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**INTERNATIONAL PEACE, HUMAN RIGHTS, AND  
PREVENTION OF INTERNATIONAL CRIMES  
THROUGH TRANSBOUNDARY RIVERS'  
GOVERNANCE:  
THE CASE OF THE MENA REGION**

Virginia Balafouta



**CYPRUS CENTER FOR  
EUROPEAN AND  
INTERNATIONAL AFFAIRS**

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**UNIVERSITY *of* NICOSIA**

1993-2020 TWENTY SEVEN YEARS OF POLICY FORMULATION AND ANALYSIS

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International Peace, Human Rights, and Prevention of International Crimes  
through Transboundary Rivers' Governance: The Case of the MENA Region

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## **ABSTRACT**

The current paper seeks to establish a close connection between the governance of transboundary rivers and i) the maintenance of international peace and security, ii) the promotion of human rights and iii) the prevention of international crimes. This connection highlights the importance and magnitude of transboundary rivers' management, its multi-dimensional character, and the fact that it is a modern international challenge. In addition, the paper analyzes in what ways International Law of Transboundary Rivers could be significantly strengthened through International Human Rights Law, International Humanitarian Law and International Criminal Law.

Special emphasis is given to the "unfavorable" geopolitical and hydrological region of the Middle East and North Africa (MENA). Furthermore, concerning the armed conflict in Syria, the international crimes committed through actions related with transboundary rivers and their resources are analyzed, including war crimes, crimes against humanity and terrorism.

## 1. INTRODUCTION

Throughout the ages, transboundary rivers' special importance and value is crucial, is recognized by people, and strong competitions can sometimes be developed for the use of transboundary rivers and their resources.

In my PhD Thesis,<sup>1</sup> I had proposed to be established a separate branch of International Law, covering the legal regulation and governance of the entire transboundary river system, with river-side subsystems depending on the river or affecting its "life".

The proposed branch was called "International Law of Transboundary Rivers". It refers to International Law, but also to the national/domestic law of states; on the grounds that the river is an indivisible natural entity, independent of any existing political boundaries, and that best practices for resolving any related problem are almost always independent of these borders.

The creation of an adequate, clearly defined, relevant legislative framework is a guarantee of fair and reasonable use of rivers and their resources. In addition, linking this framework with rules embodied in jus cogens or international customary law, would reinforce that framework and the obligation of international actors to comply with it.

This paper attempts to point out the correlation between the protection and management of transboundary rivers with the maintenance of international peace and security and with all the primary purposes of International Law. At the same time, is highlighted the link between their governance and the protection of human rights. In addition, it is argued that International Law of Transboundary Rivers is linked to International Criminal Law and to International Humanitarian Law. This position is substantiated by the analysis of international crimes, namely war crimes, crimes against humanity and terrorism, committed in the armed conflict in Syria, with acts related to transboundary rivers and their resources. Moreover, it is presented the issue of the governance of transboundary rivers in the Middle East and North Africa region (MENA), namely the most "unfavorable"

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<sup>1</sup> - Virginia Balafouta, "International Law of Transboundary Rivers: Transboundary Rivers' Governance"- Contribution to the Codification and Implementation of International Law of Transboundary Rivers as an Autonomous Branch of International Law (Subject - Methodology - Philosophical Background - Legal Background - Code), PhD Thesis, National and Kapodistrian University of Athens, Athens, 2015, p. 453.

- Virginia Balafouta, "Proposal for a Theoretical International Law Database for the governance of transboundary rivers", Working Papers, (International Law), Faculty of Turkish Studies and Modern Asian Studies, School of Economics and Political Sciences, National and Kapodistrian University of Athens, <http://goo.gl/Xx1wLv>, uploaded: 27/09/2014, p. 80.

- Virginia Balafouta, "Proposal for an Empirical International Law Database for the governance of transboundary rivers", Working Papers, (International Law), Faculty of Turkish Studies and Modern Asian Studies, School of Economics and Political Sciences, National and Kapodistrian University of Athens, <http://goo.gl/Xx1wLv>, uploaded: 27/09/2014, p. 46.



hydrological and geopolitical region on the planet, and proposals are put forward.

