that govern and administer them. At the beginning, the focus of the scholars of international law was only on navigational international rivers. With the passage of time and the economic and industrial development and the use of the international rivers for the generation and production of electrical energy and entering into manufacturing industries and others, the navigational standard of the international river started to retreat and the economic role started to rise. Accordingly, the scholars of international law have concerned with the subject of international rivers for non-navigational purposes because of the large number of international uses. Their efforts succeeded when the ILA issued Helsinki Rules in 1966. These rules govern the use of the water of the non-navigational international rivers. Besides, the concept of the international drainage basin was adopted to define international river. In addition, they adopted many international principles concerned with the international rivers, such as the principle of equitable utilization of water, principle of not causing harm to others etc.

The international community was also interested in the subject of the non-navigational international rivers. In 1997, the United Nations adopted the Convention on the Law of the Non-navigational Uses of International Watercourses and entered into force on 17th August 2014. This Convention adopted the concepts of the watercourse and the International Watercourse to define International River. Moreover, it rationed many of the principles of the International Law that are concerned with international rivers including the principle of equitable and reasonable use and utilization, the principle of not causing a significant harm, the principle of international cooperation etc.

Furthermore, this chapter discussed the bilateral agreements between the countries sharing the Tigris and the Euphrates such as Lausanne Treaty 1923, the agreement of Friendship and Good-Neighboring Relations 1946 held between Iraq and Turkey. Finally, the important issues put forward by the riparian countries regarding the position of the Tigris and Euphrates Rivers were also addressed in the chapter.

In the fourth chapter, the thesis focused on the projects constructed on the Tigris and Euphrates Rivers by the upstream countries and their impacts on Iraq's right to enjoyment of the water resources of these two rivers as a downstream country. The chapter pointed out that since the middle of the last century, the upstream countries of the Tigris and the Euphrates and their tributaries in Turkey, Syria and Iran started using the water of these rivers excessively which adversely affected the downstream country, Iraq. However, in the chapter the researcher also pointed out very briefly that to a certain extent the war in Iraq partly contributed to this problem as well. All the respondents interviewed confirmed⁷⁵⁹ that the upstream countries constructed an enormous and a huge number of projects on these rivers such as dams, canals, power plants, etc. Consequently, such projects resulted in shortage and scarcity of water entering into Iraq from these rivers and their tributaries in addition to the deterioration of the quality. The shortage negatively affected the various sectors in Iraq, especially the economic sector. The agricultural and water experts interviewed⁷⁶⁰ confirmed that the water shortages had an impact on the agricultural sector leading to the loss of

⁷⁵⁹ Shiltagh 'ambassador and director of the Legal Department'. See also Al-Janabi 'ambassador'. See also Ghunawi 'lecturer'. See also Dawood 'lecturer'. See also Al-Sudani, 'Water Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Ahmed, 'Engineer Expert', the hydroelectric plant for power generation in Derbandikhan Dam. See also Hussein, 'Engineer Expert'. See also Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert',.

⁷⁶⁰ Mohammad Ali, 'Agricultural Expert'. See also Jamil, 'Agricultural Expert'. See also Abdul-Khaliq, 'Water Expert'. See also Al-Sudani, 'Water Expert'.

thousands of hectares of arable land which led to an increase in the desertified land ratio and an increase in dust storms in Iraq. It also led to increase of migration from the countryside to the cities, and the water shortage affected the fishery and livestock in Iraq.

Concerning the power production sector, the engineers (experts) interviewed asserted⁷⁶¹ that it was adversely and directly affected by the lack of water and deterioration of its quality in these two rivers and their tributaries. It led to the lack of production of electricity, sometimes stopping it, and to an increase in the cost of power production due to the great deal of maintenance work. The lack of power production affected the health, industrial and other sectors as they are directly dependent on power which has become the backbone of modern life.

With regard to the water needs of Iraq, the water expert interviewed stated⁷⁶² that Iraq's current water need is 50 billion cubic meters per year for the various sectors. As for the future needs of water, Iraq needs 77 billion cubic meters per year for the various sectors.

Based on the overall discussions of the chapters above, Iraq as a downstream country to these two rivers, has rights and obligations as a country sharing the international watercourse with other countries i.e. the upstream countries. Such rights include the enjoyment of the water resources to achieve economic and human development. For example, it has the right to use the water for irrigating the agricultural land that are suitable for agriculture. It has the right to use water to ensure electric power supply. It

⁷⁶¹ Ahmed. 'Engineer Expert', the hydroelectric plant for power generation in Derbandikhan Dam. See also Hussein, 'Engineer Expert'.

⁷⁶² Abdul-Khaliq, 'Water Expert'.

has the right to ensure clean drinking water for the population and to households usage. It has the right to use water to sustain the marshlands. It has the right to use water for industrial, oil, medical, engineering and environmental purposes, etc. All this represents Iraq's right to enjoyment of the water resources of the Tigris and Euphrates. Besides, Iraq has a historical acquired right of the water of these two rivers being the first to use them. Iraq was the first to set up legal rules governing the use of the water of these two rivers. It was call Mesopotamia due to the Tigris and the Euphrates. Moreover, there are other rights provided by the international customary rules and principles, such as its right not to get harmed, its right in terms of the international cooperation, its right in pre-notification, its right in the reasonable and equitable use, its right in good-neighboring and goodwill etc.

5.2 Recommendations

This section of the thesis addressed the recommendations that have been put forward based on the findings. The following are the recommendations:-

1. Iraq has to prepare for an international initiative to manage the water of these rivers with the participation of all sharing countries with a full support from the international community and the international organisations. In case the upstream countries do not respond to this initiative, the Iraqi government, and in accordance with the principle of good will and good-neighboring, has to request the mediation of a third party to reach a final solution to the topic and find a final agreement that determines the rights and obligations of all parties. If the mediation fails and if there is no response to the demands of Iraq, then Iraq must resort to an international arbitration according to the rules and principles of the

international law and to Article 109 of Lusanne Treaty 1923 so as to decide the case in order to preserve the rights of Iraq in these two rivers and to ensure this natural wealth for future generation. In case all the above procedures fail and there is no agreement to resolve the dispute over the Tigris and the Euphrates and their tributaries, the Iraqi government should resort to the International Court of Justice in accordance with Article 40(1) of the Statute of ICJ to consider the case so as to preserve the wealth and the resources of Iraq for the future generation.

2. The Iraqi government has to count the size of the damage caused as a result of the construction of the projects by the upstream countries on the Tigris and the Euphrates and to inform the upstream countries of such damage in order to take measures to raise the damage or minimize it. Besides, it is necessary to reach an agreement with the upstream countries on the acceptable standards for the quality of water entering into Iraq. In the absence of any response by the upstream countries to prevent damage or reduce it, Iraq is to demand compensation for the damage. Examples of compensation include asking the upstream countries to set up water treatment and desalination plants before entering the Iraqi lands to ensure water quality and the possibility of using it in the various household, health, agricultural and industrial uses etc. These plants should be within the international measures and they are considered as part of the compensation to Iraq for the damages because of their projects on the Tigris and the Euphrates and their tributaries. In case the upstream countries do not respond to the demands of Iraq to remove the damage caused by their projects on the Tigris and the Euphrates and their tributaries and continue violating the norms, principles and rules of international law and not creating plants for desalination treatment

of water, then the Iraqi diplomats are to work at the international level to indicate the size of the damage done to Iraq, the downstream country of the Tigris and the Euphrates and their tributaries to gain the international support to put pressure on the upstream countries to remove the damage or compensate Iraq for the damage they have caused resulting from their projects, in addition to getting an international support for the establishment of these plants as part of the compensation of Iraq for the damage done to it by the projects of the upstream countries on these rivers and their tributaries.

3. The Iraqi government should work on encouraging the Iraqi public and private investments with the upstream countries, especially in the sectors of water, energy production, agriculture and industry. The aim behind this is to give Iraq an upper hand in terms of economic pressure in dealing with the upstream countries to recognise Iraq's rights in the Tigris and the Euphrates. In case the upstream countries do not respond and in case of failure to reach a final agreement for the Tigris and the Euphrates, Iraq is to display the matter to the Organisation of Islamic Cooperation due to the fact that all countries sharing these two rivers are members of this organisation and to request them to put pressure on the upstream countries or issue a resolution obliging the upstream countries to grant Iraq its rights in these two rivers and to sign a final agreement to resolve the dispute.
4. All countries sharing a watercourse have a right in terms of enjoying the water resources of these two rivers for the purpose of achieving economic development provided they do not encroach upon the rights of others and not to harm the interests of the rest of the sharing countries in addition to the need for

cooperation and pre-consultation so as to achieve the optimum utilization by all countries. Accordingly, Iraq, the downstream country, has to ask the upstream countries to apply and respect Articles 3 and 30 of the Charter of the rights of countries and their economic duties. The upstream countries are to cooperate with Iraq and to consult with it to achieve the optimum utilization to all countries sharing the Tigris and the Euphrates.

In case of non-compliance by the upstream countries to the demands of Iraq and violating its right to enjoyment of the water resources, Iraq has to take advantage of the paper of trade exchange through two ways. The first concerns the paper of trade exchange between Iraq and the upstream countries to put pressure on them in order to grant Iraq its rights in the water of these two rivers through signing a legal agreement that defines the rights and obligations of all parties. The second is the paper of trade exchange between Iraq and the countries funding the projects implemented by the countries upstream on these two rivers and their tributaries in order to put pressure on the funding sources to stop their support for these projects. Through the paper of trade exchange, it is possible to put pressure on the upstream countries to hold a legal agreement that determines the rights and obligations of all parties.

5. Iraq in the coming years, has to work with the upstream countries of the Tigris and the Euphrates and their tributaries to reach into a comprehensive legal agreement which provides mutual rights and obligations according to the rules and principles of international law on international rivers through activating the work of the Joint Technical Committee and activating the comprehensive consultations and negotiations among all riparian countries in addition to

activating the exchange of information and hydrological, geological and ecological data related to these two rivers. This will lead to the prevention of disputes between these countries, and this confirms the goodwill of Iraq in not standing before the development plans of these countries in the condition of respecting its rights and interests.

In case of failure to reach a final and comprehensive agreement, Iraq has to work diplomatically by holding an international conference and by calling the world and the international organisations to project the problem of the Tigris and Euphrates through this conference in order to document the international rights of Iraq in the Tigris and the Euphrates and also to issue an international resolution obliging the upstream countries to abide to the rules and principles of the international law and to put pressure so as to resolve the dispute and to sign a comprehensive legal agreement.

6. Iraq has to engage the upstream countries according to the official diplomatic means to respect the rules and principles of the international law on international watercourses, as well as to get committed to the bilateral agreements in force such as the rule of not harming others, the international cooperation, prior notification, equitable and reasonable use etc. when using their rights in the water of the Tigris and the Euphrates. Just as they have rights, they have obligations towards the downstream country, Iraq.

In the event that the upstream countries do not carry out the demands of Iraq and continue their violation of the norms and principles of the international law and not giving Iraq its rights in the Tigris and the Euphrates Rivers, the Iraqi government has to turn its attention to the donors funding such projects (i.e., the

funding organisations) to stop funding such projects being contrary to international law. Consequently, these financing agencies bear part of the international responsibility towards Iraq. This move aims at putting pressure on the upstream countries to abide by the rules and principles of the international law and to give Iraq its rights in these two rivers. An example of this is what happened when the World Bank refused to finance the construction of Ataturk Dam due to the violation of the World Bank conditions for dam construction.⁷⁶³ Another example what happened with Ilisu Dam on the Tigris when backers decided to withdraw from financing the project due to political and environmental movements (Balfour Beatty.UK., Skanska-Sweden , Impregilo-Italy).⁷⁶⁴

7. Iraq has to move diplomatically and resort to the help of international and regional organisations such as the Organisation of Islamic Cooperation, the Arab League, and the European Union. Turkey is seeking to join the EU and, therefore, it will be subject to the Chart of the EU for Water Guidance. Requesting these international and regional organisations is to put pressure on the upstream countries to grant the downstream country of these two rivers, Iraq, its rights. The aim of resorting to these organisations is to obtain an international and regional support for Iraq to face the upstream countries, and also to document and record the violations of the upstream countries of the norms, principles and rules of international law concerning the rights and interest of Iraq as a downstream country to these two international rivers.

⁷⁶³ Permanent Representative, *Arab water resources*, 25.

⁷⁶⁴ Abbasi, "Ilisu Dam project," 210.

But in case the upstream countries do not respond to the pressure of the international and regional organisations, Iraq has to resort to the United Nations and to display the case of the Tigris and the Euphrates before the international community, and to inform it of the violations of the upstream countries of the rules and principles of international law on the international watercourses. Such cases include not causing damage to a third party, equitable and reasonable use of water, prior notification. In case these countries violate the provisions of Articles 3 and 30 of the Charter of the countries' rights and economic duties, Iraq has to urge the international community to take the appropriate measures in this regard. On the other hand, the Government of Iraq has to register its objection to the European Union to which Turkey seeks to join, so as to force Turkey to apply the EU document for Water Guidance before agreeing to grant it a membership in the European Union.

A part from the recommendations stated above, it is also vital for the government of Iraq to take note of the following recommendations:-

1. Iraqi Diplomacy has work to show Iraq's international water issue at the Organisation of Islamic Cooperation and to work hard to persuade the OIC member countries to speed up and complete the ratification and joining procedures to the International Islamic Court of Justice in Kuwait. Article 49 of the court system states the validity of provisions as soon as two-thirds of the ratifications of OIC member countries are deposited, and then exposing the issue before them to decide.
2. The Iraqi government should rehabilitate the cadres and committees concerned with the negotiation process with the upstream countries on the Tigris and the

Euphrates and to train them on how to negotiate and manage crises so as to prepare a team of professional negotiators in order to be able to argue or present Iraq's case in a very convincing manner.

3. The Iraqi government is also encouraged to work on updating the legal legislations such as the irrigation law No. 6 of 1962, Law No. 12 of 1995 for the maintenance of the irrigation and drainage networks, etc. and issuing new legislations that would guarantee or minimise the abuse in terms of water usage of the international rivers as well as maintain this wealth for future generation of Iraq.
4. The educational institutions should spread the culture of the importance of managing and organising the use of water in all uses and how to preserve this wealth and how to work on keeping it for the future generation.
5. Establishing an academic institution which specializes in engineering and science of water to prepare specialists in the engineering of irrigation, drainage canals, dams, land reclamation and rationalisation of consumption etc. Besides, encouraging scientific research in the areas of international and domestic water entering Iraq: surface and groundwater, freshwater and marine and in all specialties.
6. The Iraqi government and the private sector have to follow modern methods and techniques in the field of irrigation and agriculture with the need for counselling and guiding how to ration the uses of water in all industrial and household sectors.

5.3 Suggestion for Future Research

This section of the thesis came up with some suggestions for future research. For example, the current thesis studied the surface water of the Tigris and the Euphrates and their tributaries in terms of water utilization between the upstream and downstream countries focusing mainly on Iraq's position as a downstream country and how the country has suffered economically as a result of not being able to fully exercise its right to enjoyment of the water resources of these two rivers due to the massive projects constructed by the upstream countries resulting into shortage of water entering Iraq. For future research, researchers can study the international groundwater of these two rivers. For instance by looking at the position of Saudi Arabia as a downstream country in the context of international underground water. As to the research methodology adopted in this current study, the researcher adopted both doctrinal and qualitative methodologies. Hence, for future research it is suggested that a quantitative methodology may be adopted in studying the international groundwater of these two rivers.

