Transboundary Water Projects by Turkey and Iran: The Impacts on Iraqi Water Resources

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Abstract

Over exploitation of lakes, rivers and aquifers will jeopardize these ecosystem services and have dire consequences for the reliability and sustainability of water supplies in some of the countries. The issue of the transboundary water projects always cause tension between two countries when the project cause harm to the people of living to the effected country. Iraqi water resources for example has faced unprecedented stress and impact to environmental destruction caused by water projects carried out by Turkey and Iran on Ilisu and Daryan Dams’. These projects gave impact to Tigris, Euphrates and Shatt Al-Arab rivers in Iraq and violated Iraqi people the right to access equitable share of water. Thus, the objective of this paper is to analysis the legal responsibility of Turkey and Iran on their water projects and the impacts toward Iraqi water resources accordance to International laws perspective. The discussions of this paper adopt critical content analysis by using descriptive method. The paper found that the current development of water projects by Turkey and Iran have caused water shortage of Iraq water recourses. The water projects carried out by Turkey and Iran also violated the principle right to access equitable share of water in accordance to international customary law, transboundary water treaties and other related international principles.

Keywords: Transboundary water, Ilisu and Darin dams, Tigris and Euphrates rivers, international law.

1. INTRODUCTION

Transboundary waters is refer to the aquifers lake and river basins which normally shared between two or more countries to support the lives and livelihoods of vast numbers of people in certain area. United Nations (UN) reported that the 263 trans boundary lake and river basins cover almost half the Earth’s surface. There are about 145 States have territory in these basins, and 30 countries lie entirely within them and there are approximately 300 transboundary aquifers, helping to serve the 2 billion people who depend on groundwater (UN Water, 2020). The cost of socio-economic and environmental challenges related to trans boundary water (such as increasing water demand, security, regional peace, and prosperity inter alia.) encourage countries to take into serious consideration secure access to equitable water sharing by having strong trans boundary water agreement (Zarei, 2020).

Over exploitation of lakes, rivers and aquifers will caused jeopardize these ecosystem services and have dire consequences for the reliability and sustainability of water supplies in some of the countries. The issue of the transboundary water projects always cause
tension between two countries when the project cause harm to the people of living to the effected country. Therefore, transboundary water issue is fundamentally crucial for Iraq to guarantee water right from Tigris and Euphrates basins for current and future Iraqi generation. The problem of the poor water quality for drinking and irrigation consider as a major water problem in Iraq and below WHO standards (UN, 2013).

Figure 0: Iraq and its surrounded countries map

Source: Elaiwi et al., (2020)

Iraq population is about 40,414,796 as at September 2020 (Worldometer, 2020), located in southwest Asia and northeast the Arab world, lies between the latitudes 29 and 37 and the longitudes 38° and 48° (figure 1). Iraq has 438317km2 of total area, while the water body area of the country is contain 950 km2 of that total area (Elaiwi et al., 2020). The middle and southern part of the country has is continental, subtropical, arid, and semi-arid, which it shifts to the Mediterranean in the north and north-eastern mountain and the average rainfall is about 216mm annually. Iraq has a strategic geographic place, because it has coastline at the head of the Arab Gulf within 58 km lengthen (Chabuk, Al-madhlom, Al-maliki, Al-ansari, & Al-maliki, 2020).

1.1 Water Resources of Iraq

Iraq has different forms of surface water resources consist of rivers and lakes. Tigris and Euphrates with their tributaries consider as the main surface water resources that supply more than 98% of Iraq water demand for various human purposes (Zarei, 2020). Currently Iraq face a serious water shortage due to external factors such climate change, water projects by neighborhood countries such Turkey and Iran, coincide with internal factors such as rapid population growth, urbanization, poor water management (Zarei, 2020; Issa, Al-Ansari, Sherwany, & Knutsson, 2014). The Middle East region faced with unprecedented pressure by Climate change and global warming, which pose drought and water shortage including Iraq. The reduce of rainfall and snowfall and a noticeable
decrease in water resources effect on Iraqi economy particularly agriculture sector (Elaiwi et al., 2020).