## **2. TRANSBOUNDARY RIVERS' GOVERNANCE IN CONNECTION WITH THE PRIMARY PURPOSES OF INTERNATIONAL LAW - CREATING A LEGAL FRAMEWORK**

### **2.1. The governance of transboundary rivers in connection with the primary purposes of International Law**

Starting from the primary purposes of International Law, as enshrined in article 1 of the Charter<sup>2</sup> of the United Nations (UN), namely:

- i) the maintenance of international peace and security,
- ii) the peaceful settlement of international disputes,
- iii) the development of friendly relations among nations,
- iv) the international co-operation in solving international problems of an economic, social, cultural, or humanitarian character, and
- v) the respect for human rights and for fundamental freedoms for all without distinction;

it could be argued that the governance of transboundary rivers is closely linked and promotes these purposes.

In particular, constructive transnational cooperation concerning transboundary rivers is linked and promotes the maintenance of international peace and security. This is more clear and is demonstrated in the Middle East and North Africa region, as will be discussed below. Transboundary waters have been and continue to be a factor of pressure and destabilization in this region over time. It could even be argued that there is an absolute link between the management of transboundary rivers, and the -jus cogens- prohibition of the threat or use of force enshrined in article 2 (4) of the Charter.

In addition, the pacific settlement of disputes, as laid down in article 33 (1) of the Charter, finds -or requires- direct application to the management of transboundary rivers. Furthermore, constructive cooperation in managing them is a sine qua non condition for friendly and harmonious relations between states.

It should be emphasized that environmental issues are contemporary international challenges, which can only be tackled by the international community as a whole, because they are extremely serious, they are hard to solve, and they are not limited by states' borders. It follows that targeted and coordinated international cooperation is necessary. Furthermore, environmental problems have humanitarian, economic, social, cultural impacts. Therefore, they also fall into matters which require international cooperation in accordance with the Charter.

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<sup>2</sup> Charter of the United Nations (1945)  
<http://www.un.org/en/charter-united-nations/>

Finally, the access to safe drinking water and sanitation has been recognized by the UN General Assembly as a human right. The UN General Assembly Resolution A/RES/64/292 (2010)<sup>3</sup> “The human right to water and sanitation” recognizes the right to safe and clean drinking water and sanitation as a human right, that is essential for the full enjoyment of life and all human rights. It, also, calls upon states and international organizations to provide financial resources, capacity-building and technology transfer, -through international assistance and cooperation- in particular to developing countries, in order to scale up efforts to provide safe, clean, accessible and affordable drinking water and sanitation for all.

## 2.2. The amounts of Earth's liquid fresh water in rivers, lakes and groundwater aquifers and their renewability rate

It will be fruitful to present here the widely known Table of Igor Shiklomanov (1993), estimating the global water distribution. The following Table is a small remake of the original, focusing on the three main liquid fresh water sources (rivers, lakes, groundwater). Our target is to conduct to an easy rule reminding the renewability rate of water in rivers, lakes and aquifers, and showing consequently the importance and uniqueness of the rivers' water, being by far the main fresh water source, in comparison to lakes and groundwater.

	<b>Water source</b>	Earth's water volume (km <sup>3</sup> )	Percentages of Earth's water (%)
1	Oceans, Seas, and Bays	1.338.000.000	96,5
2	Saline Groundwater	12.870.000	0,93
3	Saline Lakes	85.400	0,006
<b>(Earth's Saline Waters)</b>		<b>(1.351.000.000)</b>	<b>(97,4)</b>
4	Ice caps, Glaciers, and Permanent Snow	24.064.000	1,74
5	Fresh Groundwater	10.530.000	0,76
6	Ground Ice and Permafrost	300.000	0,022
7	Fresh Lakes	91.000	0,007
8	Soil Moisture	16.500	0,001
9	Atmosphere	12.900	0,001
10	Swamp Water	11.470	0,0008
11	Rivers	2.120	0,0002
12	Biological Water	1.120	0,0001
<b>(Earth's Fresh Waters)</b>		<b>(35.000.000)</b>	<b>(2,6)</b>
<b>(All Earth's Waters)</b>		<b>1.386.000.000</b>	<b>100</b>

Table 1. Source and/or type of Earth's water and estimation of their volume and percentage<sup>4</sup>

<sup>3</sup> A/RES/64/292 (2010) “The human right to water and sanitation” (2010)  
<https://undocs.org/en/A/RES/64/292>

<sup>4</sup> Igor Shiklomanov, “World fresh water resources” in *Water in Crisis: A Guide to the World's Fresh Water Resources*, Peter H. Gleick (ed.), Oxford University Press, New York, 1993.