BIBLIOGRAPHY

- Abbas, Shihab Muhsin. *Waters of Iraq: Numbers and Variables*. Baghdad: Jawahir for Print, Publication and Distribution, 2011.
- Abbasi, Rayan Thannoon. "Ilisu Dam project and its impact on the economic situation of Iraq." *Journal of Regional Studies*, no.12 (2008), <http://www.iasj.net>. (accessed November 17, 2013).
- Abdul Aal, Shawki. "Equitable utilization of the waters of the international rivers in the United Nations Convention with a particular reference to the case of the Nile River." *African Perspectives* 11, no.39 (2013), <http://www.sis.gov.eg/Ar/Templates/Articles/tmpArticles.aspx?CatID=4807#.Uy03s4XIIK4>. (accessed February 12, 2014).
- Abdul Hamid, Hisham Hamza. "Study of the concept of the river in the international waters of international law and its application in the Nile Basin agreement." *African Perspective* 11, no. 39 (December 2013) <http://www.sis.gov.eg/newvvr/afakar/9.pdf>, (accessed February 12, 2014).
- Abdul-Khaliq, Ali Ghalib. 'Water Expert', interview by Omar Ahmed. in person (Ministry of water resources, March 28, 2015).
- Abdulla, Salah Anwar Hamad. *Legal Problems of the International Rivers and Solving their Disputes: An Analytic Comparative Study*. Beirut: Zain Legal Publications, 2015.
- Abdullah, Abdul Ameer Ahmed. "The joint border rivers between Iraq and Iran in Diyala governorate." *International Journal of Environment and Water* 1, no.3 (2012): 119-128.
- Agency, News. "Al-Wand River and the official and popular calls for the Iranian." <http://www.ikhnews.com/print.php?id=19277>. (accessed December 3, 2014).
- Agriculture and Food Organization."Aquastat." *Food and Agriculture Organization of the United Nations*.2008. http://www.fao.org/nr/water/aquastat/countries_regions/irq/index.stm. (accessed January 29, 2014).
- Ahmed, Muhammed Yasin. 'Engineer Expert'. interview by Omar Ahmed. in person. (The hydroelectric plant for power generation in Derbandikhan Dam, March 25, 2015).
- Al- Ibadi, Rashid Saadoun. Management of Water Resources in Diyala River: A Study in the geography of water resources for the International joint rivers. *International Journal of Environment and Water* 1, no.4 (2012), <http://ijew.ewdr.org/> (accessed December3, 2014).

- Al-Adili, Subhi Ahmed Zuhair. *International River: The concept and the reality of the some Arabian east rivers*. Beirut: Centre of Arab Unity Studies, 2007.
- Al-Ameer, Fuad Qasim. *water balance in Iraq and the crisis of water in the world*. Baghdad: Al-Ghad House, 2010.
- Al-Anbari, Muhammed. "Lights on the Syrian project to pull the Tigris water to the Syrian region." Damascus, *Iraqi Ministry of Foreign Affairs* 2011.
- Al-Hayali, Abdul Amir Abbas Abid. "The Euphrates and the Arab water security." PhD Diss., Al-Mustansiriya University, College of Education, 1995.
- Al-Humairi, Abdul Redha. *Bitter thirst in Mesopotamia: Rivers between sabotage, organiation and neighbourhood Abuse*. Hilla: The Euphrates House for Culture and Media, 2010.
- Al-Hussein, Sukrani. "Water Equity from the International Law Perspective." *Strategic Vision Journal*. Volume 1, issue no. 4. (September 2013): 95, http://strategicvisions.ecssr.com/ECSSR/ECSSR_DOCDATA_PRO_EN/Resources/PDF/Rua_Strategia/Rua-Issue-04/rua04_074.pdf. (accessed October 13, 2013).
- Al-Janabi, Hassan. 'ambassador'. interview by Omar Ahmed, in person (Ministry of Foreign Affairs, May 4, 2015).
- Al-jweli, Saeed Salim. "Law of International Rivers." in the Arab Water and the Challenges of the Twenty First Century, edited by Muhammed Ibrahim Mansour and Muhammed Rafat Mahmoud, 67-68. Egypt: Futur Studies Centre in Asyout University, 1999.
- Alkhairu, Izzuldin. *Euphrates and the international law*. Baghdad: Al-Hurriya Press, 1976.
- Al-Nasih, Ahmed Kamil Hussein. "The effect of the Turkish water policy on the agricultural development in Iraq between 1990-2006." *Journal of Economical and Administrative Sciences, University of Baghdad* 15, no. 53 (2009): 166-187.
- Al-Rawi, Fouad. *Lexicon of treaties, conventions, protocols, conventions, covenants and alliances that Iraq linked with the states, international organizations and foreign institutions starting from 1921*. Baghdad: Planning Council and the Ministry of Planning, 1977. 1947.
- Al-Rubaie, Firas Abdul-Jabbar. Impact of the Iranian water policy on the Iraqi rivers. *International Journal of Environment and Water* 1, no.3 (2011). <http://ijew.ewdr.org/component/k2/item/225> (accessed December 19, 2014).
- Al-Rubaiy, Sahib. "Water war between Iraq and Turkey: Motives and reasons." *Journal of Water* (2009), <http://www.almyah.net/mag/articles.php?action=show&id=252>. (accessed February 25, 2014).

- Al-Rubaiy, Sahib. *Crisis of the Tigris and the Euphrates's basin and the argument of contradiction between water and desertification*. Damascus: Dar Al-Hasad for printing, publishing and distribution, 1999.
- Al-Rubaiy, Sahib. *International Rivers in the Arab world*. Damascus: Al-Kalima for publishing, printing and distribution, 2002.
- Al-Rubaiy, Sahib. *The international law and the viewpoints of conflict and conventions on water in the middle-east*. Damascus: Dar-Alkalemah for publishing, 2001.
- Al-Rubaiy, Sahib. Water war between Iraq and Iran: motives and reasons. *Waterexpert.Se*. <http://www.waterexpert.se/Iran.htm> (accessed April 21, 2014).
- Al-Sabaawie, Abdul Rahman. "Israel and the Turkish Water Projects: The Future of the Arab Water Neighboring," *Strategic Studies*, no. 10 (1997): 7-50.
- Al-Samarrai, Mohamed Ahmed. *Manage water use*. Amman: Al-Radhwan for publication and distribution, 2011.
- Al-Shammari, Mohammed Bedaiwi. *Political Deprive: detailing the issue of water in Iraq*. Baghdad: General Cultural Affairs Press, 2001.
- Al-Sudani, Murtadha. 'Water Expert', interview by Omar Ahmed, in person (ministry of water resources, April 10, 2015).
- Alwan, Muhammed Jousuf. "UN Convention Regarding the International Watercourse in 1997." In *the Arab Water and the Challenges of the Twenty First Century*. Edited by Muhammed Ibrahim Mansour and Muhammed Rafat Mahmoud. Egypt: Future Studies Centre in Asyout University, 1999.
- Al-Zubaidi, Mohammad Abdul Majeed Hassoun. *Iraqi Water security: A study on the progress of negotiations in dividing the international waters*. Baghdad: House of Cultural Affairs, 2008.
- Ameen, Mahmoud, Trans. *The Code of Hammurabi*. London: Dar Alwarrak Publishing Ltd., 2007.
- Amer, Salahddin. "United Nations Convention on the Law of using the international watercourses for the non-navigational purposes." *Digital Ahram*, October 2004. <http://digital.ahram.org.eg/articles.aspx?Serial=221228&eid=475>. (accessed November 2, 2013).
- Amer, Salahddin. *An Introduction to the Study of Public International Law*. Cairo: Arab Renaissance press, 2007.
- Amiri, Hussein Ali Ahmed. Reality of electrical power production in the city of Basra and its future prospects. *Administrative studies* 2, no.4 (August 2008), 195-224. <http://www.iasj.net/iasj?func=fulltext&aId=47359>, (accessed March 3, 2014).

- Anani, Ibrahim Mohammed. "Settlement of the disputes of using the international rivers: The use of the Nile as an example." *African Perspectives* 11, no.39 (2013), <http://www.sis.gov.eg/newvvr/afakar/5.pdf>. (accessed February 12, 2014).
- Atiya, Issam. *Public international Law*. Baghdad: Sanhuri Library, 2009.
- Badr, Nidhal Ahmed. "Geopolitical dimensions of the problem of the water of the Euphrates River Basin and its impact on the Turkish-Syrian relations." Master's Thesis, Al-Azhar University- Gaza, College of Arts, 2012.
- Bakheet, HaiderNimaa. "Arab waters: Reality and Challenges." *Al-Ghari for Economic and Administrative Sciences* 2, no.12 (2009), <http://www.iasj.net/iasj?func=issueTOC&isId=636&uiLanguage=en>. (accessed February 27, 2014).
- Baskent University Center for strategic research. "Treaty of Peace with Turkey." Signed at Lausanne. July 24, 1923. http://sam.baskent.edu.tr/belge/Lausanne_ENG.pdf. (accessed May 16, 2014).
- BBC Arabic. "Iraqi Marshlands: What Does It Mean To Be Included In The List Of World Heritage? - BBC Arabic". *BBC Arabic*. Last modified 2016. http://www.bbc.com/arabic/artandculture/2016/07/160718_iraq_marshes_unesco_world_heritage. (accessed October 7, 2016).
- Centre, UNESCO. "The Ahwar Of Southern Iraq: Refuge Of Biodiversity And The Relict Landscape Of The Mesopotamian Cities". *Whc.Unesco.Org*. Last modified 2016. <http://whc.unesco.org/en/list/1481>. (accessed October 7, 2016).
- Dawood, Adnan. 'Lecturer', interview by Omar Ahmed, in person (Diyala University- College of Law and Political science, March 2, 2015).
- Diab, Khalid Ahmed. "Some science kills: The climate is the bullet of New America in the heart of the world." *Digital Ahram*, December, 2009, <http://digital.ahram.org.eg/articles.aspx?Serial=48620&eid=233>. (accessed January 9, 2014).
- Ebiary, Ibrahim. *Keys of Science for Al-Khawarizmi Mohammed bin Ahmed bin Yousef*. Beirut: Arab Book House, 1989.
- Erden, Mete. "The Tigris-Euphrates Rivers controversy and the role of International Law." *Sam*. January 2012, <http://sam.gov.tr/wp-content/uploads/2012/01/Mete-Erdem.pdf>, (accessed February 2, 2014).
- Food and Agriculture organization of the United Nation,. *Irrigation In The Middle East Region In Figures AQUASTAT Survey – 2008, Fao Water Reports 34*. Food and Agriculture organization of the United Nation, Rome., 2009. <http://www.fao.org/3/a-i0936e.pdf>. (accessed October 2, 2016).

- Food and Agriculture Organization. "Aquastat - FAO's Information System On Water And Agriculture". *Fao.Org*. Last modified 2009. <http://www.fao.org/nr/water/aquastat/basins/euphrates-tigris/print1.stm>. (accessed October 10, 2016).
- Fouzi, Salahuddin, *Methodology in Conducting Theses and Legal Research*. Cairo: Al-Nahdha Al-Arabia Press, 2006-2007.
- Fuehr, Alexander. "The Neutrality Of Belgium". *Talleyrand.Org*. http://talleyrand.org/TalleyrandBe/neutrality_of_belgium.htm. (accessed October 3, 2016).
- GAP. "GuneydoguAnadoluProjesi." Southeastern Anatolia Project, <Http://www.gap.gov.tr/english>. (accessed January 3, 2014).
- General Assembly, United Nations. "International Covenant on Economic, Social and Cultural Rights." *The Organization of the United Nations*, December 16, 1966.
- General Assembly, United Nations. "Charter of Economic Rights and Duties of States." December 12, 1974. 2315th plenary meeting. 2281(D-29). 52. *United Nations*. http://www.un.org/ga/search/view_doc.asp?symbol=a/res/3281%28XXIX%29&referer=http://search.un.org/?query=3281&Lang=E, (accessed May 3, 2014).
- General Assembly, United Nations. "The Convention of the Law of the non-navigational uses of international watercourses." *The Organization of the United Nations*, July 8, 1997.
- General Assembly, United Nations. "Declaration on the Right to Development." *The Organization of the United Nation*, December 4, 1986.
- General Assembly, United Nations. "United Nation Convention to Combat Desertification in Those Countries Experiencing Serious Drought and/or Desertification, Particularly in Africa." *The Organization of the United Nations*, September 12, 1994.
- Ghunawi, Basim. 'Lecturer', interview by Omar Ahmed, in person (Diyala University- College of Law and Political science, March 2, 2015).
- Gorga, Carmine. "Toward the Definition of Economic Rights." *Markets & Morality* 2, no.1 (Spring 1999), <http://www.marketsandmorality.com/index.php/mandm/article/viewFile/641/631>, (accessed June 17, 2014).
- Hadeethi, Hala Salah. "Rivers and their legal nature: The Euphrates River as an example." <http://www.fcdrs.com/a-r/ar-2.html>. (accessed January 30, 2014).
- Hmedan, Adnan Abbas and Khalaf MuttarJarad."Arab water security and the issue of water in the Arab world: An economic, statistical, demographic and political study

of the reality of water development and its reflections on the Arab water security.”*Damascus University of Economic and Legal Sciences* 22, no.20 (2006), <http://www.damascusuniversity.edu.sy/mag/law/images/stories/2-20006/a/7-39.pdf>. (accessed January 18, 2014).

Hornby, A S. *Oxford Advanced Learners Dictionary*. Edited by Joanna Turnbull, Diana Lea, Dilys Parkinson, Patrick Phillips, Ben Francis, Suzanne Webb, Victoria Bull, and Michael Ashby. Oxford: Oxford University Press, 2010.

Hussein, Hassan Faleh ‘Engineer Expert’. Interviewed by Omar Ahmed. in person. Ministry of Electricity, March 24, 2015.

Ibrahim, Ali. *Law of Rivers and International Watercourses*. Cairo: Arab Renaissance Press, 1995.

Ilisu Consortium. Ilisu Dam and HEPP: Environmental Impact Assessment Report (July 31, 2005). *Hydrosen Research Center*. http://www2.dsi.gov.tr/ilisu/ilisu_ced_eng_ek1.PDF (accessed August 3, 2015).

International Court of Justice. "Case Concerning Gabcikovo-Nagymaros Project (Hungary/Slovakia) Judgment". *Www.Icj-Cij.Org*. Last modified 1997. <http://www.icj-cij.org/docket/index.php?pr=267&p1=3&p2=1&case=92&p3=6>. (accessed November 4, 2016).

International Court of Justice. "North Sea Continental Shelf Cases". *Www.Icj-Cij.Org*. Last modified 2016. <http://www.icj-cij.org/docket/files/51/5537.pdf>. (accessed November 3, 2016).

International Court of Justice. "Permanent Court of International Justice, The Diversion of Water from the Meuse, Series A. /B. Judgments, Orders and Advisory opinions Fascicule No. 70". *ICJ-Cij.Org*. http://www.icj-cij.org/pcij/serie_AB/AB_70/01_Meuse_Arret.pdf. (accessed November 3, 2016).

International Court of Justice. Chapter II Competence of the Court. <http://www.icj-cij.org/documents/?p1=4&p2=2>, (accessed September 13, 2015).

International Court of Justice. Pulp Mills on the River Uruguay. Argentina v. Uruguay. Summary of the Judgment of 20 April 2010. <http://www.icj-cij.org/docket/files/135/15895.pdf>. (accessed October 23, 2015).

International Law Association. “The Helsinki Rules on the Uses of the Waters of International Rives.” August 1966, *International Law Association*, conference 52.

Iraq Office, United Nations. “Climate change In Iraq Fact sheet,” *United Nations*, June 2012, <http://iq.one.un.org/documents/468/Climate%20change%20In%20Iraq%20Fact%20sheet%20-%20Arabic%20.pdf>, (accessed July 11, 2014).