Based on UN water data (UN Water, 2020), water resources in Iraq as follows:

- The availability of water for agriculture, industry and household supplies is a major issue for Iraq. Upstream damming, pollution, climate change and inefficient usage impact the quality and quantity of the country’s water.
- The Tigris and Euphrates rivers are Iraq’s two major surface water sources; they may dry up by 2040 if current trends prevail.
- The amount of water available per person per year decreased from 5,900 cubic metres in 1977 to 2,400 cubic metres in 2009.
- 20% of households in Iraq use an unsafe drinking water source.
- 65% of households use public networks as a main source of drinking water.
- 92% of total freshwater is used for irrigation and food production.
- The Marshlands in the south of Iraq are the largest wetlands in Southwest Asia and are recognized as one of the world’s most exceptional ecosystems, yet the percentage of dried marshlands is now 90%.” (UN, 2020).

Nevertheless, neighborhood water projects on Tigris and Euphrates basins is another external factor that threaten Iraqi water right. The catchment area of Tigris and Euphrates divided among Iraq, Turkey, Iran, Syria and Saudi Arabia. Therefore, the riparian countries started to build up huge dams over these rivers to supply water for multiple human purposes particularly in Turkey and Iran (table 1), which are significantly decreased flows of Tigris and Euphrates to Iraq in recent years. (N. Al-Ansari, Ali, & Knutsson, 2014). For instance, after construction of Ilisu dam on Tigris river, Iraq will gain 9.7 km$^3$, this is mean 47% of the river will decline, which cause to prevent 696,000 hectares of agricultural land. (N. A. Al-Ansari, 2013).

### 1.1.1 Tigris River

Tigris river rises at the south east of slope of Taurus Mountains in two sites, the western site is nearby Dier city at 1500 m above sea level, with a discharge of 64 m$^3$/s, whereas the eastern site, named Butman Su, located near Sinan city at 2700 m above sea level with a discharge of 96.3 m$^3$/s. The River has 235,000 km$^2$ drainage area which shared among four countries which Turkey (17%), Syria (2%), Iran (29%) and Iraq (52%). The lengthen of the river is 1718 km (N. Al-Ansari et al., 2014). Furthermore, some tributary joined the river, such as Karzun tributary, which joins the river near Bishwi village, and Hazu tributary nearby ZEU village with 240 km north of Iraqi border, which has the discharge of 59 m$^3$/s. Then the river joined by Butan Su River, with a discharge of 20.3 m$^3$/s, to form the united Tigris River. (Chabuk, Al-madhlim, Al-maliki, Al-ansari, & Al-maliki, 2020; N. Al-Ansari et al., 2014).

The river entering Iraq near Zakho city at 4 km north Fieskhhabur. Khabur river is the first tributary of the river with 100km lengthen, and 6268km$^2$ of catchment area, the rive goes about 188km twowrds south until reach Mosul city. About 49 km south of Mosul city, Great Zab as a largest tributary joined to the river, which lies its catchment in Turkey, Iran, and Iraq. Meanwhile, Lesser Zab tributary joined the river in Fatha, this tributary has
22,250 km² of catchment area, which has 5975 km² lies in Iran. Towards south the river reach Baghdad, at 31 km south of the Baghdad Diyala tributary joins the river, this tributary has 31,896 km² drainage basin, 20% of which located in Iran and the rest in Iraq (Al-Ansari et al., 2014; Issa, Al-Ansari, Sherwany, & Knutsson, 2014 (Chabuk, Al-madhlom, Al-maliki, Al-ansari, Hussain & Laue, 2020).