Table 1 shows that of the 35.000.000 km<sup>3</sup> of freshwater on Earth, the liquid fresh water (the easiest to be withdrawn for human and ecosystems consumption) is only around 30%, from which 10.530.000 km<sup>3</sup> are stored in groundwater aquifers, 91.000 km<sup>3</sup> (0.26%) in lakes, and 2.120 km<sup>3</sup> (0.006%) in rivers. In other words, the rivers water corresponds to the 1/50 of the fresh water lakes and only to the 1/5000 of the fresh groundwater.

Nevertheless, rivers' water is mainly the fresh water which covers human and ecosystems needs, because the water withdrawn from each water source (rivers, lakes, aquifers) depends on its annual "productivity" (water renewability rate), and not from the instantly stored volume on each of them. The Earth's water renewal is due to the solar energy and performed through the continuous hydrological water cycle. In fact,

- the average period of river renewal is 16 days,
- the average period of lake renewal is 17 years, and
- the average groundwater renewal is 1400 years.<sup>5</sup>

Therefore, the total amount of water, added annually and globally into rivers, lakes and groundwater aquifer, may be estimated as follows:

- for rivers at about 48.000 km<sup>3</sup> / year (~ 80%),
- for lakes at about 5.000 km<sup>3</sup> / year (~ 8%),
- for groundwater at about 7.500 km<sup>3</sup> / year (~ 12%).

This natural fresh water renewal/recharge defines that in a reasonable sense: Fresh water withdrawn must be around 80% from rivers, 12% from aquifers and 8% from lakes, following of course the local water balance. This is an hydrological rule, which should be basic knowledge for all. On this rule should be based the governance of national and transboundary waters as a whole.

It should be emphasized that rivers are the main fresh water source on Earth (they give 4/5 of the global fresh water), and this fact becomes predominant and critical in the governance of transboundary water systems. At the same time, rivers provide their hydrodynamic energy, navigation facilities, fishing, and sediment material and they contribute to the economical, cultural, educational, touristic and leisure development.

In addition, mainly the fresh water of aquifers and less the fresh water of lakes must be considered and confronted as valuable natural reserves (such as oil reserves), that may be exhausted if they are not managed rationally. On a year basis, water withdrawn from lakes and aquifers greater than their local renewal (8% and 12% respectively) is leading progressively to their drainage, destruction and definite loss of them, as it is impossible to rehabilitate them.

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<sup>5</sup> Ibid.

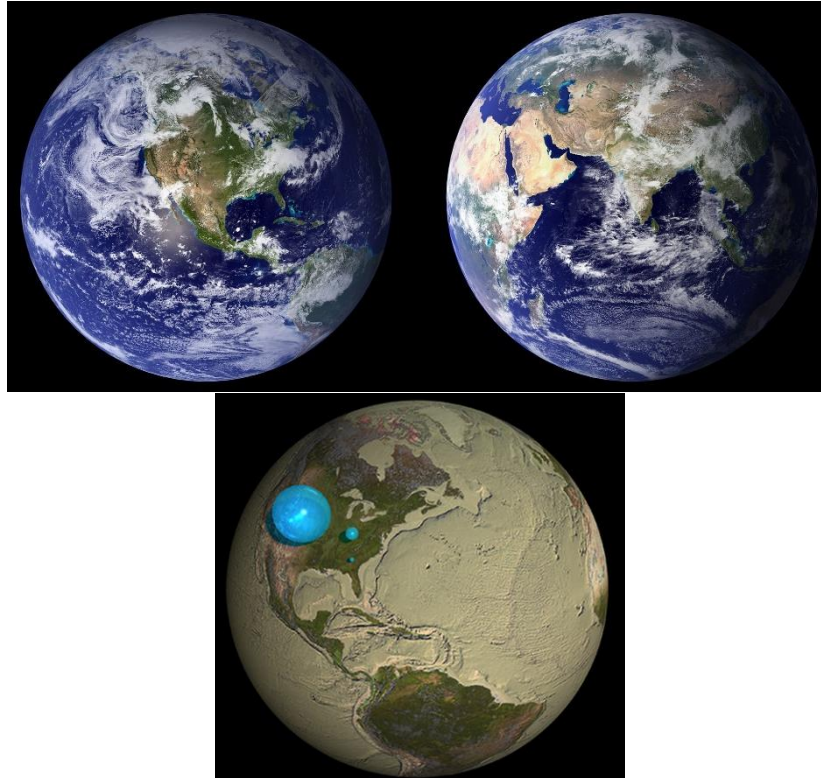


Fig. 1. (i)<sup>6</sup> "Blue Marble" "The Blue Planet", (ii)<sup>7</sup> Large sphere: all waters of the Earth, Mid-sized sphere: the fresh water of the Earth, Small sphere: water easily accessible to humans.