- Jamalo, Ali. *Euphrates: The Struggle for Water in the Middle East*. London-Beirut: Riad El-Rayyes Books Ltd, 1996. Memorandum Embassy of the Republic of Turkey-Baghdad, 6600/17/96.
- Jamil, Shaukat Saeb 'Agricultural Expert'. interview by Omar Ahmed, in person, (Ministry of Agriculture, March 22, 2015).
- Jasim, Iyad Hameed. "Hanging Gardens as the first irrigation engineering in the world and one of the Seven Wonders." *Journal of the Iraqi Ministry of Water Resources*, no. 87, (September 2014), 16-17.
- Kaya, Ibrahim. "The Euphrates-Tigris Basin: An overview and opportunities for cooperation under the international law." Paper presented at the water resource outlook for the 21st Century, Montreal, Canada, September 1-6, 1997.
- Khaddam, Minthir. *Arab Water Security: Reality and Challenges*. Beirut: Centre of Arab Unity Studies, 2003.
- Khayoun, Thaer Sharif and Iyad Slaibi Mustafa. Water crisis in Iraq: Reality, challenges and treatments. *International Journal of Environment and Water* 1, no.4 (2012). <http://ijew.ewdr.org/component/k2/item/180> (accessed November 11, 2014).
- Kubba, Ibrahim Salam Atoof. Water in Iraq: reality and treatments. Last modified 2008, <http://www.ahewar.org/debat/show.art.asp?aid=134920> (accessed May 9, 2014).
- Mansour, Abdul Aziz. *The issue of water in the Syrian policy towards Turkey*. Beirut: Center of Arab Unity Studies, 2000.
- McCaffrey, Stephen and Mpazi Sinjela. "Current Development: The 1997 United Nations Convention On International Watercourses". *Www.Lexisnexis.Com.Eserv.Uum.Edu.My*. Last modified 1998. <http://www.lexisnexis.com.eserv.uum.edu.my>. (accessed November 3, 2016).
- McCaffrey, Stephen C. "Convention of the Law of using the international watercourses for the non-navigational purposes." *The United Nations*.2010. www.un.gov/law/avl. (accessed January 21, 2014).
- McCaffrey, Stephen. "Dr. Stephen Mccaffrey: The Entry Into Force Of The 1997 Watercourses Convention". *International Water Law Project Blog*. Last modified 2014. <http://www.internationalwaterlaw.org/blog/2014/05/25/dr-stephen-mccaffrey-the-entry-into-force-of-the-1997-watercourses-convention/>. (accessed November 5, 2016).
- McCaffrey, Stephen. "The Harmon Doctrine One Hundred Years Later: Buried." *Natural Resources Journal* 36, (1996): 549-590.
- Ministry of Foreign Affairs-Turkey. " Water Issues Between Turkey, Syria and Iraq: A Study by the Turkish Ministry of Foreign Affairs, Department of Regional and

Transboundary Waters ". *Sam.Gov.Tr.* <http://sam.gov.tr/wp-content/uploads/2012/01/WATER-ISSUES-BETWEEN-TURKEY-SYRIA-AND-IRAQ.pdf>. (accessed October 6, 2016).

Ministry of Water resources-Syria, General Commission of Water Resources. "Tigris Irrigation Project". *Gcwr.Gov.Sy.* Last modified 2016. http://gcwr.gov.sy/print_details.php?page=show_det&id=11. (accessed October 10, 2016).

Mohammad Ali, Abdulmutallab 'Agricultural Expert'. Interview by Omar Ahmed. in person. (Ministry of Agriculture, March 22, 2015).

Mohammed, Dalia Ismail. *Water and International Relations: A Study in the impact of the water crisis on the nature and pattern of Arab-Turkish relations*. Cairo: Madbouli Library, 2006.

Mohammed, ManarEzzat and Wafaa Abdul Karim Mohammed. "The economic resources available for economic development in the Nile Basin countries and the possibility of a joint cooperation between them." *Journal of Agricultural Sciences* 58, no.2 (2013), <http://www.agr.alexu.edu.eg/alexjar/volumes/2013/2.aspx>. (accessed February 1, 2014).

Mufti, Ahmed. "A study on the convention of the law of using the international watercourses for the non-navigational purposes." *Encyclopedia of Sudanese precedents and judicial rulings*. 1997. <http://sjsudan.org/details.php?>. (accessed September 22, 2013).

Mukhaimar, Samer, and Khaled Hijazi. *Water crisis in the Arab region, the facts and possible alternatives*. Kuwait: the world of knowledge, 1996.

Noon news reporting agency. "Baghdad is witnessing an international scientific conference to discuss the problems of desertification and water shortages." 2009. <http://www.non14.net/6739/>. (accessed January 3, 2014).

Oguz, Selami. Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin. Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world. Muhammed Carbozko (ed.) Mert Dr. Gul and Seneem Bayar. Ahmed Khalis Al-Shaalan (trans.). <http://www.watersexpert.se/Turkia.htm> (accessed April 17, 2014).

Olivier Pauchard, swissinfo.ch. "The Day Switzerland Became Neutral - SWI Swissinfo.Ch". *SWI Swissinfo.Ch.* Last modified 2015. http://www.swissinfo.ch/eng/congress-of-vienna_the-day-switzerland-became-neutral/41335520. (accessed October 3, 2016)

On 1 / January / 1993 Czech Republic and the Slovak Republic got independence after the dissolution of the Republic of Czechoslovakia.

Organization of Syria Arab Radio and tv-Syria. "Tigris Dragged Into Hasaka Project Tells 200 Thousand Hectares, Up 14% On The Total Area". *Rtv.Gov.Sy*. Last modified 2011. <http://rtv.gov.sy/index.php?p=100003&id=70369>. (accessed October 9, 2016).

Ozish, Unal and Elsen Ozdemir. Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin. Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world. Muhammed Carbozko (ed.) Mert Dr.Gul and Seneem Bayar. Ahmed Khalis Al-Shaalan (trans.). <http://www.watersexpert.se/Turkia.htm> (accessed April 17, 2014).

Permanent Court of International Justice. Judicial year 1937. The Diversion of Water from the Meuse, General list no. 69, Judgment no. 25, 28/June/1937. http://www.worldcourts.com/pcij/eng/decisions/1937.06.28_meuse.htm, (accessed September 19, 2015).

Permanent Representative of the Republic of Iraq to the Arab League. *International legal development to regulate the use of international rivers*.

Rababa'a, Ghazi Ismail. "Dilemma of water in the Middle East." A lecture presented in the Emirates Center for Strategic Studies and Research, Abu Dhabi, United Arab Emirates, February 7, 2001.

Radhwan, Waleed. *Water problem between Syria and Turkey*. Beirut: Prints Company for Distributions and Publishing, 2006.

Rashid, Abdul Latif. Senior Advisor to the Iraqi President, Former Minister of Water Resources, "Dams, Barrages and Regulator in Iraq." <http://latifrashid.iq>, (accessed July 7, 2015).

Rashid, Abdul Latif. Senior Advisor to the Iraqi President, Former Minister of Water Resources, "the water situation in Iraq." <http://latifrashid.iq>, (accessed July 7, 2015).

Rashid, Abdul Latif. Senior Advisor to the Iraqi President, Former Minister of Water Resources, "Water scarcity, reasons and processors." 2, <http://latifrashid.iq>, (accessed July 7, 2015).

Rayan, Adel Mohammed. "The use of qualitative and quantitative entrances in research: A pilot study of the reality of the literature of the Arabic management." Paper presented in the Third Arab Conference, the Arab Organization for Administrative Development, League of Arab States, Cairo, Egypt, June 14-15, 2003.

Republic of Iraq -Kurdistan Regional Government. The General Directorate for the Kurdish areas outside the region administration. "Diyala: Water Resources calls for Iran secured the quota of Al-wand River." http://krg-kagb.org/arabic/print.php?art_id=7587 (accessed December 17, 2014).

- Republic of Iraq Ministry of Justice. Iraqi Proceedings-laws. No. 3876 dated on 30 / April / 2001. “*Law No. 39 of 2001 Joining the Convention on the Law of the Non-navigational Uses of International Watercourses.*”.
- Republic of Iraq. “Treaty of International Borders and good neighboring between Iraq and Iran.” March 6, 1975, *Republic of Iraq-Ministry of Foreign Affairs, Legal Department, Department of International Water.*
- Republic of Iraq. “Convention of setting up a Syrian pumping station on the Tigris River.” April 9, 2002. *Republic of Iraq-Ministry of Foreign Affairs, Legal Department, Department of International Water.*
- Republic of Iraq. “The Protocol of Technical and Economic Cooperation between Iraq and Turkey.” December 25, 1980. *Republic of Iraq-Ministry of Foreign Affairs, Legal Department.*
- Republic of Iraq. Ministry of Agriculture and Irrigation. Department of Planning and follow-up. Department of Studies. *Water resources in Iraq: Reality and future in light of the projects of the high joint rivers countries*, November 1992.
- Republic of Iraq. Ministry of Agriculture. Department of desertification and forests. *Desertification in the Republic of Iraq.*
- Republic of Iraq. Ministry of Planning. Central Statistical Organization. Agricultural statistics directorate August 2013, *Water resources Report for 2012*. http://www.cosit.gov.iq/documents/%5Cstatistics_ar/Agricultural%5Cagre_anim%5CFull%20Report/%D8%AA%D9%82%D8%B1%D9%8A%D8%B1%20%D8%A7%D9%84%D9%85%D9%88%D8%A7%D8%B1%D8%AF%20%D8%A7%D9%84%D9%85%D8%A7%D8%A6%D9%8A%D8%A9%202012.pdf, (accessed August 14, 2015).
- Republic of Iraq. The Ministry of Planning and Development Cooperation. Agricultural planning department. *The plan of developing the agricultural sector 2010-2014.*
- Republic of Iraq. The National Committee for Marshes and Wet Lands. *Report of Environmental Threats in Iraq for 2011*, 17-18.
- Republic of Iraq-Kurdistan Regional Government. The General Directorate for the Kurdish areas outside the region administration. “Experts: Iran’s cut of Al-Wand River destroyed 6600 dunam of farms and orchards in Diyala.” http://krg-kagb.org/arabic/art_detail.php?art_id=9180 (accessed December 17, 2014).
- Republic of Iraq-Ministry of Water Resources,. National Center for Water Resources Management-Department of Water Control and hydrological analysis, n.d.
- Republic of Turkey, General Directorate of State Hydraulic Work. *Turkey Water Report 2009*. http://www2.dsi.gov.tr/english/pdf_files/TurkeyWaterReport.pdf (accessed July 20, 2015).

Republic of Turkey. Ministry of development. Southeastern Anatolia Project. Regional Development Administration. “*What is GAP.*”, <http://www.gap.gov.tr/en/what-is-gap-page-1.html> (accessed April 23, 2016).

Republic of Turkey. Ministry of Foreign Affairs. “*ILISU DAM.*” <Http://www.mfa.gov.tr/ilisu-dam.en.mfa> (accessed August 2, 2015).

Republic of Turkey. Ministry of Forestry and Water Affairs. General Directorate of State Hydraulic Work. “*The General Directorate of State Hydraulic Work.*,” <http://en.dsi.gov.tr/> (accessed July 22, 2015).

Republic of Turkey. Ministry of Forestry and Water Affairs. General Directorate of State Hydraulic Work. *Keban Dam.* <Http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=54> (accessed July 22, 2015).

Republic of Turkey. Ministry of Forestry and Water Affairs. General Directorate of State Hydraulic Work. *Karakaya Dam.* <Http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=104> (accessed July 22, 2015).

Republic of Turkey. Ministry of Forestry and Water Affairs. General Directorate of State Hydraulic Work. *Ataturk Dam.* <Http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=149> (accessed July 22, 2015).

Republic of Turkey. Ministry of Forestry and Water Affairs. General Directorate of State Hydraulic Work. *Batman Dam.* <Http://www2.dsi.gov.tr/baraj/detayeng.cfm?BarajID=188> (accessed August 2, 2015).

Republic of Turkey-Ministry of Development. "GAP Regional Development Administration". *Gap.Gov.Tr.* <http://www.gap.gov.tr/en/action-plan-page-5.html>. (accessed October 9, 2016).

Republic of Turkey-Ministry of Development. "GAP Regional Development Administration". *Gap.Gov.Tr.* Last modified 2016. <http://www.gap.gov.tr/en/gap-finance-page-27.html>. (accessed October 9, 2016).

Republic of Turkey-Ministry of Development. "Southeastern Anatolia Project (GAP) Regional Development Administration". *Gap.* Last modified 2016. http://www.gap.gov.tr/en/upload/dosyalar/pdfler/GAP_ENG.pdf. (accessed October 9, 2016).

Sadiq, Ali Hussein. “Iraq’s acquired rights in the waters of the Euphrates.” Master’s thesis, Baghdad University, College of Law and Politics, 1976.

Sadoff, Claudia W., and David Gray. “Cooperation on International Rivers A Continuum for Securing and Sharing Benefits.” *Water International* 30, no.4

(December 2005), [Http://dx.doi.org/10.1080/02508060508691886](http://dx.doi.org/10.1080/02508060508691886). (accessed October 19, 2013).

Sahaf, Mahdi. *Iraq's water resources and their maintenance of pollution*. Baghdad: Dar Al-Hurriya Print, 1976.

Salman, Salman M. A. "Entry Into Force Of The UN Watercourses Convention: Why Should It Matter?". *Www.Salmanmasalman.Org*. Last modified 2014. <http://www.salmanmasalman.org/wp-content/uploads/2015/01/UNwatercoursesConventionIJWRDarticlePublished.pdf>. (accessed December 13, 2014).

Salman, Salman Muhammed Ahmed. "Arab Countries and the UN Convention on the International Watercourses." *Arab Future Journal*, Issue no.433, March 2015, http://www.caus.org.lb/PDF/EmagazineArticles/mustaqbal_433_salman_mhmd.pdf, (accessed December 11, 2015).

Shana.ir. Gavoshan Dam *Inaugurated*. Last modified 2005. <http://www.shana.ir/en/newsagency/45226/Gavoshan-Dam-Inaugurated> (accessed July 2, 2015).

Shiltagh, Walid. 'ambassador and Legal Department Director', interview by Omar Ahmed, in person (Ministry of Foreign Affairs, May 18, 2015).

Shtewi, Musaaed Abdul Ati. "Legal controls governing the creation of water projects on international rivers: An Empirical Study on the Nile River Basin." *African Perspectives* 11, no.39 (2013), <http://www.sis.gov.eg/Ar/Templates/Articles/tmpArticles.aspx?CatID=4807#Uy047IXIIK5>. (accessed February 12, 2014).

Shtewi, Musaaed Abdul Ati. "The legal rules that govern the use of international rivers in the Non-Navigational Affairs with Applied Study on the Nile River." PhD diss., University of Cairo- College of Law, 2012.

Sources Of International Water Law. Rome: Food and Agriculture Organization of the United Nations, 1998. <ftp://ftp.fao.org/docrep/fao/005/w9549E/w9549E00.pdf>, (accessed October 2, 2016).

Southeastern Anatolia Project Regional Development Administration. Project R & d programme for sustainable Agricultural water Management in South eastern Anatolia Turkey. IPTRID Secretariat. *Food and Agriculture Organization of the United Nations*. Rome. 2003. ftp://ftp.fao.org/agl/iptrid/gap_turkey.pdf (accessed August 3, 2015).

Stockholm International Water Institute. "Water And Energy Linkages In The Middle East – Regional Collaboration Opportunities". *Stockholm International Water Institute*. Last modified 2010. <http://www.siwi.org/publications/water-and-energy->

[linkages-in-the-middle-east-regional-collaboration-opportunities/](#). (accessed October 26, 2014).

Tamimi, Abdul Malik. *The Arab water: Challenge and response*. Beirut: Center of Arab Unity Studies, 1999.

Taweel, RawaaZaki. *Arab water security risks and options of water development for the twenty first century*. Amman: Dar Zahran for Publishing and Distribution, 2013.

The French Ministry of Foreign Affairs. "The entry into force of the UN Convention on the Use of International Watercourses non-navigational purposes 1997." www.diplomatie.gouv.fr/ar/politique-etrangere-de-la-france/ai. (accessed January 8, 2015).

The Ministry of Electricity, Republic of Iraq. "*Ministry of Electricity*." <http://www.moelc.gov.iq/ar/index.php?name=Pages&op=page&pid=129>. (accessed February 3, 2014).

The Ministry of Electricity, Republic of Iraq. Hemrin Hydroelectric Station.

The Ministry of Planning, Republic of Iraq. Agricultural Planning Directorate. *A study of the management and development of water resources in Iraq 2007*.

The Ministry of Planning, Republic of Iraq. Central Statistical Organization. Industrial Statistics Directorate. Electricity Statistics 2012.

The Republic of Iraq. Permanent Representative to the Arab League. *Synopsis of studying the water resources in Iraq in the light of the projects of the high joint rivers countries*.

The Republic of Iraq. Permanent Representative to the Arab League. *Arab water resources: A study on the basins of the Tigris and Euphrates*.

Ubaidi, Qais Hamadai. *Issues of the Arabic and Regional Waters: Reality and Future Visions*. Mosul: Shimilah for Print and Distribution, 2012.