Table 1: dams constructed on Tigris River basins

<table>
<thead>
<tr>
<th>Name of dam</th>
<th>Country</th>
<th>Use</th>
<th>Date of operation</th>
<th>Height (m)</th>
<th>Storage capacity (km²)</th>
<th>Water surface area (km²)</th>
<th>Hydropower (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bahram</td>
<td>Turkey</td>
<td>I, HP, FCD</td>
<td>1968</td>
<td>71</td>
<td>1.18</td>
<td>49.2</td>
<td>190</td>
</tr>
<tr>
<td>Devegezdi</td>
<td>Turkey</td>
<td>I</td>
<td>1972</td>
<td>33</td>
<td>0.2</td>
<td>32.1</td>
<td>___</td>
</tr>
<tr>
<td>Cag-cag</td>
<td>Turkey</td>
<td>HP, FCD</td>
<td>1968</td>
<td>0</td>
<td>0.60</td>
<td>24</td>
<td>110</td>
</tr>
<tr>
<td>Dicle</td>
<td>Turkey</td>
<td>HP, I</td>
<td>1997</td>
<td>75</td>
<td>0.60</td>
<td>3.9</td>
<td>___</td>
</tr>
<tr>
<td>Goksu</td>
<td>Turkey</td>
<td>I</td>
<td>1991</td>
<td>46</td>
<td>0.66</td>
<td>3.9</td>
<td>___</td>
</tr>
<tr>
<td>Kralikini</td>
<td>Turkey</td>
<td>HP</td>
<td>1997</td>
<td>113</td>
<td>1.92</td>
<td>57.5</td>
<td>90</td>
</tr>
<tr>
<td>Al-Adheem</td>
<td>Iraq</td>
<td>HP, I</td>
<td>1999</td>
<td>__</td>
<td>1.5</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>Derbendikhan (Diyala)</td>
<td>Iraq</td>
<td>I</td>
<td>1961</td>
<td>126</td>
<td>3</td>
<td>114</td>
<td>___</td>
</tr>
<tr>
<td>Dibbi (L. Zab)</td>
<td>Iraq</td>
<td>I</td>
<td>1965</td>
<td>22</td>
<td>0.05</td>
<td>32</td>
<td>___</td>
</tr>
<tr>
<td>Diyala</td>
<td>Iraq</td>
<td>I</td>
<td>1969</td>
<td>12</td>
<td>___</td>
<td>___</td>
<td>___</td>
</tr>
<tr>
<td>Dokan (L. Zab)</td>
<td>Iraq</td>
<td>HP, I</td>
<td>1959</td>
<td>116.5</td>
<td>6.6</td>
<td>270</td>
<td>400</td>
</tr>
<tr>
<td>Hammam (Diyala)</td>
<td>Iraq</td>
<td>LC</td>
<td>1981</td>
<td>40</td>
<td>3.56</td>
<td>450</td>
<td>50</td>
</tr>
<tr>
<td>Mosul</td>
<td>Iraq</td>
<td>HP, L, FC</td>
<td>1986</td>
<td>113</td>
<td>11.1</td>
<td>380</td>
<td>750</td>
</tr>
<tr>
<td>Sanaa-Tharthar</td>
<td>Iraq</td>
<td>FD, L, HP</td>
<td>1936</td>
<td>___</td>
<td>72.8</td>
<td>2170</td>
<td>87</td>
</tr>
<tr>
<td>Dez</td>
<td>Iran</td>
<td>HP, I</td>
<td>1962</td>
<td>203</td>
<td>3.46</td>
<td>___</td>
<td>520</td>
</tr>
<tr>
<td>Kirkheh</td>
<td>Iran</td>
<td>HP, L, FC</td>
<td>2001</td>
<td>128</td>
<td>7.8</td>
<td>1000</td>
<td>400</td>
</tr>
<tr>
<td>Karun</td>
<td>Iran</td>
<td>HP, I</td>
<td>1977</td>
<td>200</td>
<td>3.14</td>
<td>548</td>
<td>1000</td>
</tr>
<tr>
<td>Manam</td>
<td>Iran</td>
<td>HP, I</td>
<td>1998</td>
<td>165</td>
<td>1.2</td>
<td>25</td>
<td>145</td>
</tr>
</tbody>
</table>

Note: HP; hydropower; I: irrigation; FC: flood control; FD: flow division.
Source: Issa et al., (2014)

1.1.2 Euphrates River

The longest river in Western Asia is Euphrates River, the majority of it located in Turkey. Two main tributary forms the river which are called the Murat-Sue and the Frat-Sue(or Karat-Sue) (Issa et al., 2014). Euphrates River rises in southern Turkey from mountains area. It has about 1178 km inside Turkey before reach the Syria, and goes 604 km until hit the Iraqi border. While the lengthen of the river inside Iraq is 1160 km. However, from Turkey to its confluence with Tigris river in south on Iraq is 2940 km, and the total drainage area of the river catchments is 444,000 km², which lies from Turkey(28%), Syria(17%), Iraq(40%) and Saudi Arabia (15%). (N. Al-Ansari et al., 2014).