### 2.3. Creating a Legal Framework for International Law of Transboundary Rivers - Suggestions for its further strengthening

It could be argued that there is a legislative framework for the protection and governance of transboundary rivers.<sup>8</sup> The following is an overview of selected international and regional legislative texts, which could form the relevant legislative framework. The regional texts mentioned are considered to have worked very effectively and have become international standards.

The existing legislative framework could, therefore, consists of the following texts:

- The United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, adopted by the General Assembly of the United Nations on 21 May 1997, and entered into force on 17 August 2014,<sup>9</sup>

<sup>6</sup> NASA: National Aeronautics and Space Administration  
[https://www.nasa.gov/multimedia/imagegallery/image\\_feature\\_2159.html](https://www.nasa.gov/multimedia/imagegallery/image_feature_2159.html)

<sup>7</sup> WHOI: The Woods Hole Oceanographic Institution  
<https://www.whoi.edu/multimedia/a-drop-in-the-ocean/>

<sup>8</sup> - Virginia Balafouta, "International Law of Transboundary Rivers: Transboundary Rivers' Governance"- ..., ibidem.

- Virginia Balafouta, "Proposal for a Theoretical International Law Database for the governance of transboundary rivers", ..., ibidem.

<sup>9</sup> United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses, (1997)  
[http://legal.un.org/ilc/texts/instruments/english/conventions/8\\_3\\_1997.pdf](http://legal.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf)

- The UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes, opened for signature in Helsinki on 17 March 1992 and entered into force on 6 October 1996,<sup>10</sup>
- The Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy,<sup>11</sup>
- The Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks,<sup>12</sup>
- The UNECE Convention on Environmental Impact Assessment in a Transboundary Context (The Espoo Convention), opened for signature at Espoo, Finland, on 25 February 1991 and entered into force on 10 September 1997,<sup>13</sup>
- The UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters (The Aarhus Convention), adopted on 25th June 1998 in Aarhus (Denmark) and entered into force on 30 October 2001<sup>14</sup>
- The Convention on Wetlands of International Importance especially as Waterfowl Habitat, (The Ramsar Convention), signed on 2 February 1971 in Ramsar (Iran) and entered into force on 21 December 1975,<sup>15</sup> and
- The UNESCO Convention concerning the Protection of the World Cultural and Natural Heritage, signed on 16 November 1972 in Paris and entered into force on 17 December 1975.<sup>16</sup>

The aforementioned framework could be substantially strengthened by the reference to the UN Charter, due to the relation of transboundary rivers' governance with the primary purposes of International Law -as these are enshrined in article 1 of the Charter-. In addition, it is linked to the Resolution A/RES/64/292 (2010) "The human right to water and sanitation", as this is connected with legislation for the protection and promotion of human rights. These two correlations were analyzed in Section 2.1. In addition -as it will be shown later- in the context of this paper, it is

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<sup>10</sup> Convention on the Protection and Use of Transboundary Watercourses and International Lakes, (1992) <http://www.unece.org/env/water/text/text.html>

<sup>11</sup> Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for Community action in the field of water policy, (2000) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32000L0060>

<sup>12</sup> Directive 2007/60/EC of the European Parliament and of the Council of 23 October 2007 on the assessment and management of flood risks, (2007) <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex:32007L0060>

<sup>13</sup> Convention on Environmental Impact Assessment in a Transboundary Context, (1991) [http://www.unece.org/env/eia/about/eia\\_text.html](http://www.unece.org/env/eia/about/eia_text.html)

<sup>14</sup> Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, (1998) <http://www.unece.org/env/pp/treatytext.html>

<sup>15</sup> Convention on Wetlands of International Importance especially as Waterfowl Habitat, (1971) <https://www.ramsar.org/about/the-ramsar-convention-and-its-mission>

<sup>16</sup> Convention Concerning the Protection of the World Cultural and Natural Heritage, (1972) <http://whc.unesco.org/en/conventiontext/>

suggested the connection of International Law of Transboundary Rivers with International Criminal Law and International Humanitarian Law. This connection would be particularly important, because their framework could be applied to transboundary rivers' issues.