UNESCO, United Nations. "National framework for the integrated management of the risk of drought in Iraq." *Educational, Scientific and Cultural Organization-Iraq Office*, March 2014.

United Nations- Office of Iraq. World Environment Day 2013: The environmental damage and its role in food insecurity in Iraq (June, 2013). *United Nations*. <http://www.iau-iraq.org/documents/1886/Factsheet-WorldEnvironment-Arabic.pdf> (accessed March 8, 2014).

United Nations, economic and social commission for Western Asia. "Member States". *United Nations Economic And Social Commission For Western Asia*. Last

modified 2015. <https://www.unescwa.org/about-escwa/overview/member-states>. (accessed July 1, 2016).

United Nations. "22nd March - World Water Day 2009". *Unwater.Org*. Last modified 2009. <http://www.unwater.org/wwd09/faqs.html>. (accessed October 21, 2016).

United Nations. "United Nations, Yearbook of the International Law Commission 1987, volume II part 1, Documents of the thirty-ninth session, A/CN.4/SER.A/1987/Add.1 (Part 1)". New York, 1989. *United Nations*. http://legal.un.org/ilc/publications/yearbooks/english/ilc_1987_v2_p1.pdf. (accessed October 6, 2015).

United Nations. "Yearbook Of The International Law Commission 1986 Volume II Part One Documents Of The Thirty-Eighth Session, A/CN.4/SER.A/1986/Add.L (Part 1)". *United Nations Orgnazation*. Last modified 1988. http://legal.un.org/ilc/publications/yearbooks/english/ilc_1986_v2_p1.pdf. (accessed October 3, 2016).

United Nations. "UNTC." *Treaties.Un.Org*. https://treaties.un.org/Pages/ViewDetails.aspx?src=IND&mtdsg_no=XXVII-12&chapter=27&lang=en, (accessed October 16, 2015).

United Nations. "Vienna Convention on Succession of States in respect of Treaties 1978 Done." United Nations. http://legal.un.org/ilc/texts/instruments/english/conventions/3_2_1978.pdf, (accessed August 12, 2015).

United Nations. "Vienna Convention on the Law of Treaties 1969." *United Nations*. <https://treaties.un.org/doc/Publication/UNTS/Volume%201155/volume-1155-I-18232-English.pdf>, (accessed August 12, 2015).

United Nations. New York 2005. Summary of judgments and orders issued by the International Court of Justice in 1997. 2002ST/LEG/SER.F/1/Add.2.

United Nations. 'Preliminary Studies On The Legal Problems Relating To The Utilization And Use Of International Rivers, 1401(14)'. *United Nations*. http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/1401%28XIV%29. (accessed October 13, 2014).

United Nations. 'Progressive Development And Codification Of The Rules Of International Law Relating To International Watercourses, 2669(25)'. *United Nations*. http://www.un.org/en/ga/search/view_doc.asp?symbol=A/RES/2669%28XXV%29. (accessed October 3, 2014).

United Nations. *Report Of The International Law Commission On The Work Of Its Forty-Sixth Session, 2 May - 22 July 1994, Official Records Of The General*

- Assembly, Forty-Ninth Session, Supplement No. 10. Document: A/40/10.* United Nations, 1994. <http://legal.un.org/ilc/reports/>. (accessed October 10, 2015).
- United Nations. *Report Of The International Law Commission On The Work Of Its Forty-Fifth Session, 3 May - 23 July 1993, Official Records Of The General Assembly, Forty-Eighth Session, Supplement No. 10, Document A/48/10.* United Nations, 1993. 2015. <http://legal.un.org/ilc/reports/>. (accessed October 10).
- Waheed, Karim. September 11, 2013, "What is the reality of the power crisis in Iraq? 3-Water Resources and its impact on the policy of the establishment of the stations." *kitabata.com*. <http://www.kitabat.com/ar/page/11/09/2013/16598.html>, (accessed November 9, 2014).
- Warner, Jeroen. "The Struggle over Turkey's Ilisu Dam: Domestic and international security linkages." *Springer* 12, no.3 (September 2012), <http://link.springer.com/article/10.1007%2Fs10784-012-9178-x>. (accessed March 1, 2014).
- Worldbank. "The Indus Waters Treaty 1960". Worldbank. <http://siteresources.worldbank.org/INTSOUTHASIA/Resources/223497-1105737253588/IndusWatersTreaty1960.pdf>. (accessed October 2, 2016).
- Yakar, Funda. "Turkey's Transboundary Water Policy: Dominance of the Realist Paradigm?". The Degree of Master of Science in Middle East Studies, The Graduate School of Social Science of Middle East Technical University, 2013. <http://etd.lib.metu.edu.tr/upload/12616161/index.pdf>. (accessed October 7, 2016).
- Yakeesh, Yeshar. Cross-border waters and Turkey: Cross-borders Turkish waterways and the Tigris- Euphrates basin. Papers delivered in the symposium about the Turkish attitude towards the issues of water in the Middle East and the world. Muhammed Carbozko (ed.) Mert Dr. Gul and Seneem Bayar. Ahmed Khalis Al-Shaalan (trans.). <http://www.waterexpert.se/Turkia.htm> (accessed April 17, 2014).
- Yaqin, Anwarul. *Legal Research and Writing*. Malaysia: Malayan Law Journal SDN BHD, 2007.
- Zahraa, Mahdi. *Research Methods for Law Postgraduate Overseas Students*. Malaysia: Univision press, 1998.
- Zanbuaa, Mahmoud. "Arab water security." *Damascus University Journal of Economic and Legal Sciences* 32, no.1 (2007), <http://damasuniv.edu.sy/mag/law/old/economics/2007/23-1/7-%20zanbouah.pdf>. (accessed January 18, 2014).
- Zuhair, Jamal. and Mohammed Amin Brbinar. "Cross-border water in Turkey and around: historical development, and legal dimensions of the proposed solutions." in *Cross-Border Waters And Turkey*, n.d., Papers delivered in the symposium

about the Turkish attitude towards the issues of water in the Middle East and the world. Muhammed Carbozko (ed.), Mert Dr. Gul and Seneem Bayar, Ahmed Khalis Al-Shaalan (trans.). <http://www.waterexpert.se/Turkia.htm>. (accessed April 17, 2014).



APPENDIX

Appendix 1: Convention on the Law of the Non-navigational Uses of International Watercourses.

UNITED
NATIONS

A

General Assembly

Distr.
GENERAL

A/RES/51/229
8 July 1997

Fifty-first session
Agenda item 144

RESOLUTION ADOPTED BY THE GENERAL ASSEMBLY

[without reference to a Main Committee (A/51/L.72 and Add.1)]

51/229. Convention on the law of the non-navigational uses of international watercourses

The General Assembly,

Bearing in mind Article 13, paragraph 1 a of the Charter of the United Nations,

Recalling its resolution 2669 (XXV) of 8 December 1970, in which it recommended that the International Law Commission should take up the study of the law of the non-navigational uses of international watercourses with a view to its progressive development and codification,

Recalling also that the International Law Commission submitted a final set of draft articles on the law of the non-navigational uses of international watercourses in chapter III of its report on the work of its forty-sixth session,

Recalling further its resolutions 49/52 of 9 December 1994 and 51/206 of 17 December 1996, by which it decided that the Sixth Committee should convene as a working group of the whole, open to States Members of the United Nations or members of the specialized agencies, to elaborate a framework convention on the law of the non-

navigational uses of international watercourses, and that on completion of its mandate the Working Group of the Whole should report directly to the General Assembly,

Having considered the report of the Sixth Committee convening as the Working Group of the Whole, and expressing its gratitude for the work done,

1. Expresses its deep appreciation to the International Law Commission for its valuable work on the law of the non-navigational uses of international watercourses and to the successive special rapporteurs for their contribution to that work;
2. Adopts the Convention on the Law of the Non-navigational Uses of International Watercourses, contained in the annex to the present resolution, and requests the Secretary-General as depositary to open it for signature;
3. Invites States and regional economic integration organizations to become parties to the Convention.

99th plenary meeting
21 May 1997

ANNEX

Convention on the Law of the Non-navigational Uses of International Watercourses

The Parties to the present Convention,

Conscious of the importance of international watercourses and the non-navigational uses thereof in many regions of the world,

Having in mind Article 13, paragraph 1 a, of the Charter of the United Nations, which provides that the General Assembly shall initiate studies and make recommendations for the purpose of encouraging the progressive development of international law and its codification,

Considering that successful codification and progressive development of rules of international law regarding non-navigational uses of international watercourses would assist in promoting and implementing the purposes and principles set forth in Articles 1 and 2 of the Charter of the United Nations,

Taking into account the problems affecting many international watercourses resulting from, among other things, increasing demands and pollution,

Expressing the conviction that a framework convention will ensure the utilization, development, conservation, management and protection of international watercourses and the promotion of the optimal and sustainable utilization thereof for present and future generations,

Affirming the importance of international cooperation and good-neighbourliness in this field,

Aware of the special situation and needs of developing countries,

Recalling the principles and recommendations adopted by the United Nations Conference on Environment and Development of 1992 in the Rio Declaration on Environment and Development and Agenda 21,

Recalling also the existing bilateral and multilateral agreements regarding the non-navigational uses of international watercourses,

Mindful of the valuable contribution of international organizations, both governmental and non-governmental, to the codification and progressive development of international law in this field,

Appreciative of the work carried out by the International Law Commission on the law of the non-navigational uses of international watercourses,

Bearing in mind United Nations General Assembly resolution 49/52 of 9 December 1994,

Have agreed as follows:

PART I. INTRODUCTION

Article 1

Scope of the present Convention

1. The present Convention applies to uses of international watercourses and of their waters for purposes other than navigation and to measures of protection, preservation and management related to the uses of those watercourses and their waters.
2. The uses of international watercourses for navigation is not within the scope of the present Convention except insofar as other uses affect navigation or are affected by navigation.

Article 2

Use of terms

For the purposes of the present Convention:

- (a) "Watercourse" means a system of surface waters and groundwaters constituting by virtue of their physical relationship a unitary whole and normally flowing into a common terminus;
- (b) "International watercourse" means a watercourse, parts of which are situated in different States;

(c) "Watercourse State" means a State Party to the present Convention in whose territory part of an international watercourse is situated, or a Party that is a regional economic integration organization, in the territory of one or more of whose Member States part of an international watercourse is situated;

(d) "Regional economic integration organization" means an organization constituted by sovereign States of a given region, to which its member States have transferred competence in respect of matters governed by the present Convention and which has been duly authorized in accordance with its internal procedures, to sign, ratify, accept, approve or accede to it.

Article 3

Watercourse agreements

1. In the absence of an agreement to the contrary, nothing in the present Convention shall affect the rights or obligations of a watercourse State arising from agreements in force for it on the date on which it became a party to the present Convention.

2. Notwithstanding the provisions of paragraph 1, parties to agreements referred to in paragraph 1 may, where necessary, consider harmonizing such agreements with the basic principles of the present Convention.

3. Watercourse States may enter into one or more agreements, hereinafter referred to as "watercourse agreements", which apply and adjust the provisions of the present Convention to the characteristics and uses of a particular international watercourse or part thereof.

4. Where a watercourse agreement is concluded between two or more watercourse States, it shall define the waters to which it applies. Such an agreement may be entered into with respect to an entire international watercourse or any part thereof or a particular project, programme or use except insofar as the agreement adversely affects, to a significant extent, the use by one or more other watercourse States of the waters of the watercourse, without their express consent.

5. Where a watercourse State considers that adjustment and application of the provisions of the present Convention is required because of the characteristics and uses of a particular international watercourse, watercourse States shall consult with a view to negotiating in good faith for the purpose of concluding a watercourse agreement or agreements.

6. Where some but not all watercourse States to a particular international watercourse are parties to an agreement, nothing in such agreement shall affect the rights or obligations under the present Convention of watercourse States that are not parties to such an agreement.

Article 4

Parties to watercourse agreements

1. Every watercourse State is entitled to participate in the negotiation of and to become a party to any watercourse agreement that applies to the entire international watercourse, as well as to participate in any relevant consultations.
2. A watercourse State whose use of an international watercourse may be affected to a significant extent by the implementation of a proposed watercourse agreement that applies only to a part of the watercourse or to a particular project, programme or use is entitled to participate in consultations on such an agreement and, where appropriate, in the negotiation thereof in good faith with a view to becoming a party thereto, to the extent that its use is thereby affected.

PART II. GENERAL PRINCIPLES

Article 5

Equitable and reasonable utilization and participation

1. Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner. In particular, an international watercourse shall be used and developed by watercourse States with a view to attaining optimal and sustainable utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.
2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.

Article 6

Factors relevant to equitable and reasonable utilization

1. Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:
 - (a) Geographic, hydrographic, 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;

(d) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;

(e) Existing and potential uses of the watercourse;

(f) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;

(g) The availability of alternatives, of comparable value, to a particular planned or existing use.

2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation.

3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article 7

Obligation not to cause significant harm

1. Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States.

2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation.

Article 8

General obligation to cooperate

1. Watercourse States shall cooperate on the basis of sovereign equality, territorial integrity, mutual benefit and good faith in order to attain optimal utilization and adequate protection of an international watercourse.

2. In determining the manner of such cooperation, watercourse States may consider the establishment of joint mechanisms or commissions, as deemed necessary by them, to facilitate cooperation on relevant measures and procedures in the light of experience gained through cooperation in existing joint mechanisms and commissions in various regions.

Article 9

Regular exchange of data and information

1. Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts.
2. If a watercourse State is requested by another watercourse State to provide data or information that is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data or information.
3. Watercourse States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization by the other watercourse States to which it is communicated.

Article 10

Relationship between different kinds of uses

1. In the absence of agreement or custom to the contrary, no use of an international watercourse enjoys inherent priority over other uses.
2. In the event of a conflict between uses of an international watercourse, it shall be resolved with reference to articles 5 to 7, with special regard being given to the requirements of vital human needs.

PART III. PLANNED MEASURES

Article 11

Information concerning planned measures

Watercourse States shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.

Article 12

Notification concerning planned measures with possible adverse effects

Before a watercourse State implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned measures.

Article 13

Period for reply to notification

Unless otherwise agreed:

(a) A watercourse State providing a notification under article 12 shall allow the notified States a period of six months within which to study and evaluate the possible effects of the planned measures and to communicate the findings to it;

(b) This period shall, at the request of a notified State for which the evaluation of the planned measures poses special difficulty, be extended for a period of six months.

Article 14

Obligations of the notifying State during the period for reply

During the period referred to in article 13, the notifying State:

(a) Shall cooperate with the notified States by providing them, on request, with any additional data and information that is available and necessary for an accurate evaluation; and

(b) Shall not implement or permit the implementation of the planned measures without the consent of the notified States.

Article 15

Reply to notification

The notified States shall communicate their findings to the notifying State as early as possible within the period applicable pursuant to article 13. If a notified State finds that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, it shall attach to its finding a documented explanation setting forth the reasons for the finding.

Article 16

Absence of reply to notification

1. If, within the period applicable pursuant to article 13, the notifying State receives no communication under article 15, it may, subject to its obligations under articles 5 and 7, proceed with the implementation of the planned measures, in accordance with the notification and any other data and information provided to the notified States.

2. Any claim to compensation by a notified State which has failed to reply within the period applicable pursuant to article 13 may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within that period.

Article 17

Consultations and negotiations concerning planned measures

1. If a communication is made under article 15 that implementation of the planned measures would be inconsistent with the provisions of articles 5 or 7, the notifying State and the State making the communication shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation.
2. The consultations and negotiations shall be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State.
3. During the course of the consultations and negotiations, the notifying State shall, if so requested by the notified State at the time it makes the communication, refrain from implementing or permitting the implementation of the planned measures for a period of six months unless otherwise agreed.

Article 18

Procedures in the absence of notification

1. If a watercourse State has reasonable grounds to believe that another watercourse State is planning measures that may have a significant adverse effect upon it, the former State may request the latter to apply the provisions of article 12. The request shall be accompanied by a documented explanation setting forth its grounds.
2. In the event that the State planning the measures nevertheless finds that it is not under an obligation to provide a notification under article 12, it shall so inform the other State, providing a documented explanation setting forth the reasons for such finding. If this finding does not satisfy the other State, the two States shall, at the request of that other State, promptly enter into consultations and negotiations in the manner indicated in paragraphs 1 and 2 of article 17.
3. During the course of the consultations and negotiations, the State planning the measures shall, if so requested by the other State at the time it requests the initiation of consultations and negotiations, refrain from implementing or permitting the implementation of those measures for a period of six months unless otherwise agreed.