The Euphrates River near Jorablus inter Syria border and flow to Albokamal at the Syrian-Iraqi border. The catchment’s area of the river before reaching Iraq about 201,000 km2. In Syria, three tributaries join the Euphrates: Sabor River, Belaikh River and
Khabor River. Moreover, there are some dams has been constructed on the river in Syria such as Tabaka, Tersaah, Tishrine and Muhardah with different storage capacity (Table 2).

Table 2: Dams constructed on the Euphrates River basin

<table>
<thead>
<tr>
<th>Name of dam</th>
<th>Country</th>
<th>Use</th>
<th>Date of operation</th>
<th>Height (m)</th>
<th>Storage capacity (km³)</th>
<th>Water surface area (km²)</th>
<th>Hydropower (MW)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Atatürk</td>
<td>Turkey</td>
<td>HP, I</td>
<td>1992</td>
<td>166</td>
<td>48.7</td>
<td>817</td>
<td>2400</td>
</tr>
<tr>
<td>Birecik</td>
<td>Turkey</td>
<td>HP, I</td>
<td>2000</td>
<td>53</td>
<td>1.22</td>
<td>56.3</td>
<td>672</td>
</tr>
<tr>
<td>Karakaya</td>
<td>Turkey</td>
<td>HP</td>
<td>1987</td>
<td>158</td>
<td>9.58</td>
<td>268</td>
<td>1800</td>
</tr>
<tr>
<td>Karkamine</td>
<td>Turkey</td>
<td>HP, FC</td>
<td>1999</td>
<td>21</td>
<td>0.16</td>
<td>28.4</td>
<td>189</td>
</tr>
<tr>
<td>Kebo</td>
<td>Turkey</td>
<td>HP</td>
<td>1975</td>
<td>163</td>
<td>31</td>
<td>675</td>
<td>1330</td>
</tr>
<tr>
<td>Baath</td>
<td>Syria</td>
<td>HP, I, FC</td>
<td>1938</td>
<td></td>
<td>0.09</td>
<td>27.2</td>
<td>75</td>
</tr>
<tr>
<td>Tabqa</td>
<td>Syria</td>
<td>HP, I</td>
<td>1975</td>
<td>60</td>
<td>11.7</td>
<td>610</td>
<td>800</td>
</tr>
<tr>
<td>Ishtime</td>
<td>Syria</td>
<td>HP</td>
<td>1999</td>
<td>40</td>
<td>1.9</td>
<td>166</td>
<td>650</td>
</tr>
<tr>
<td>Upper Khabor</td>
<td>Syria</td>
<td>I</td>
<td>1992</td>
<td></td>
<td>0.99</td>
<td>1.4</td>
<td></td>
</tr>
<tr>
<td>Al Firdowsiyah</td>
<td>Iraq</td>
<td>FD</td>
<td>1913 (1989)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Haditha</td>
<td>Iraq</td>
<td>HP, I</td>
<td>1988</td>
<td>37</td>
<td>8.2</td>
<td>503</td>
<td>660</td>
</tr>
<tr>
<td>Falujah</td>
<td>Iraq</td>
<td>I</td>
<td>1983</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ramadi-Hebbaniyeh</td>
<td>Iraq</td>
<td>FC</td>
<td>1956</td>
<td></td>
<td>3.3</td>
<td>426</td>
<td></td>
</tr>
<tr>
<td>Ramadi Reaza</td>
<td>Iraq</td>
<td>FC</td>
<td>1951</td>
<td></td>
<td>26</td>
<td>1810</td>
<td></td>
</tr>
</tbody>
</table>

Note: HP: hydropower; I: irrigation; FC: flood control; FD: flow division.
Source: (Issa et al., 2014)

Additionally, the number of other small and medium size dams has been developed on the river 86, the Babalhadied with a capacity of storage of 25×106m³ is known as biggest dam, while the smallest dam has 30,000m³ storage capacity (N. Al-Ansari et al., 2014).