These correlations are supported and suggested by the current paper, for the significant complementation and strengthening of the transboundary rivers' legislative and institutional framework.

In particular, through the link to the UN Charter, the proposed legislative framework is particularly strengthened, as the Charter is the superior and the most binding legal text at international, regional and national level.

In addition, by enriching this framework with the Resolution A/RES/64/292 (2010), it could be used and exploited the mechanisms for monitoring, implementing and promoting human rights at regional and international level.

Finally, by linking the current framework to International Criminal Law and to International Humanitarian Law, the legislative and institutional framework for transboundary rivers is extremely strengthened. This could happen, as it will be possible to apply these two branches of International Law to transboundary rivers' issues. Of particular importance is the fact that International Criminal Law is almost entirely comprised of jus cogens rules, and International Humanitarian Law constitute -for its most part- international customary law. It is worth emphasizing that jus cogens and international customary rules are fully binding and override the national law of states. All states of the international community are obliged to comply with them, even if these rules contravene their national law, including their Constitution.

### 3. ANALYSIS AND PROPOSALS CONCERNING THE ISSUE OF GOVERNANCE OF TRANSBOUNDARY RIVERS IN THE MIDDLE EAST AND NORTH AFRICA (MENA) REGION

In a previous paper,<sup>17</sup> was analyzed the importance of transboundary rivers' governance in the "MedMENA: Mediterranean Middle East and North Africa" region. MedMENA region was defined to include six states of North Africa and seven states of the Middle East (Fig. 2). Nine states of them (Morocco, Algeria, Tunisia, Libya, Egypt, Palestine, Israel, Lebanon and Syria) are Mediterranean and the other four (Sudan, Jordan, Iraq and Turkey) share a transboundary river with the former. These transboundary rivers are Nile, Tigris, Euphrates, Jordan, Orontes, Medjerda, and some oueds in the Maghreb area.

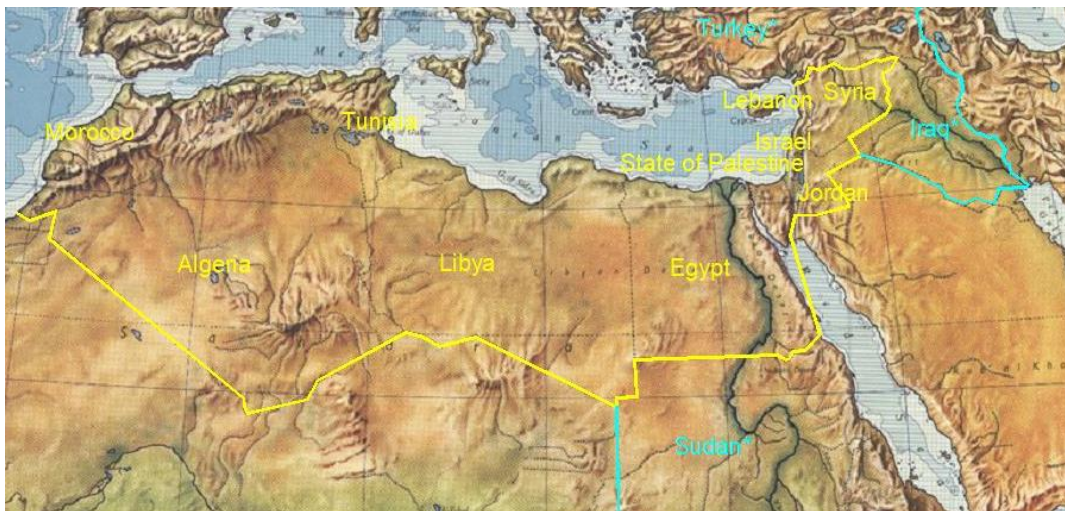


Fig. 2. MedMENA region

#### 3.1. The water saving in irrigation as a new source of water

In the MedMENA region, the problem of governing a transboundary river concerns the distribution of water to cover mainly irrigation needs, as shown by the UN Food and Agriculture Organization's (FAO) Aquastat database.<sup>18</sup>

<sup>17</sup> Virginia Balafouta, " 'Med MENA Privilege Principle': The Mediterranean MENA region as an ideal area for pilot implementation of proposals for transboundary rivers' governance", International Conference "The Uprisings in the Arab-Muslim World: Peace and Stability issues in the Mediterranean", National and Kapodistrian University of Athens, Athens, 2012, Volume *The Arab Uprisings and the "re-shaping" of the Arab-Muslim world*, (ed.) Ioannis Mazis, Kyriakos Patragas, Leimon Editions, Athens, 2013, pp. 247-296.