Article 19

Urgent implementation of planned measures

1. In the event that the implementation of planned measures is of the utmost urgency in order to protect public health, public safety or other equally important interests, the State planning the measures may, subject to articles 5 and 7, immediately proceed to implementation, notwithstanding the provisions of article 14 and paragraph 3 of article 17.

2. In such case, a formal declaration of the urgency of the measures shall be communicated without delay to the other watercourse States referred to in article 12 together with the relevant data and information.

3. The State planning the measures shall, at the request of any of the States referred to in paragraph 2, promptly enter into consultations and negotiations with it in the manner indicated in paragraphs 1 and 2 of article 17.

PART IV. PROTECTION, PRESERVATION AND MANAGEMENT

Article 20

Protection and preservation of ecosystems

Watercourse States shall, individually and, where appropriate, jointly, protect and preserve the ecosystems of international watercourses.

Article 21

Prevention, reduction and control of pollution

1. For the purpose of this article, "pollution of an international watercourse" means any detrimental alteration in the composition or quality of the waters of an international watercourse which results directly or indirectly from human conduct.

2. 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 the use of the 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.

3. Watercourse States shall, at the request of any of them, consult with a view to arriving at mutually agreeable measures and methods to prevent, reduce and control pollution of an international watercourse, such as:

- (a) Setting joint water quality objectives and criteria;
- (b) Establishing techniques and practices to address pollution from point and non-point sources;
- (c) Establishing lists of substances the introduction of which into the waters of an international watercourse is to be prohibited, limited, investigated or monitored.

Article 22

Introduction of alien or new species

Watercourse States shall take all measures necessary to prevent the introduction of species, alien or new, into an international watercourse which may have effects detrimental to the ecosystem of the watercourse resulting in significant harm to other watercourse States.

Article 23

Protection and preservation of the marine environment

Watercourse States shall, individually and, where appropriate, in cooperation with other States, take all measures with respect to an international watercourse that are necessary to protect and preserve the marine environment, including estuaries, taking into account generally accepted international rules and standards.

Article 24

Management

1. Watercourse States shall, at the request of any of them, enter into consultations concerning the management of an international watercourse, which may include the establishment of a joint management mechanism.
2. For the purposes of this article, "management" refers, in particular, to:
 - (a) Planning the sustainable development of an international watercourse and providing for the implementation of any plans adopted; and
 - (b) Otherwise promoting the rational and optimal utilization, protection and control of the watercourse.

Article 25

Regulation

1. Watercourse States shall cooperate, where appropriate, to respond to needs or opportunities for regulation of the flow of the waters of an international watercourse.
2. Unless otherwise agreed, watercourse States shall participate on an equitable basis in the construction and maintenance or defrayal of the costs of such regulation works as they may have agreed to undertake.
3. For the purposes of this article, "regulation" means the use of hydraulic works or any other continuing measure to alter, vary or otherwise control the flow of the waters of an international watercourse.

Article 26

Installations

1. Watercourse States shall, within their respective territories, employ their best efforts to maintain and protect installations, facilities and other works related to an international watercourse.
2. Watercourse States shall, at the request of any of them which has reasonable grounds to believe that it may suffer significant adverse effects, enter into consultations with regard to:
 - (a) The safe operation and maintenance of installations, facilities or other works related to an international watercourse; and
 - (b) The protection of installations, facilities or other works from wilful or negligent acts or the forces of nature.

PART V. HARMFUL CONDITIONS AND EMERGENCY SITUATIONS

Article 27

Prevention and mitigation of harmful conditions

Watercourse States shall, individually and, where appropriate, jointly, take all appropriate measures to prevent or mitigate conditions related to an international watercourse that may be harmful to other watercourse States, whether resulting from natural causes or human conduct, such as flood or ice conditions, water-borne diseases, siltation, erosion, salt-water intrusion, drought or desertification.

Article 28

Emergency situations

1. For the purposes of this article, "emergency" means a situation that causes, or poses an imminent threat of causing, serious harm to watercourse States or other States and that results suddenly from natural causes, such as floods, the breaking up of ice, landslides or earthquakes, or from human conduct, such as industrial accidents.
2. A watercourse State shall, without delay and by the most expeditious means available, notify other potentially affected States and competent international organizations of any emergency originating within its territory.
3. A watercourse State within whose territory an emergency originates shall, in cooperation with potentially affected States and, where appropriate, competent international organizations, immediately take all practicable measures necessitated by the circumstances to prevent, mitigate and eliminate harmful effects of the emergency.

4. When necessary, watercourse States shall jointly develop contingency plans for responding to emergencies, in cooperation, where appropriate, with other potentially affected States and competent international organizations.

PART VI. MISCELLANEOUS PROVISIONS

Article 29

International watercourses and installations in time of armed conflict shall enjoy the protection accorded by the principles and rules of international law applicable in international and non-international armed conflict and shall not be used in violation of those principles and rules.

Article 30

Indirect procedures

In cases where there are serious obstacles to direct contacts between watercourse States, the States concerned shall fulfil their obligations of cooperation provided for in the present Convention, including exchange of data and information, notification, communication, consultations and negotiations, through any indirect procedure accepted by them.

Article 31

Data and information vital to national defence or security

Nothing in the present Convention obliges a watercourse State to provide data or information vital to its national defence or security. Nevertheless, that State shall cooperate in good faith with the other watercourse States with a view to providing as much information as possible under the circumstances.

Article 32

Non-discrimination

Unless the watercourse States concerned have agreed otherwise for the protection of the interests of persons, natural or juridical, who have suffered or are under a serious threat of suffering significant transboundary harm as a result of activities related to an international watercourse, a watercourse State shall not discriminate on the basis of nationality or residence or place where the injury occurred, in granting to such persons, in accordance with its legal system, access to judicial or other procedures, or a right to claim compensation or other relief in respect of significant harm caused by such activities carried on in its territory.

Article 33

Settlement of disputes

1. In the event of a dispute between two or more Parties concerning the interpretation or application of the present Convention, the Parties concerned shall, in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means in accordance with the following provisions.

2. If the Parties concerned cannot reach agreement by negotiation requested by one of them, they may jointly seek the good offices of, or request mediation or conciliation by, a third party, or make use, as appropriate, of any joint watercourse institutions that may have been established by them or agree to submit the dispute to arbitration or to the International Court of Justice.

3. Subject to the operation of paragraph 10 of the present article, if after six months from the time of the request for negotiations referred to in paragraph 2, the Parties concerned have not been able to settle their dispute through negotiation or any other means referred to in paragraph 2, the dispute shall be submitted, at the request of any of the parties to the dispute, to impartial fact-finding in accordance with paragraphs 4 to 9, unless the Parties otherwise agree.

4. A Fact-finding Commission shall be established, composed of one member nominated by each Party concerned and in addition a member not having the nationality of any of the Parties concerned chosen by the nominated members who shall serve as Chairman.

5. If the members nominated by the Parties are unable to agree on a Chairman within three months of the request for the establishment of the Commission, any Party concerned may request the Secretary-General of the United Nations to appoint the Chairman who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. If one of the Parties fails to nominate a member within three months of the initial request pursuant to paragraph 3, any other Party concerned may request the Secretary-General of the United Nations to appoint a person who shall not have the nationality of any of the parties to the dispute or of any riparian State of the watercourse concerned. The person so appointed shall constitute a single-member Commission.

6. The Commission shall determine its own procedure.

7. The Parties concerned have the obligation to provide the Commission with such information as it may require and, on request, to permit the Commission to have access to their respective territory and to inspect any facilities, plant, equipment, construction or natural feature relevant for the purpose of its inquiry.

8. The Commission shall adopt its report by a majority vote, unless it is a single-member Commission, and shall submit that report to the Parties concerned setting forth its findings and the reasons therefor and such recommendations as it deems appropriate for an equitable solution of the dispute, which the Parties concerned shall consider in good faith.

9. The expenses of the Commission shall be borne equally by the Parties concerned.

10. When ratifying, accepting, approving or acceding to the present Convention, or at any time thereafter, a Party which is not a regional economic integration organization may declare in a written instrument submitted to the Depositary that, in respect of any dispute not resolved in accordance with paragraph 2, it recognizes as compulsory ipso facto and without special agreement in relation to any Party accepting the same

obligation:

(a) Submission of the dispute to the International Court of Justice;

and/or

(b) Arbitration by an arbitral tribunal established and operating, unless the parties to the dispute otherwise agreed, in accordance with the procedure laid down in the appendix to the present Convention.

A Party which is a regional economic integration organization may make a declaration with like effect in relation to arbitration in accordance with subparagraph (b).



PART VII. FINAL CLAUSES

Article 34

Signature

The present Convention shall be open for signature by all States and by regional economic integration organizations from 21 May 1997 until 20 May 2000 at United Nations Headquarters in New York.

Article 35

Ratification, acceptance, approval or accession

1. The present Convention is subject to ratification, acceptance, approval or accession by States and by regional economic integration organizations. The instruments of ratification, acceptance, approval or accession shall be deposited with the Secretary-General of the United Nations.

2. Any regional economic integration organization which becomes a Party to the present Convention without any of its member States being a Party shall be bound by all the obligations under the Convention. In the case of such organizations, one or more of whose member States is a Party to the present Convention, the organization and its member States shall decide on their respective responsibilities for the performance of their obligations under the present Convention. In such cases, the organization and the member States shall not be entitled to exercise rights under the Convention concurrently.

3. In their instruments of ratification, acceptance, approval or accession, the regional economic integration organizations shall declare the extent of their competence with respect to the matters governed by the Convention. These organizations shall also inform the Secretary-General of the United Nations of any substantial modification in the extent of their competence.

Article 36

Entry into force

1. The present Convention shall enter into force on the ninetieth day following the date of deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession with the Secretary-General of the United Nations.

2. For each State or regional economic integration organization that ratifies, accepts or approves the Convention or accedes thereto after the deposit of the thirty-fifth instrument of ratification, acceptance, approval or accession, the Convention shall enter into force on the ninetieth day after the deposit by such State or regional economic integration organization of its instrument of ratification, acceptance, approval or accession.

3. For the purposes of paragraphs 1 and 2, any instrument deposited by a regional economic integration organization shall not be counted as additional to those deposited by States.

Article 37

Authentic texts

The original of the present Convention, of which the Arabic, Chinese, English, French, Russian and Spanish texts are equally authentic, shall be deposited with the Secretary-General of the United Nations.

IN WITNESS WHEREOF the undersigned plenipotentiaries, being duly authorized thereto, have signed the present Convention.

DONE at New York, this _____ day of _____ one thousand nine hundred and ninety-seven.

APPENDIX

Arbitration

Article 1

Unless the parties to the dispute otherwise agree, the arbitration pursuant to article 33 of the Convention shall take place in accordance with articles 2 to 14 of the present appendix.

Article 2

The claimant party shall notify the respondent party that it is referring a dispute to arbitration pursuant to article 33 of the Convention. The notification shall state the subject matter of arbitration and include, in particular, the articles of the Convention, the interpretation or application of which are at issue. If the parties do not agree on the subject matter of the dispute, the arbitral tribunal shall determine the subject matter.

Article 3

1. In disputes between two parties, the arbitral tribunal shall consist of three members. Each of the parties to the dispute shall appoint an arbitrator and the two arbitrators so appointed shall designate by common agreement the third arbitrator, who shall be the Chairman of the tribunal. The latter shall not be a national of one of the parties to the dispute or of any riparian State of the watercourse concerned, nor have his or her usual place of residence in the territory of one of these parties or such riparian State, nor have dealt with the case in any other capacity.

2. In disputes between more than two parties, parties in the same interest shall appoint one arbitrator jointly by agreement.

3. Any vacancy shall be filled in the manner prescribed for the initial appointment.

Article 4

1. If the Chairman of the arbitral tribunal has not been designated within two months of the appointment of the second arbitrator, the President of the International Court of Justice shall, at the request of a party, designate the Chairman within a further two-month period.

2. If one of the parties to the dispute does not appoint an arbitrator within two months of receipt of the request, the other party may inform the President of the International Court of Justice, who shall make the designation within a further two-month period.

Article 5

The arbitral tribunal shall render its decisions in accordance with the provisions of the Convention and international law.

Article 6

Unless the parties to the dispute otherwise agree, the arbitral tribunal shall determine its own rules of procedure.

Article 7

The arbitral tribunal may, at the request of one of the Parties, recommend essential interim measures of protection.

Article 8

1. The parties to the dispute shall facilitate the work of the arbitral tribunal and, in particular, using all means at their disposal, shall:

- (a) Provide it with all relevant documents, information and facilities; and
- (b) Enable it, when necessary, to call witnesses or experts and receive their evidence.

2. The parties and the arbitrators are under an obligation to protect the confidentiality of any information they receive in confidence during the proceedings of the arbitral tribunal.

Article 9

Unless the arbitral tribunal determines otherwise because of the particular circumstances of the case, the costs of the tribunal shall be borne by the parties to the dispute in equal shares. The tribunal shall keep a record of all its costs, and shall furnish a final statement thereof to the parties.

Article 10

Any party that has an interest of a legal nature in the subject matter of the dispute which may be affected by the decision in the case, may intervene in the proceedings with the consent of the arbitral tribunal.

Article 11

The arbitral tribunal may hear and determine counterclaims arising directly out of the subject matter of the dispute.

Article 12

Decisions both on procedure and substance of the arbitral tribunal shall be taken by a majority vote of its members.

Article 13

If one of the parties to the dispute does not appear before the arbitral tribunal or fails to defend its case, the other party may request the tribunal to continue the proceedings and to make its award. Absence of a party or a failure of a party to defend its case shall not constitute a bar to the proceedings. Before rendering its final decision, the arbitral tribunal must satisfy itself that the claim is well founded in fact and law.

Article 14

1. The arbitral tribunal shall render its final decision within five months of the date on which it is fully constituted unless it finds it necessary to extend the time limit for a period which should not exceed five more months.

2. The final decision of the arbitral tribunal shall be confined to the subject matter of the dispute and shall state the reasons on which it is based. It shall contain the names of the members who have participated and the date of the final decision. Any member of the tribunal may attach a separate or dissenting opinion to the final decision.

3. The award shall be binding on the parties to the dispute. It shall be without appeal unless the parties to the dispute have agreed in advance to an appellate procedure.

4. Any controversy which may arise between the parties to the dispute as regards the interpretation or manner of implementation of the final decision may be submitted by either party for decision to the arbitral tribunal which rendered it.



Appendix 2: The Helsinki Rules on the Uses of the Waters of International Rivers

The Helsinki Rules on the Uses of the Waters of International Rivers

Adopted by the International Law Association at the fifty-second conference, held at Helsinki in August 1966. Report of the Committee on the Uses of the Waters of International Rivers (London, International Law Association, 1967)

CHAPTER 1. GENERAL

Article I

The general rules of international law as set forth in these chapters are applicable to the use of the waters of an international drainage basin except as may be provided otherwise by convention, agreement or binding custom among the basin States.

Article II

An international drainage basin is a geographical area extending over two or more States determined by the watershed limits of the system of waters, including surface and underground waters, flowing into a common terminus.

Article III

A "basin State" is a State the territory of which includes a portion of an international drainage basin.

CHAPTER 2. EQUITABLE UTILIZATION OF THE WATERS OF AN INTERNATIONAL DRAINAGE BASIN

Article IV

Each basin State is entitled, within its territory, to a reasonable and equitable share in the beneficial uses of the waters of an international drainage basin.

Article V

I. What is a reasonable and equitable share within the meaning of article IV to be determined in the light of all the relevant factors in each particular case.