1.1.3 Shatt Al-Arab River (SAR)

Shatt Al-Arab River (SAR) is located at Basra governorate in southern Iraq, between 29° 45′–31° 15′ N and 47° 10′–48° 45′ E. Tigris and Euphrates confluence form Shatt Al-Arab River at town of Qurnah within 65 km north of Basra. To join the Arabian Gulf, from Qurna the SAR runs down 200km. The most important tributaries of SAR comprise of Tigris, Euphrates, Karkheh and Karun Rivers.(Al-Asadi, Al-Qurnawi, Al Hawash, Ghalib, & Alkhlifa, 2020).

The Tigris, Euphrates, Karkheh It has 192 km lengthen with 80.800 km² drainage area. It has about 300 m width near Qurnah and increases downstream to 700 m near Basra city and to about 850 m near its mouth at the gulf area. Karun and Karkha Rivers usually contributes 24.5 and 5.8 billion cubic meters (BCM) annually respectively. This provide about 41% of the water of Shatt Al-Arab. Its annual discharge at Fao city reaches 35.2 ×
109 m$^3$. The river forms boundary between Iraq and Iran before discharging to Persian Gulf, therefore, it has strategic importance for both Iraq and Iran, which continuously cause to conflict over the river, for instance, Iraq-Iran war in 1980-1988. (ECC PLATFORM LIBRARY, 2020). Thus, Iraq has used the river as a navigational channel for transporting vessels into Basra’s ports through Arabian Gulf. However, 8 years’ war has faced the river to destruction and loses of biological diversity due to bombing boat alongside the river. (al-Jaffal, 2019). Despite that, other anthropogenic factors such uncontrolled urbanization, oil projects, huge number of vehicles in the river area coincide with some natural factors expected to contribute in more implication of the river quality.(Al-Asadi et al., 2020).in addition the river has been polluted with some heavy metals such as Cr, Cu, Ni, Mn, and Fe were higher than the United States Environmental Protection Agency (USEPA) guideline, this prove that the river is encountering noticeable contamination, particularly at the more populated and industrialized area.(Allafta & Opp, 2020).

2. WATER PROJECTS IN TURKEY

In 1977 the government of Turkey made a project named as Southeastern Anatolia Project (GAP). This project comprise of 22 dams (14 of them constructed on Euphrates river and 8 other will construct on Tigris river) and 19 hydraulic power plants, which are aims to irrigate 17,000km$^2$ of land, the targeted volume of water to be captured is 100km$^3$ which is triply larger than the capacity of all Iraqi and Syrian reservoirs. The project specifically build to develop the southeastern areas which cover 9.7% of turkey, and makes 20% of agricultural land of the country (N. A. Al-Ansari, 2013).

GAP has been enabled to irrigate 1.82 million hectares, which means the water requirement of the project is about 29 km$^3$, meanwhile the reservoirs of the project could store 100km$^3$.however, it is expected that completion of GAP will enable Turkey to control 80% of the Euphrates water. Moreover, the volume of water from Euphrates to Iraq will be affected, for instance, in 1990 Iraq received 29 km$^3$ which remarkably decline to 4 km$^3$ in 2013.Therefore, the usage of land for agricultural purpose in Syria and Iraq has been decreased from 650,000 hectares to 240,000 hectares (Tosun, 2019; Bilgen, 2018; N. A. Al-Ansari, 2013).

However, the Ilisu Dam among others is consider as the largest dam on the Tigris River in Turkey with a storage capacity of 10.4 billion, Ilisu dam aims to generate electricity, located 65 km upstream from Turkey-Syria border, it started operating from summer 2019. Likewise, Cizre Dam is built for agricultural purpose on Tigris River at 45 km down stream of Ilisu and about 20 km upstream of Iraq-Turkey border.

3. WATER PROJECTS IN IRAN

Recently water projects from Iran significantly declined water flows to Iraq. For instance, water flows in Alwan River in Khanqin and Sirwan River in Kurdistan Region of Iraq (KRI) substantially affected by water projects such Daryan dam and water tunnel, which named (Nawsud water tunnel). Iranian government started to build 14 dams, some of them has been completed. For example, Daryan dam located at Kermanshah governorate of Iranian Kurdistan, which located 28.5 km from Iraqi border. Based on Iranian government announcement the objective of this Dam is to generate hydroelectricity and irrigation purpose for southwestern Iran. This dam expected to yield 230 megawatts.
Furthermore, by 9.5 km from Daryan Dam, Iranian government initiated establishing water tunnel called “Nawsud” as mentioned above, which has 47 km lengthen to transfer water from Sirwan River to Iran. However, Iran established dams on other seasonal rivers close to Iraqi border, which cause to water reduction in Iraqi land, further, it built dams on Karkheh river and Karun River to collect water and bring it to Iran. (Elaiwi et al., 2020).

4. IMPACTS OF WATER PROJECTS FROM TURKEY AND IRAN ON IRAQI WATER RESOURCES

The construction of the dams on Tigris and Euphrates in Turkey will have negative impacts upon Iraqi water resources, due to remarkably shifting water quality and quantity. For instance, Ilisu and Crizer dams among other have substantial impacts on Tigris water flows to Iraq, the Ilisu dams located upstream for Mosul Dam, it drain major watershed area of the dam, Mosul Dam originally designed to 54,900km² watershed area, which expected to decline to about one fifth of the total area, study estimated based on current flow if these two dams fully operate, inflow to Mosul Dam by 22% decrease. (Abdul-Sahib T. Al-Madhhachi, Khayyun A. Rahi, 2020). Likewise, the water flows from Euphrates substantially decreased from 30 billion cubic meter of water before constructing of these dams to 15 billion cubic meters after that (Chomani & Bijnens, 2016).

However, these projects have critical consequences on access clean water for people. For example, about 3.8 million people in Baghdad depend on Tigris river for their water needs. Therefore, decrease of water flows affect water supplies and quality, which currently under international standards of WHO. Moreover, the quality of Shatt Al-Arab will also more deteriorate as a result of declining of water flow from Tigris and Euphrates river. (Report by NGO in Iraq submitted to the U.N. Committee on Economic, Social and Cultural Rights for its 56th Session, 2015). Moreover, the implementation of GAP bring harms for the Marshes, which are known as the Garden of Eden, with an area of 15,000-20,000sq.km. (N. A. Al-Ansari, 2013). The Marsh Arabs lives where Tigris and Euphrates confluence, which is listed by UNESCO as a world cultural heritage sites, due to its unique ecology worldwide. This Marsh consider crucial habitat environment for diversity of species, which has vital roles in food production such rice, wheat, millet and dates, despite its value for fishery, and providing fin fish and penaid shrimp (Priestley, 2020).

However, the agriculture sector will face more challenges, such as, damage agricultural land, increase salinity which cause land destruction, furthermore, it is expected this water projects cause to damage water quality, reduce hydropower production, rise more regional conflicts, and decrease level of ground water (N. A. Al-Ansari, 2013).

In terms of Iranian water projects such as Daryan dams and Nawsud tunnel among others, it is expected the operation of these projects to cause complete cut of the water flows to KRI, which lead to deprive water to 3,200 hectares of agricultural land within Sulaymaniyyah and Halabja governorates. Moreover, the Iranian water projects have impacts on other parts of Iraq in south especially in Diyala governorate which rely on Sirwan river (named Diyala River in Diyala governorate), which combine with Alwan River, however, 20 to 30 percentage of annual water flows from Tigris River via Iran comes to Iraq through these two rivers. (Chomani & Bijnens, 2016). Therefore, the reduction of water flows from Iran due to dams that constructed on these rivers cause...
serious water scarcity in Iraq, the absence of agreement between Iran and Iraq regarding Sirwan and Alwan rivers is the main obstacle that need to be addressed (Chomani & Bijnens, 2016).