II. Relevant factors which are to be considered include, but are not limited to:

1. The geography of the basin, including in particular the extent of the drainage area in the territory of each basin State;

2. The hydrology of the basin, including in particular the contribution of water by each basin State;
3. The climate affecting the basin;
4. The past utilization of the waters of the basin, including in particular existing utilization;
5. The economic and social needs of each basin State;
6. The population dependent on the waters of the basin in each basin State;
7. The comparative costs of alternative means of satisfying the economic and social needs of each basin State;
8. The availability of other resources;
9. The avoidance of unnecessary waste in the utilization of waters of the basin;
10. The practicability of compensation to one or more of the co-basin States as a means of adjusting conflicts among uses; and
11. The degree to which the needs of a basin State may be satisfied, without causing substantial injury to a co-basin State.

III. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is reasonable and equitable share, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article VI

A use or category of uses is not entitled to any inherent preference over any other use or category of uses.

Article VII

A basin State may not be denied the present reasonable use of the waters of an international drainage basin to reserve for a co-basin State a future use of such waters.

Article VIII

1. An existing reasonable use may continue in operation unless the factors justifying its continuance are outweighed by other factors leading to the conclusion that it be modified or terminated so as to accommodate a competing incompatible use.
2. (a) A use that is in fact operational is deemed to have been an existing use from the time of the initiation of construction directly related to the use or, where such construction is not required, the undertaking of comparable acts of actual implementation.

(b) Such a use continues to be an existing use until such time as it is discontinued with the intention that it be abandoned.
3. A use will not be deemed an existing use if at the time of becoming operational it is incompatible with an already existing reasonable use.

CHAPTER 3. POLLUTION

Article IX

As used in this chapter, the term "water pollution" refers to any detrimental change resulting from human conduct in the natural composition, content, or quality of the waters of an international drainage basin.

Article X

1. Consistent with the principle of equitable utilization of the waters of an international drainage basin, a State:

(a) Must prevent any new form of water pollution or any increase in the degree of existing water pollution in an international drainage basin which would cause substantial injury in the territory of a co-basin State;

(b) Should take all reasonable measures to abate existing water pollution in an international drainage basin to such an extent that no substantial damage is caused in the territory of a co-basin State.

2. The rule stated in paragraph 1 of this article applies to water pollution originating:

(a) Within a territory of the State, or

(b) Outside the territory of the State, if it is caused by the State's conduct.

Article XI

1. In the case of a violation of the rule stated in paragraph 1 (a) of article X of this chapter, the State responsible shall be required to cease the wrongful conduct and compensate the injured co-basin State for the injury that has been caused to it.

2. In a case falling under the rule stated in paragraph 1 (b) of article X, if a State fails to take reasonable measures, it shall be required promptly to enter into negotiations with the injured State with a view towards reaching a settlement equitable under the circumstances.

CHAPTER 4 . NAVIGATION (Articles XII-XX)

CHAPTER 5. TIMBER FLOATING (Articles XXI-XXV)

CHAPTER 6. PROCEDURES FOR THE PREVENTION AND SETTLEMENT OF DISPUTES

Article XXVI

This chapter relates to procedures for the prevention and settlement of international disputes as to the legal rights or other interests of basin States and of other States in the waters of an international drainage basin.

Article XXVII

Consistently with the Charter of the United Nations, States are under an obligation to settle international disputes as to their legal rights or other interests by peaceful means in such a manner that international peace and security and justice are not endangered.

It is recommended that States resort progressively to the means of prevention and settlement of disputes stipulated in articles XXIX to XXXIV of this chapter.

Article XXVIII

1. States are under a primary obligation to resort to means of prevention and settlement of disputes stipulated in the applicable treaties binding upon them.

2. States are limited to the means of prevention and settlement of disputes stipulated in treaties binding upon them only to the extent provided by the applicable treaties.

Article XXIX

1. With a view to preventing disputes from arising between basin States as to their legal rights or other interest, it is recommended that each basin State furnish relevant and reasonably available information to the other basin States concerning the waters of a drainage basin within its territory and its use of, and activities with respect to, such waters.

2. A State, regardless of its location in a drainage basin, should in particular furnish to any other basin State, the interests of which may be substantially affected, notice of any proposed construction or installation which would alter the regime of the basin in a way which might give rise to a dispute as defined in article XXVI. The notice should include such essential facts as will permit the recipient to make an assessment of the probable effect of the proposed alteration.

3. A State providing the notice referred to in paragraph 2 of this article should afford the recipient a reasonable period of time to make an assessment of the probable effect of the proposed construction or installation and to submit its views thereon to the State furnishing the notice.

4. If a State has failed to give the notice referred to in paragraph 2 of this article, the alteration by the State in the regime of the drainage basin shall not be given the weight

normally accorded to temporal priority in use in the event of a determination of what is a reasonable and equitable share of the waters of the basin.

Article XXX

In case of a dispute between States as to their legal rights or other interests, as defined in article XXVI, they should seek a solution by negotiation..

Article XXXI

1. If a question or dispute arises which relates to the present or future utilization of the waters of an international drainage basin, it is recommended that the basin States refer the question or dispute to a joint agency and that they request the agency to survey the international drainage basin and to formulate plans or recommendations for the fullest and most efficient use thereof in the interests of all such States.

2. It is recommended that the joint agency be instructed to submit reports on all matters within its competence to the appropriate authorities of the member States concerned.

3. It is recommended that the member States of the joint agency in appropriate cases invite non-basin States which by treaty enjoy a right in the use of the waters of an international drainage basin to associate themselves with the work of the joint agency or that they be permitted to appear before the agency.

Article XXXII

If a question or a dispute is one which is considered by the States concerned to be incapable of resolution in the manner set forth in article XXXI, it is recommended that they seek the good offices, or jointly request the mediation of a third State, of a qualified international organization or of a qualified person.

Article XXXIII

1. If the States concerned have not been able to resolve their dispute through negotiation or have been unable to agree on the measures described in articles XXXI and XXXII, it is recommended that they form a commission of inquiry or an ad hoc conciliation commission, which shall endeavor to find a solution, likely to be accepted by the States concerned, of any dispute as to their legal rights.

2. It is recommended that the conciliation commission be constituted in the manner set forth in the annex.

Article XXXIV

It is recommended that the States concerned agree to submit their legal disputes to an ad hoc arbitral tribunal, to a permanent arbitral tribunal or to the International Court of Justice if:

(a) A commission has not been formed as provided in article XXXIII, or

- (b) The commission has not been able to find a solution to be recommended, or
- (c) A solution recommended has not been accepted by the States concerned, and
- (d) An agreement has not been otherwise arrived at.

Article XXXV

It is recommended that in the event of arbitration the States concerned have recourse to the Model Rules on Arbitral Procedure prepared by the International Law Commission of the United Nations at its tenth session b/in 1958.

Article XXXVI

Recourse to arbitration implies the undertaking by the States concerned to consider the award to be given as final and to submit in good faith to its execution.

Article XXXVII

The means of settlement referred to in the preceding articles of this chapter are without prejudice to the utilization of means of settlement recommended to, or required of, members of regional arrangements or agencies and of other international organizations.



Treaty of Friendship and Good Neighboring Relations Between Iraq and Turkey
Attached Protocol No. (1) On the organization of the Tigris and Euphrates Rivers
and their tributaries

Iraq and Turkey

According to their appreciation of the importance -for the Iraqi government- of handling installations and preventive works on the Tigris and the Euphrates and their tributaries to sustain a regular supplier of water and to regulate its flow during floods to remove the risk of drowning, where it might be seen the outcome of the investigations that the location of the most suitable to establish reservoirs and similar works that will be conducted by Iraq, at his expense, inside the Turkish territory.

Both parties agreed upon establishing permanent measuring stations in the Turkish territory to record the amounts of waters and to regularly notify Iraq of the readings of those standards regularly.

Besides, both parties agreed upon making each of the preventive works that may arise on the water appropriate as possible for the benefit of the two countries for the purposes of irrigation and hydro-electric power.

So, they agreed upon the following: -

Article 1

Iraq is to send as soon as possible to Turkey bodies of technicians for the purpose of conducting investigations and surveys and collecting water and geological and other implications to enable them to choose sites for dams and measuring stations and other works and putting designs depending on the need on the Tigris and the Euphrates and their tributaries. Turkey conducts the maps required to do the survey. Iraq bears all the expenses of doing the works mentioned in this article.

Article 2

Technicians mentioned above are to work in conjunction with the Turkish technicians in that Turkey allows them to visit the necessary places and provides them with all the information, assistance and facilities to enable them to accomplish their work.

Article 3

Turkey establishes operates and maintains the permanent stations for water measurement and discharge. Iraq and Turkey equally bear the operation expenses in the implementation of this Protocol. Moreover, measurements stations are regularly checked at regular periods by Iraqi and Turkish technicians.

The level of the water is to be telegraphed to the competent authorities designated by Iraq at eight o'clock in the morning every day during the duration of floods by stations

such as Diyar Bakir, Al-Jazeera and others on the Tigris and Kopan and others on the Euphrates when the telegraphic call possible. The river level at other times is reported to the same authorities twice a month.

Iraq bears the expenses of the calls mentioned above.

Article 4

The Turkish government basically agrees to set up -according to the agreement in the following paragraph - actions that are necessary according to the investigations mentioned in the article above.

Work -except for permanent measuring station work- is to be based on a convention held separately on the location, cost, operation and maintenance as well as on its use by Turkey for the purpose of irrigation and power generation.

Article 5

Turkey approves to inform Iraq of any special projects of prevention that might be established on any of these rivers or on their tributaries so as to make those works serve -as much as possible - the interest of Iraq as well as the interests of Turkey.

Article 6

Each of the contracted parties, after signing this protocol, is to appoint a representative as soon as possible. The representatives make consultations in all essential aspects to implement this Protocol. And the representatives represent a competent reference between both parties in this regard.

Feridun Arkin

Nuri AlSaaeed

Hasan Sakka

Abdul Ilah Hafiz

Note: The translation has been personally done from Arabic to English.

Appendix 4:

انفاق ن صب محطض خ سوية غي ن در دجة

ان حكومة جم هوريال عراق وحكومة لاجم هوريال عربي فالسوية) المس مي نبال طفين المتعملين ا لوالثلي
لغى التولي (بما ان هم اقدص اقا لوتيفلاقي عقولون استخدالم مجاري ال خطية الولي في ا غراض الغيري ية ،
لوخذت اسنظر انتعبار ما ج اعفي الفقرة 7) من الم حضر الم شترك الصوق عت اريخ 2001/1/31 ، وانتلي
للكوت ان اهي قانتع اون والتسيق الم شترك بشل قضي الياه.

قيد انفاق غي يياتي :-

المادة 1

المصطلحات الفنيه

غراض هذا انفاققتسر كل مال مصطلحات الفنيه قبل عان يال فشرة ازاءه :-

- 1- التصريف :- حجم الماء الذي يجري بهدفق (عبر ا ق طعا معين من الم جرعفي وحدة من الزمن.
- 2- محطة الضخ :- هي منشأ يضيوي على مضخ انتشغل غراض لاري.
- 3- الضخ :- هي ال قطف عمل ماء.
- 4- الضخ :- مقدار الماء الذي يوضخ و ا فيرع في زمن محدد.
- 5- معدل التصريف :- تقوسط التصريف فالش مر ي ل ش هرفنس هل عدد معين من ال سنوات التمعاقبة
تلك الية).
- 6- معدل جري ان ال طيحي :- معدل جري ان ال طيحي لن مر دن است كفات.
- 7- معدل جري ان الن :- معدل تصريف جري ان الن ل فترة معين ه.
- 8- معدل التاجي ز ال س ح ب) :- هو مجموع التصريف الهوي في بنية القناة
ل فترة التاجي ز ال س ح ب).
- 9- محطة نقلي اس :- لرصد لتصاري فال نهاية ونوع ال ياه.
- 10- ملبور بجلة :- رفلدن مر بجلة .

المادة 2

ناشاء محطة ضخ

- 1- يقوم ل طرف لثان يباشراء محطة ضخ لغى الضفة اليمين لن مر بجل في ا ل س يال س ورية نوسعة
تصريفت ن لرب مع الم س ا ح و الم قدره ب) 150) ل فكتار صرفلي.
- 2- تلكون ال حضرات وال معدات النصوب في ال محطة قيق در انتن لرب مع كهي ال ياه ال انفاق لغى س ص ه ا.

المادة 3

كيفية تالياهوالمسحوبة

- 1- تتكون كيفية تالياهوالتبقيس صها ل طرفلثان ي منن مر دلج بقمدار)1,250(ل يارمتر لمكع بسرفي احسب التوفيقالبحيفي لقررة ل خلمسة من هذه المادة.
- 2- تتكون الكيفية تالياهو تسرفي لوقول لقررة 1 من هذه المادة عن دم لكون ييرانن مر يحل في موقوع جزرة على لاحودا لدولة الشصت تركة مع تكي ا اوف في موقوع محطة قياس التص اري ف في فيش بيلور ،ض من معدته الطيعية.
- 3- تطرح ايرادات ال حطية ال تبقيية منن مر بيلور بحلة وياهو البقيية ال مبندة من ملتقاها ل غلية موقوع محطة الضخ من ايرادات ال حطية قبن مر بحلة ل غرض احص ابكيفية تالياهوالمسحوبة ال محددي لقررة 1.
- 4- تخفف كيفية تالياهوالمسحوبة لسرفي لنبسب توازن سب ال تقص لاح اصرفي الم عدل الطيعي اادن مر بحلة احسب بالوصودات الشصت ترك ل تص اري ف في ين طي لك لش مر.
- 5- يلتزم ال طفان بلتوفيق علش مر يل لتص اري ف ال م حوب لسنة م عدل وفق لاجدول (موصوص علي هي تافاقية)، يلمن اعادة النظم في التوفيق علش مر ي عدا وببفاق ويري الريف في البليين.

المادة 4

مساح تالمشروع والتبقي لل سرفي ل ها

- يقيم ل طرفلثان ي ل طرف ا ولبمراح لتبقي ذالمشروع وال مباحات ال بني جزفي كل سنة وخطه لتبقي ل ب م في ها كيفية تالياهوالمطلوب س ص ل هذه المساحات وري التي ستة لش مر.

المادة 5

محطة قياس التص اري ف ونشاطات ال مراقبة

- 1- يقوم ل طرفلثان يين ص ب محطة قياس تص اري ف بوحى مر بحلة قارب محطة الضخ ل ي سرفي ل رصد تص اري فالن م ب شركل م بترك.
- 2- يقوم ل طرفلثان يين ص ب نشاطات لمقبة ف حص عيات عند موقوع ماخذ محطة الضخ.
- 3- يلتزم ل طرفلثان يين ص يلة ال نشاطات المشرار الي هفي)1,2(من هذه المادة بتجهيزه لباحث ا مزة سرفي لم لي وني استمر اره في ال ع لتبقي دي م عمل و م اتدقيقه.
- 4- يتحمل ل طرفلثان ي فيقات ا مزة وال معدات المشرار الي هفي لقررات)1,2,3(من هذه المادة ولتقلك فيقات تصها.
- 5- لضم ان تبقي ذ هذا اتفاق يقوم ال طفان وعن طوقل بن قبي م ب شركل قبة تبقي الكيفية تالياهوالمسحوبة من محطة الضخ يني ا مرة لثي ش مر.

المادة 6

ياهوالصرف للزراعي ومغل ل بقتلوث

- 1- يلتزم ل طرفلثان ي ب ص م تصريف يياهوالصرف للزراعي ونية يياهو اخرى كيفية تالياهوالصرف الصحي لى لى مر بحلة او اي م جار حطية لى ا رضيا ل عراقية من داخل ا ل ضيال سوية من المشرووع بمتعبار ان ذلك يمتل عا مؤثولي زي اهقلوث يياهوالموارد الى ا رضيا ل عراقية.

2- لم يتبع هتويذ ماورهابلقورة (1) من هذه المادتين المتعلقين بخصائص وخصائص عينات المياملن در بجل في موقع محطة القياس الواردة من المادة الخامسة (1) ومخطيش نجلورال عراقية، وعند مة حصول نتيجي ريدعي ال طفلان لاي عقد ايجام عي اقر بفرصة ملين تلجدي دالمعالجات المطلب وبفتوي ذها من قب الطرف الثاني ان يلحد من الظاهر فلهي حالها اصلح استخدامات تلخنتفة وخصفة ياهالشرب.