5. TURKEY’S AND IRAN’S VIOLATIONS OF INTERNATIONAL LAW IN RELATION TO ILISU AND DARYAN DAMS

Internationally there are some rules and principles that have been adopted by international and regional conventions to regulate trans boundary rivers to avoid impact on water sharing right among riparian countries. Therefore, International water law simply is “law regulates the usage of international watercourses which are located partly in different countries” (Zarei, 2020). In terms of constructing such dams by Turkey and Iran, there is a violation of Iraqi water right, which is emphasized by international customary laws. The following points will discuss these international obligations that have been violated by Turkey and Iran in regarding the existent practice of dam construction.

5.1 The environmental impact assessment (EIA) of existent dams failed to take into consideration the impacts on neighbourhood countries in their water right and environment in violation to the international customary law:

The development of such dams, which might have transboundary effects, require comprehensive EIA to analysis any expected consequences or impacts for other countries in the region. International Court of Justice (ICJ) has ensured this obligation over the governments in 2010, which stated that:-

[It may now be considered a requirement under general international law to undertake an environmental impact assessment where there is a risk that the proposed industrial activity may have a significant adverse impact in a trans boundary context, in particular, on a shared resource. Moreover, due diligence, and the duty of vigilance and prevention which it implies, would not be considered to have been exercised, if a party planning works liable to affect the régime of the river or the quality of its waters did not undertake an environmental impact assessment on the potential effects of such works.](pulp Mills on the River Uruguay (Argentina v. Uruguay), (20 April 2010), para. 204.

Moreover, the Convention of Biological Diversity(CBD) in 1992 emphasized on the assessment of such impacts and attempts to minimizing adverse outcomes(Convention on Biological Diversity, 1992). As well as, the Rio declaration which is announced from United Nations Conference on Environment and Development (UNCED) in 1992 in Principle 17 stated that:-

“Environmental impact assessment, as a national instrument, shall be undertaken for proposed activities that are likely to have a significant adverse impact on the environment and are subject to a decision of a competent national authority.” (UNCED, 1992).

Therefore, the government of Turkey and Iran not followed the requirements of EIA.(Campaign, 2014).
5.2 Turkey and Iran’s government failed to consult directly with affected community in Iraq in contravention to international customary law:

Based on United Nations’ World Charter for Nature (WCN) the government when build such projects that has environmental consequences should consult people in affected community which may be affected by these projects such dams, even if these affected people living in neighborhood countries. As part three at para 16 of Charter stated,

“All planning shall include, among its essential elements, the formulation of strategies for the conservation of nature, the establishment of inventories of ecosystems and assessments of the effects on nature of proposed policies and activities; all of these elements shall be disclosed to the public by appropriate means in time to permit effective consultation and participation.”(WCN, 1982).

5.3 The construction of Ilisu Dam which expected to bring trans boundary impacts is violated to international law which impose duty on states to prevent trans boundary harms:

The international law emphasize on the obligation of the riparian countries to prevent transboundary harms to neighborhood countries. For instance, the World Charter for Nature (WCN) ensure that the countries have to prevent any harms to other countries’ natural system, in part three at para 21(d) stated that, states shall,

“ensure that activities within their jurisdictions or control do not cause damage to the natural systems located within other States or in the areas beyond the limits of national jurisdiction.”(WCN, 1982).

In addition, the Rio Declaration in 1992 despite mentioning to the sovereignty right of every country on their own environment and natural system, simultaneously ensure that the state should respect other countries nature, which stated in principle 2:-

“States have, in accordance with the Charter of the United Nations and the principles of international law, the sovereign right to exploit their own resources pursuant to their own environmental and developmental policies, and 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.”(UNCED, 1992).

The Convention on the Law of the Non-navigational Uses of International Watercourses (UN, 2014) is adopted by the General Assembly of United Nation in May 21, 1997, and come into force on August 17, 2014. The United Nations Economic Com- mission for Europe (UNECE) Convention on the Protection and use of Transboundary Watercourses and International Lakes in 1992 (ECE Water Convention) are two conventions that have general rules and principles, such as “cooperation, equitable, reasonable utilization, and the no-harm rule”(Zarei, 2020). These conventions have provisions that clearly make sure on the duty of the riparian states regarding utilizing their natural resources and respecting neighborhood states’ right and not affecting their environmental right, for instance:-
(i) Article 5(1) stated that, “Watercourse States shall in their respective territories utilize an international watercourse in an equitable and reasonable manner.”.