المادة 7

تطيق فلأفة الم جاري ال حلي ال ولعي في ا غراض الغير ية

تلج ج لعل عي ضايل ال تي لهن نص علي هلي هذا اتفاق موجت فلأفة قنلون استخدام الم جاري ال حلي ال ولعي في ا غراض الغير ية الم حرر رقبتي يورلفي 1997/5/21.

المادة 8

تسوية

تسوى الاشرة عن تطيق هذا اتفاق او شق يربنوده عن طري قتللف او ضربي نال طفين.

المادة 9

يدخل هذا اتفاق مي زالفتي ذ من تاري ختبادل المذكرات ال م في دة لقتام ال ا لدستوي ع ليه من ال طفين ال تلج عي نيل طرق الهل وماسية.

تؤبلتل مللق دمق ام ال طفلان بلتوي ع لوي هذا اتفاق موج بلل سلطة ال خولة لهما من لكوبي هما.

حرر في اليوم 26 من شهر محرم من السنة ال هجرية 1423، ال ص ادفلي ومثلثاس ع من ش هري نسان من السنة ال ية 2002 نيس مي ن طرا هين بللغ ال عبية وقد اغتظكل طرفين خضل لية واجة لكل فيهما.

عن حكومة ال جم هوري ال عراق

وزي رالري

الم قدس رسلي ع بلل ح سوين سوادي

عن حكومة ال جم هوري ال عربي لسورية

وزي رالري

ال من دس م حمد رضوان مي ن ي

Agreement of constructing a Syrian pump station on the Tigris River

The government of the Republic of Iraq and the government of the Syrian Arab Republic (named as the first and the second contracted parties, respectively) as they have ratified the agreement of the Law of International Watercourses for non-navigational purposes, and they have taken into consideration what comes in paragraph (7) of the joint minute signed on 31/1/2001, and the two governments pay a considerable attention to cooperation and joint coordination on the issue of water...

They agreed on:

Article 1

Technical terminology

For the purpose of this Agreement, all the technical terms are explained according to the meanings indicated for each of them:

1. Drainage: - the volume of water that flows and passes through a certain amount of the course in a unit of time.
2. Pumping Station: - is an installation containing pumps operating for irrigation purposes.
3. Pump: - is a machine to lift water.
4. Pumping: - is the amount of water pumped or lifted at a specific time.
5. Monthly discharge rate: - is the monthly average discharge for the same month at a certain number of successive years.
6. Natural flow rate: - is the natural flow of the river without consumptions.
7. River flow rate: - is average rate of flow of the river during a certain period.
8. Supply (withdraw) rate: - is the sum of the daily discharge at the beginning of the irrigation channel divided by the number of days during the period of supply (withdraw).
9. Measurement Station: - is to monitor the water discharge and water quality.
10. Tigris Khabour: - is a tributary of the Tigris River.

Article 2

The establishment of a pumping station

1. The second party establishes a pump station on the right bank of the Tigris River in the Syrian territories with a discharge capacity proportional with the area, estimated by (150) thousand hectares net.

2. The pumps and equipment installed in the station should be with capabilities proportional with the agreed amount of water to be withdrawn.

Article 3

The amount of water withdrawn

1. The amount of water being drawn by the second side of the Tigris is estimated by (1.250) billion cubic meters annually, according to the distribution set out in the fifth paragraph of this article.

2. The amount to be withdrawn annually in accordance with paragraph 1 of this Article, when the revenue of the Tigris River in the Jazrah site on the international borders with Turkey or in the site of drainage measurement station at Fishkhabour is within the normal rates.

3. The water revenues coming from Khabour River Tigris and the in between water stretching from where it meets the Tigris up to the pumping station are subtracted from the water revenues of the Tigris to calculate the quantities of the water withdrawal specified in paragraph 1.

4. The water withdrawn annually is to be reduced to a percentage equivalent to the shortage in the normal range of the Tigris revenues according to the joint observations at the end of each month.

5. The Parties undertake a monthly distribution of the drawn water for a year according to the table (provided in the Agreement), and the monthly distribution can be reconsidered when necessary by the ministers of irrigation in the two countries.

Article 4

The project area and its annual implementation

The second party informs the first party of the stages of project implementation and the areas completed each year and operating plan, including the amount of water required for these areas periodically every six months.

Article 5

The station of measuring discharges and monitoring installation

1. The second party is to install a measuring station on the Tigris River near the main pumping station to observe the river discharges in a common way.

2. The second party is to install monitoring installation and sample examination at the pumping station site.

3. The second party is committed to maintain the installations referred to in (1.2) of this article and equip them with the latest appliances annually so as to ensure its continuity to work to provide accurate information.

4. The second party holds the expenses of the apparatus and equipments referred to in paragraphs (1,2,3) of this article in addition to its installation expenses.

5. To ensure the implementation of this agreement, the parties through a joint technical committee are to audit the withdrawals from the pumping station on the ground once a month.

Article 6

Agricultural drainage water and treatment of pollution

1. The second party is not to discharge the agriculture drainage water and any other water like sewage water into the Tigris, or any watercourses into the Iraqi lands from inside the Syrian territory of the project because this is considered a factor increasing the pollution of the river water entering into the Iraqi territory.

2. To monitor the implementation of what comes in paragraph (1) of this article, a comparison is to be done between the results of testing the water samples of the Tigris at the measuring station site within Article V (1) and the Iraq station of Fishkhabour, When noticing any change, both parties are called for a meeting at the earliest opportunity to determine the solutions to be implemented by the second party so as to reduce the phenomenon to make water valid for different uses, especially drinking water.

Article 7

Applying the International Watercourses Convention in the non-navigational purposes

All the issues that are not stated in this agreement are addressed according to the Convention of the Law of International Watercourses for non-navigational purposes done in New York on 05/21/1997.

Article 8

Accommodation

Disputes arise from the application of this Agreement or the interpretation of its articles is solved through negotiation between the parties.

Article 9

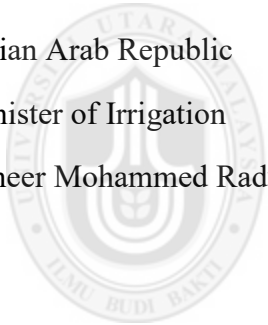
This Agreement enters into force from the date of exchanging the notes in favor of the completion of the constitutional procedures by both parties through diplomatic means.

To confirm the above, both parties have signed this agreement under delegated authority from their governments.

Done on 26/ Muharram/ 1423 Hijrah, i.e., on 9/April/ 2002 in two original copies in Arabic where each party kept a copy of the original document.

For the Government of the
Syrian Arab Republic
Minister of Irrigation
Engineer Mohammed Radwan Martini

For the Government of
the Republic of Iraq
Minister of Irrigation
Engineer Rasoul Abdul-Hussein Swadi



Note: The translation has been personally done from Arabic to English.

Appendix 5:

اتفاقيات العراق وايران

متى استثمرت مجاري الماء لدويّة

ان حكومة لاجمهورية العراقية والحكومة الامبراطورية الايرانية بموجب من روح اتفاق لاجزائر المورخ في 6/ اذار / 1975 ، ورغبة في هطيطيديد الصنقة وحسن لاجواربين بلبي هم، ومن اجل ضمان أفضل استثمرت ملحق لمجاري الماء المذيّة والتتبعه ، لغى نجر وجه ملحق لصلح الدولتين ،

فقط على ا التلبيّة:

لمادة 1

تسري الحكم هذا اتفاقية على مجاري الماء التلبيّة:

- أ. مجاري الماء المذات يتتبع خط لحدود بين البلدين.
- ب. مجاري الماء المذات يتتبع لقطع خط لحدود بين البلدين.

لمادة 2

تسري طرفات التمتع ا لغى ا التلبيّة:

- أ. يتقيد به لاهين اوسوتا، وقرتو، ولغى من لحدود بين البلدين. في جري هذا التقيد من موقع مناسب يتفق على هالطفان.
- ب. في جري يتقيد به لاهين اوسوتا، وقرتو، ولغى من لحدود بين البلدين. في جري هذا التقيد من موقع مناسب يتفق على هالطفان.
- ج. في جري يتقيد به لاهين اوسوتا، وقرتو، ولغى من لحدود بين البلدين. في جري هذا التقيد من موقع مناسب يتفق على هالطفان.
- د. في جري يتقيد به لاهين اوسوتا، وقرتو، ولغى من لحدود بين البلدين. في جري هذا التقيد من موقع مناسب يتفق على هالطفان.

لمادة 3

يشرك الالطفان التمتع ا دا لجن قبيّة مصلطة لحدود بين من اعراض اوسوتا، وقرتو، ولغى من لحدود بين البلدين، لدولة الشؤون القبيّة التمتع ا قبان مر المذاتية والتتبعه وا افعليها . ويتقيد اول هذه لدولة انتصافة لى امور اخرى اعداد مشايح مشتركة ولغى اقامة هشات ومحطات يدروكياتي يري الالطفان اها اوتحسين المنشات ولمحطات الوجود.

لمادة 4

سيتظر الالطفان التمتع ا المادة الثالثة من هذا اتفاق في المكلفات استثمرت افضل لمجاري الماء المذاتية والتتبعه ، ولذا لغرض، سيتقيد به لاهين اوسوتا، وقرتو، ولغى من لحدود بين البلدين. في جري هذا التقيد من موقع مناسب يتفق على هالطفان.

سيتقيد به لاهين اوسوتا، وقرتو، ولغى من لحدود بين البلدين. في جري هذا التقيد من موقع مناسب يتفق على هالطفان.

لمادة 5

يتعهد الطرفان التمتع اذ ان بعض من الجري ان الطي عي ليل ي ا ه ا ل ت ب و ف ر ق ي م ج ا ر ي ا ل م اء ا ل م ح ا ف ي ة و ل ت م ت ب ل ع ع ق ق ا ل ل ف ي ة التوفيق ال م ع ي ق ي هذا ا ن ق ا ق . ك م ا ي ت ع ه د ا ل ط ف ا ن ب ا ن ق ا ع ع ن ا س ت ع م ا ل م ج ا ر ي ا ل م اء ا ل م ح ا ف ي ة و ل ت م ت ب ل ع ، غ ر ا ض م ع ل ة م ا ل ت ف ا ق ل و م ض ر ق ب م ر ا ل ح ا ل ط ر ف ا

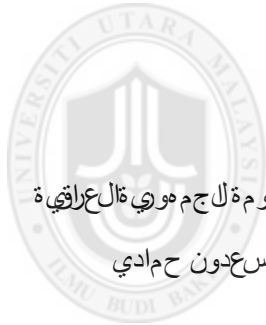
لمادة 6

ع ن د ح ص و ل ا ي ا خ ف ي ش ي ر ا و ت ط ي ق ه ذ ا ا ن ق ا ق ، ي ه و ي ا ل ط ف ا ن ا ل م ع ا ق د ا ن ا و ف ق ا ح ل ا ل و ا ر د ق ي ا ل م ا د ل ل س ل س ة م ن م ع ا م د ة ل ح د و د a ل و ل ي ة و ح س ن a ل ج و ا ر ي ن a ل ع ر ا ق و ل ي ر a ن a ل و ق ع ا ل ي ه ل ي ب غ م ل ب ت ا ي خ 13 / ح ف ي ر a ن / 1975 .

لمادة 7

ي ه ص د ق ك ل م ن a ل ط ف ي ن a ل م ع ع ل ي ن ل و ي ه ذ ا ا ن ق ا ق ي ط ل ل ق ل و ن ه ل a ل م ج ي و ي د خ ل ح ي ز a ل ف ه ا ذ م ن ت ا ي خ ت ب a د ل و ش ل ق a ل ت ص ي ق .

ح ر ف ي ب غ د ا ف ي 26 ل ك ل و ن a ل / 1975 .



ع ن ا ل ح ك و م ة a ل ج م ه و ي ة a ل ع ر ا ق ي ة

س ع د و ن ح م ا د ي

UUM
Universiti Utara Malaysia

ع ن a ل ح ك و م ة a ل م ر ا ط و ي ة a ي ر ل ي ة

ي ع ا س ل و ي م ل ع ي ر ي

Agreement between Iraq and Iran

On investment of border water courses

The government of the Republic of Iraq and the government the Iranian empire, due to the Algerian Agreement on 6/March/1975, the desiring of both to consolidate friendship and good neighboring between the two countries, and to ensure the best possible investment of the adjacent and successive watercourses in the best possible way for the benefit of the two countries, they agreed to the following provisions:

Article 1

The provisions of the present agreement will apply to the following water courses:

- A. The adjacent watercourses that track the border line between the two countries.
- B. The successive watercourses that track the border line between the two countries.

Article 2

The contracted parties agreed on the following provisions:

- A. Dividing the water of rivers Banawh Sota, Kara Tu, and Kenkir equally between the two countries. This division is on suitable sites agreed upon by the parties.
- B. Dividing the water of rivers Al-Wand, Kenjan Jim, Al-Tayeb (Meimeh) and Al-Dwerij between the two countries on the basis of the minutes of the Commission of determining the Iranian-Ottoman borders in 1914 and the custom.
- C. The division between the two countries is done for the disposal of the water courses, adjacent and successive, that was not mentioned in paragraphs (a-b) above in accordance with the provisions of this Agreement.

Article 3

The two contracted parties constitute a mixed permanent technical committee, composed of equal members from experts for each of the two countries, to study the technical matters related to the adjacent and successive rivers and to supervise them. In addition to other things, these studies will address the preparation of joint projects, as well as the installations of Hydrometrical stations that both parties see their usefulness or improving the installations and existing plants.

Article 4

The Committee mentioned in Article III of this Agreement will consider the possibilities of the better investment of the adjacent and successive water courses. For this purpose, it will be shown within the duration of hydrological year starting from signing this agreement the share of each of the contracted parties in the disposal of the water courses mentioned in paragraph (b) of Article II of this Agreement.

It will also show within two Hydrological years starting from signing this Agreement the most suitable formulas for the best investment of the water courses mentioned in paragraph (c) of Article II above.

Article 5

The two contracted parties undertake to ensure the natural flow of water available in the adjacent and successive water courses according to the way of distribution involved in this agreement. Both parties will also refrain from the use of the adjacent and successive water courses for the purposes of violating the provisions of this Agreement or harming the interests of the other party.

Article 6

When having any difference in the interpretation or application of this Agreement, the contracted parties are to settle the difference according to the provisions of dispute resolution mentioned in Article VI of the Treaty of international borders and good neighboring relations between Iraq and Iran, which was signed in Baghdad on 13/June /1975.

Article 7

Each of the contracted parties for this Agreement is to ratify it according to its domestic law and enters into force on the date of exchanging the ratification documents.

Done in Baghdad on 26/December/1975.

On behalf of the Iranian
Empire Government
Abbas Ali Khalatbari

On behalf of the Republic
of Iraqi Government
Saadoun Hammadi

Note: The translation has been personally done from Arabic to English.

Appendix 6: Interview questions

Interview questions

Dear Sir/ Madam,

I am a doctoral student at Universiti Utara Malaysia and conducting a research on the topic entitled: **“Projects Constructed on the Tigris and Euphrates Rivers and their Impacts on the Economic Right of Iraq in terms of Water Utilization: A Study within the Framework of International Law”** for the award of a PhD in Public International Law. In order to answer my research questions and achieve the research objectives, I have decided to conduct a personal face-to-face interview (i.e. semi-structured in nature) mainly with experts in the water field from relevant Ministries such as the Foreign Affairs, Water Resources, Agriculture and Electricity on top of the academics specializing in the area of Public International Law.

The purpose of conducting this interview is to enable the researcher to understand the views and experiences of these experts (i.e. those working in the relevant selected Ministries as well as the academics specializing in Public International Law) in the process of addressing the impacts of the projects constructed by the upstream countries around the Tigris and Euphrates rivers on the Economic Right of Iraq as a downstream country, especially in terms of water utilization for the purpose of irrigation in the agricultural sector as well as energy supply in the industrial sector.

Your participation would be highly appreciated, and rest assured that all the information provided during the interview session will be treated with utmost sense of confidentiality. The information you provide during the interview will only be accessible to my supervisors and myself (as the researcher). Furthermore, the information that you provide will be used only for the current study/research.

Thank you in advance for your participation.

Yours sincerely,

The researcher
PhD. Student
College of Law, Government & International Studies, Universiti Utara Malaysia.

Note: The permission to use the interviewee’s real name(s) in the thesis was obtained throughout the period of the interview.

Name of the interviewee:

Time of interview:

Place of interview:

Duration of interview:

Do you agree to use your real name in my study?

First section: Information about the interviewee

This section contains information about the interviewee's background and it consists of general questions such as, qualifications, experience and specialization etc.

1. What is your name?
2. Where do you work?
3. What is your current position?
4. How long have you been working in this position?
5. Can you tell me about your work responsibilities in the ministry/ organisation/ institution?
6. What is your academic qualification?
7. For how long have you been working with this ministry/ organisation/ institution?

Second section: interviewee's Information

This section includes a set of questions directed to the interviewees focusing mainly on their work experience in order to make full use of their expertise and knowledge as far as this study is concerned. The questions in this section aim to clarify and support the primary and secondary data collected in addressing the theme of this study/research i.e. the impacts of the projects constructed on the Tigris and Euphrates rivers by the upstream countries (Turkey, Syria and Iran) on the economic right of Iraq as a downstream country in terms of water utilization of these two rivers to achieve economic development as per the rules and principles of International Law. Furthermore, this section will also support, update and document the information collected from the primary and secondary data of this study/research.

Part I: The Right of Iraq as a downstream country in utilizing the waters of the Tigris and Euphrates rivers under international law.

1. From your experience as an academician in the area of Public International Law/an employee working either in the Ministry of Foreign Affairs or the Ministry of Water Resources, what are the rights of the upstream and downstream countries in sharing and managing waters of international river?
2. Based on your experience, can Iraq be said to have an acquired right to use the waters of the Tigris and Euphrates rivers? If so, how?

3. Based on your experience, can Iraq as a downstream country be said to have a right (i.e. economic right) to use the waters of the Tigris and Euphrates rivers in order to achieve economic development? If so, how?

Part II: The position of the Tigris and Euphrates rivers under international law.

1. From your experience as an academician in Public International Law, what are the international agreements, rules and principles governing international rivers?
2. From your point of view as an academician in the area of Public International Law/an employee working either in the Ministry of Foreign Affairs or the Ministry of Water Resources, what is the position of the upstream countries in terms of adhering to the rules and principles of International Law in the construction of these projects which have affected the flow of water in Iraq as a downstream country?
3. Based on your experience as an academician in the area of Public International Law/an employee working in either the Ministry of Foreign Affairs or the Ministry of Water Resources, are the upstream countries required under International Law to consult Iraq as a downstream country before the construction of these projects? If so, how?
4. From your experience as an academician in the area of Public International Law/ an employee working in the Ministry of Water Resources, what are the procedures that Iraq as a downstream country could follow at a bilateral and international level to stop the upstream countries from constructing these projects depriving it of having access to enough flow of water from the Tigris and Euphrates rivers?
5. From your opinion as an academician in the area of Public International Law/ an employee working in the Ministry of Water Resources, what other alternative mechanisms a available to Iraq as a downstream country under international rules and principles regarding the utilization of the waters of the Tigris and Euphrates rivers in case the upstream countries (Turkey Syria and Iran) refused to negotiate in sharing and managing the waters of these two rivers?
6. From your experience as an academician in the area of Public International Law/an employee working either in the Ministry of Foreign Affairs or the Ministry of Water Resources, are there any previous judicial cases dealing with the issue of sharing and managing waters of an international river? If so, can you mention these cases?

Part III: Projects constructed by the upstream countries and their impacts on the Iraqi economy.

1. From your experience as an employee working in the Ministry of Water Resources, what projects have been constructed by Turkey on the Tigris and Euphrates rivers as well as their impacts on the Iraqi economy as a downstream country in terms of water utilization for the purpose of irrigation in the agricultural sector and energy supply in the industrial sector?
2. Based on your experience as an employee working in the Ministry of Water Resources, what projects have been constructed by Syria on the Tigris and Euphrates rivers as well as their impacts on the Iraqi economy as a downstream country in terms of water utilization for the purpose of irrigation in the agricultural sector and energy supply in the industrial sector?
3. From your experience as an employee working in the Ministry of Water Resources, what projects have been constructed by Iran on the tributaries of the Tigris river as well as their impacts on the Iraqi economy as a downstream country in terms of water utilization for the purpose of irrigation in the agricultural sector and energy supply in the industrial sector?
4. From your experience as an employee working in the Ministry of Electricity, what are the impacts of waters shortage in the Tigris and Euphrates rivers on the power plants in Iraq?
5. From your experience as an employee working in the Ministry of Agriculture, what are the impacts of waters shortage in the Tigris and Euphrates rivers on the arable land and desertification in Iraq?

Part IV: Conclusion and recommendation.

1. From your point of view, what viable recommendations would you suggest to solve the problem of sharing and managing the waters of the Tigris and Euphrates rivers between the upstream and downstream countries?
2. Do you have any additional information or questions concerning this study/research?

اسئلة لمقابلة

السيدالسيدي

انني طالب لكتوراه من جامعة وطارا المشمال (المالي نية ، وبلحثفي الموضوع الموقون) المشاي ع المقامة على ن مري دجلة الوفرات وثاره على حق العراق تصاديب استخدام الياه: دريل في اطارالقولون لدلي (. ذلكل لوصول في ش هادة لكتورافي اخص اصل القولون لدلي العام ، و بة على نئلة البحث وكي يقي ا لف ها خت ال باحث اجراء عض المقبل الش نخريه و ج هال و ج ه ال اهل قشب هالن ظاي قبطي ها (مع خبرا في ال لف الهائي ومن لوزارات ذات ال ه نثل وزارة لاخر احيه , ال مواردال حلي , ل لزراع , الكهبا بضا فة الى ا كاي يين ال تخصري في القولون لدلي العام .

وان ال غرض من اجراء هذه المقبل الش نخريه هوت لفي للباحث من فهم و ج هات النظر ولاضرات من هو ال خبراء) من العام لفي لوزارات المقارة ذات ال قبضا فة الى ا كاي يين ال تخصري في القولون لدلي العام (للتصدي الناجمة عن المشاي ع المقامة في قبل دول ال ضاع في ن مري دجلة الوفرات في ال حق تصاديب ل لعراق باعبار ه دول ال مصب ، و لخصه من حيث استخدام الياه غراض لري في قطاع ل لزراع و ادات لطاق قبي قطاع الصناعي .

ان مشارككم محقق دي ريلفي ، واطين الى ان جيع ال عمل وم انثلت ييتم ل حصول علي ها من خ ل ال اهل قشب هالن ظاي ع ه ل س ية ، ان ال عمل وم انثلت ييتم ل حصول علي ها من ل هذه المقبل الش نخريه سلكون بعتن اول ا تذة المشفين و ال باحث (، عن ان هذال عمل و طك ستستعمل في هذال واسق فقط . شكركم مقدم في مشارككم .

مغلقا ترام

الباحث

طلب ال لكتوراه

لكاي ل القولون ، جامع قوتار المال نية

ظة: ذن تخدام مال حقيقي مع من تجري مع ه المقبل في هذه ا ح حتم ل حو ل ليه من خ هذه المقباله .

أس مطن ي ف:

وقت اجراء ل قبلي:

مكان اجراء ل قبلي:

مدة ل قبلي:

هل انت موافق على اس مطن ي ف في دولتي؟

<p>اس مطن ي ف : م معلومات عن لاضري ف تض من هذ ل اس مطن ي ف عن قضوي ل اس مطن ي ف و يتكون من اس و لة عام تمثل , خبراته و خصصه ل خ.</p>
<p>1- م اواس مك؟ 2- ي ل ت عمل؟ 3- م ا و مطن ي ف ل خ ل ي؟ 4- م مطن ي ف و انت ت عمل ب هذا مطن ي ف؟ 5- هل من ل مطن ي ف ان مطن ي ف عن عملك و م س و ل و ي ت ل ف ي ل و زارة , من ظمة , مونس ة ؟ 6- م ا ه ي م و ه ل ل ع م ي ة ؟ 7- م مطن ي ف و انت ت عمل ف ي ه ذ ه ل و زارة , ل من ظمة , ل مونس ة ؟</p>
<p>اس مطن ي ف : م معلومات عن ي و ف تض من هذ ل اس مطن ي ف م م و ع ه من ا لة ل م و ج ه ل و ض ي و ق ل ت ي ت ر ك ر اس اس ا ع م ي ف خبرات ع مطن ي ف من اجل ا ف ا ذة للك ا م ه من خبرات م و م غ ي ت ه م ي ه ذ ه ل د ر اس ة . و ت ه ذ ل ل م و س ل و ق ي ه ذ ل ل اس مطن ي ف ل ل و ض ي ح و د ع م ط ب ي ل ن ا ت ا ل ي ة ف ل ل و ي ل و ي ت ي ت م ج م ع ه ا ل م ع ل ج ة م و ض و ع ل د ر اس ة / ل ح ث ا ي ا ا ر ل ل م ش ر ا ي ع ل م ش ر ي د ة ع م ي ن ه ر ي د ج ي ة و ف ي ر ا ت م ق ب ل د و ل مطن ي ف م ا س و ي ا و ا ي ر ا ن (ع م ي ل ح ق ق ل ت ص ا د ي ل ل ع ر ا ق ب ل ع م ط ب ا ر م ب ل د ل م ص ب م ن ح ي ن س ت خ د ا م ه ف ي ن ل ل ن و ي ن ف ي ت ع م ي ف ل م ا ن م ي ة ق ل ت ص ر ا ي ة ف ق ا ل و ا ع د و ب ا د ي ل ق ل و ن ل و ل ي . و ة ع م ي ل ل ك , ه ذ ل ل اس مطن ي ف س ي ع م ل ي ض ا ع م ي د ع م و ت م ج ي ت و ن و ي ن ق ل م ع ل و م ا ت ل ت ي ت م ج م ع ه ا م ن ل ل و ا ن ا ت ا ل ي ة و ل ل ن و ي ن ل ه ذ ه ل ل د ر اس ة / ل ح ث .</p>
<p>ل ج ز ء : ح ق ل ع ر ا ق ك د و ل ة م ص ي ب ا س ت خ د ا م ي ه ن ه ر ي د ج ي ة ف ي ل ر ا ت ف ي ا ط ا ر ل ق ل و ن ل د و ل ي . 1. م ن خ ب و ت ك ك ا ت ل م ي ف ي م ج ا ل ل ق ل و ن ل و ل ي ل ا ع ا م / م و ظ ف ا م ي ع م ل ف ي و ز ا ر ة ل خ ا ج ي ة ا و ي ع م ل ف ي و ز ا ر ة ل م و ا ر د ل ل ع ي ة , م ا ه ي ع م و ق د و ل مطن ي ف و ل ص ب ف ي ق ل س م و ا د ر ا ة ل م ي ه ا ف ي ل ل ن ه ر ل و ل ي ؟ 2. ب ن ا ء ا ع م ي خ ب و ت ك , ه ل ي م ك ن ل ق و ل ا ن ل ع ر ا ق م ك ل ت س ي ب ا س ت ع م ا ل م ي ه ن ه ر ي د ج ي ة و ف ي ر ا ت ك ي ف ؟ 3. ب ن ا ء ا ع م ي ت و ج ب ت ك , ه ل ي م ك ن ل ق و ل ا ن ل ع ر ا ق ل ي ع ت ا ر م ب ل د ل م ص ب ي ل م ك ع م ا (ح ق ق ل ت ص ا د ي ل و ب و ت ع م ا ل م ي ه ن ه ر ي د ج ي ة و ف ي ر ا ف ي ت ع م ي ف ل م ا ن م ي ة ق ل ت ص ر ا ي ة ؟</p>

لجزء ثانوي: مقف ن هري دجلة فلهوات في اطار لقنون لدولي.

- 1- من خبيوتك كالكلامي في لقنون لهولي لاعام ، ماهي افئيات ، لقواعد ولمبادئ لدولي قلتي تحكم ار لدولي؟
- 2- من وجهه نظر كالكلامي في مجال لقنون لهولي لاعام / موظفي عمل امفي وزارة لخاچية او وزارة ل موارد لاچية ، ما هو مقف دول لمنبع منح حيث التزامبقواعد ومبادئ لقنون لهولي في بيان هذه لمشراي على اشرت على تفق لهيادى لعرق ببعباره دولة لمصوب؟
- 3- بناء على خبيوتك ببعبارك الكلامي في مجال لقنون لهولي لاعام / موظفي عمل امفي أي وزارة لخاچية أو وزارة ل موارد لاچية ، هل مطوب من دول لمنبع في اطار لقنون لهولي في منش اور مع لعراق ببعباره بلد لمصوب ببيان هذه لمشراي ع؟ إذا كان امر لك ، كي ف؟
- 4- من خبيوتك ببعبارك الكلامي في مجال لقنون لهولي لاعام / موظفي علم في وزارة ل موارد لاچية ، ماهي اجراءات التي يمكن لعراق اتباعه لبعباره دولة لمصوب على هس وتولى لثائي وكولي لقف دول لمنبع من بيان هذه لمشراي ع ال تي تحرمه من الكية ل حصول على هالكفي من تفق لهيادى لن هري دجلة وهرات؟
- 5- من وجهه نظر كالكلامي في مجال لقنون لهولي لاعام / موظفي عمل امفي وزارة ل موارد لاچية ، ما الهيات اخرى للبدلي لل تي تتفر لعراق ببعباره دولة لمصوب فوق اللقواعد ولمبادئ لدولي قبش أن استخدام ميا هري دجلة وهرات في حل قفصت دول لمنبع بمركي اسوي ويران (لفاوض في تقاسم وادار قميا ه في ن لان ووين؟
- 6- من خبيوتك ببعبارك الكلامي في مجال لقنون لهولي لاعام / موظفي عمل امفي وزارة لخاچية أو وزارة ل موارد لاچية ، هل هناك أي سوبق طئي يتتبع عمل مع مس ل تقاسم وإدارة لهي اف في لن هري لدولي؟ إذا كان امر لك ، هل يمكن أن تكملن هذه لحا ؟

لجزء ثالث: لمشراي ع لقيامه مقبل دول لمنبع واثاره على قلتص الى عراق.

- 1- من خبيوتك كموظفت عمل في وزارة ل موارد لاچية ، ماهي لمشراي ع هس يدة مقبل تكي ا على ن هري دجلة وهرات ، وما هي آثاره على قلتص الى عراق ببعباره دولة لمصوب منح ي بلس خدام لهي اه راض لري في لقطاع لزراعي وإمدادات لطق في لقطاع لصناعي؟
- 2- بناء على خبيوتك كموظفت عمل في وزارة ل موارد لاچية ، ماهي لمشراي ع هس يدة مقبل سوي ا على ن هري دجلة وهرات ، وما هي آثاره على قلتص الى عراق ببعباره دولة لمصوب منح ي بلس خدام لهي اه غراض لي في لقطاع لزراعي وإمدادات لطق في لقطاع هس ناع؟
- 3- من خبيوتك كموظفت عمل في وزارة ل موارد لاچية ، ماهي لمشراي ع هس يدة مقبل ليران على روفل دن هري دجلة ، وما هي آثاره على اقتص ادلاعرق ببعباره دولة لمصوب منح ي بلس خدام لهي اه غراض لري في لقطاع لزراعي وإمدادات لطق في لقطاع لصناعي؟
- 4- من خبيوتك كموظفت عمل في وزارة لكوباء ، ماهي ار لهيتتبه على نقص لهي اه في ن هري دجلة وهرات على محطت تلوي د لطقه لكوباء في لعراق؟
- 5- من خبيوتك كموظفت عمل في وزارة لزراعة ، ماهي ار لهيتتبه على نقص لهي اه في ن هري دجلة وهرات على اراض لصلح للزراعة ل لتصح في لعراق؟

لجزء لابع: لختمة.

- 1- من وجهه نظر ك ، ماهي لتوصيات لمكن وال تي تتترحها لحل مشكلتي تقاسم وادارة ميا هري ن هري دجلة وهرات بيل دول لمنبع لمصوب لحل مشكلتي تقاسم وادارة ميا هري دجلة وهرات؟
- 2- هل لكي اي مغلوم اضاية اوسوال حول موضو غلبحت / لدراسة؟