(ii) Article 7(1) stated that, “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.”

(iii) Article 11, which stated that, “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”; and

(iv) Article 12, which stated that, “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 to notified states to evaluate the possible effects of the planned measures.”

Turkey not ratified the above mentioned convention about international watercourses but still has the duty to obey the outcomes of the convention because these rules and principles consider as obligation on all countries based on international customary law. (Save the Tigris and Iraqi Marshes Campaign, 2014).

5.4 Turkey not obey its obligation based on Turkey-Iraqi convention to shared use of Tigris River:

Even though, based on the above mentioned international customary law and other international principles relevant to international watercourse Turkey has the obligation to respect iraqi water share right, simultaneously, Turkey violated existent agreement with Iraq about use of Tigris river. For instance: Based on the protocol No.1 of 1949 (which is related to regulation of the water of Tigris and Euphrates and its tributaries) to the 1946 Treaty of Frindship and Nieghburely Relation beween Iraq and Turkey stated that, “The Government of Turkey agrees to inform Iraq of any projects relating to protection works it may decide to construct on either river or on its tributaries in order to render such works, as far as possible, serve the interest of Iraq as well as serve the interest of Turkey.”

Furthermore, Article 3 and 5 of the 1946 Treaty require consultation between Iraqi and Turkish government, if this consultation does not reach a solution, the conflit could convey to the UN Security Coouncil. (IRAQ and TURKEY Trety of friendship and neighbourly relations, 1946).

5.5 The decision of construction of dams such Iliisu or Daryan is not successfully take into consideration the uncertainties and impacts of these projects which is violated to the precaution principle:

Precaution principle is emphasized in principle 15 of the Rio declaration, which stated that:-
“In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.”(UNCED, 1992).

Therefore, the decision of building Ilisu dam for example failed to take into account the situation of Iraqi downstream communities which might face severe water scarcity, undermining thousands hectares of agricultural land and environmental destruction, this uncertainties and threaten not addressed well by conducting comprehensive EIA, as discussed above.(Save the Tigris and Iraqi Marshes Campaign, 2014).

5.6 Iraq has the right to receive compensation if operation of Ilisu or Daryan dam bring harmful consequences to Iraq:

As the ICJ has explicitly recognized that, it stated, “it is a well-established rule of international law that an injured State is entitled to obtain compensation from the State which has committed an internationally wrongful act for the damage caused by it.” (See: Gabcikovo-Nagymaros Project (Hungary/Slovakia) at 81, para 152, mentioned by(Save the Tigris and Iraqi Marshes Campaign, 2014). Therefore, Iraq has the legal right to sue in front of ICJ and UN Security Council.

In brief, based on international customary law and international watercourse conventions and other regional agreements between riparian countries of Tigris and Euphrates rivers as discussed above Turkey and Iran have legal mandate to respect Iraqi water right by preventing any negative impacts on downstream community which currently face unprecedented water scarcity problem, due to reduce water flows at an alarming right. This issue should clearly addressed in accordance to new agreement particularly between Iraq-Turkey and Iran under supervision of United Nations to avoid politicize water sharing right.

6. CONCLUSION

Although, Iraqi water resources encountered with a considerable challenge due to internal factor such as poor water management, yet external factors such as climate change and neighboring water projects on Tigris and Euphrates rivers as a main surface water resource in Iraq exacerlated the water scarcity problem. The present paper faound that the International customary law and other related international conventions and principles emphasized on the obligation of the riparian countries to respect equitable water sharing right for all, and the upstream countries should not act in away that cause harms to water and environmental rights of other neighborhood states. Therefore, Turkey and Irans’ government have violated Iraqi water right based on Internation water laws. This situation require urgent steping stone by All reparian countries on Tigris and Euphrates basin especially between Iraq-Turkey and Iran under United Nations’ supervision to prevent politicize or utilize water as weapon.
REFERENCES