<sup>18</sup> <http://www.fao.org/nr/water/aquastat/data/query/index.html?lang=en>

FAO's Aquastat Database (it is selected the country and is submitted question concerning the "Water withdrawal by sector").

For further study,

- *The state of the World's land and water resources for food and agriculture. Managing systems at risk*, published by the Food and Agriculture Organization of the United Nations and Earthscan, Routledge, Rome, London, 2011. <http://www.fao.org/3/a-i1688e.pdf>

- *Towards a water and food secure future. Critical perspectives for Policy-makers*, Food and Agriculture Organization of the United Nations, World Water Council, Rome, Marseille, 2015. <http://www.fao.org/3/a-i4560e.pdf>



Proportionally, it was estimated that, on average, throughout the MedMENA region, water is used at 82% for agriculture, 13% for industry and 5% for urban use. This observation points out that any increase in urban demand could be covered by a very small reduction in rural water consumption. For instance, a ~ 50% increase in urban water demand, which could correspond to an extreme population increase of ~ 50% (forecast for 2050), could be confronted easily by a reduction by 2-3 % in rural water.

Globally, on average, 69% of fresh water is used in agriculture, 23% is used in industry and 8% is used for urban needs.<sup>19</sup> It follows that water saving in irrigation could be equivalent to the finding of a new source of water.

### **3.2. The effective involvement of stakeholders in river governance**

Every policy concerning river management should be practiced in a decentralized / local way, along the river. The assistance of people who live along the river, use it, and consider it to be their own, would be necessary.

In fact, scientists, politicians, executives, technicians and NGOs are neither able to monitor the river in a daily basis, nor to implement management solutions throughout the river. Therefore, a very large number of decentralized / local partners has to be found.

In the MedMENA region, most of the inhabitants live in the desert, near rivers and wherever there is water. Most of them are farmers, who use river water daily and respect its value due to its severe shortage.

The international community, international and regional organizations, state governments, national agencies, education of all levels and experts of all disciplines, should make an internationally coordinated effort to legislate and implement rational solutions. But also, there is a need for substantial awareness and a widespread alliance with all the inhabitants of the Earth, regardless of their educational level and whether they live in developed or developing countries.

### **3.3. Co-operation with local farmers in river management - Equal participation of women**

The problem of managing a transboundary river is multiparametric and complex, because -besides water- it includes hydroelectricity, fisheries, navigation, and more.

However, in the MedMENA region this problem is much simpler, because it mainly concerns the distribution of water, which is mostly used for irrigation needs.

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- *Coping with water scarcity. An action framework for agriculture and food security.* Food and Agriculture Organization of the United Nations, Rome, 2012.

<http://www.fao.org/3/a-i3015e.pdf>

<sup>19</sup> National Wild & Scenic Rivers System, River and water facts, Water Use  
<https://www.rivers.gov/waterfacts.php>

In order to solve river management problems, professional cooperation with local active farmers should be organized by the administration of the states. In particular, it is proposed that responsibilities should be given to farmers, for taking samples and implementing simple measurements.

The role of women in agriculture, in the protection of the environment and in the fight against hunger has long been recognized from international and regional organizations. In issues such as human rights, environmental protection, and water saving and sustainability, the role of women is extremely important. Women should have an equal role in the participation of farmers in rivers' management.

The co-operation for rivers' management could be combined with the Millennium Development Goal 1.<sup>20</sup> Especially, they should be selected farmers who live in extreme poverty, and it should be offered to them compensation for their participation. This compensation should be formal, stable, and -of course- equal for women and men. Its implementation should be monitored by the administration. Despite the payment of this compensation, the contribution of the farmers is -by its means- voluntary.

Volunteers need to be technically trained and environmentally conscious. This means that they must have the necessary, -basic, but correct- knowledge concerning the value of water and river ecosystems, hydrology, ecology, sampling, etc.

Moreover, local traditions connected with water value could be supported and promoted. The common Arabic language and the traditional religious, legal and cultural ties of the Muslim world to water could contribute to this.

### **3.4. Pilot implementation of proposals in the most "unfavorable" geopolitical and hydrological region of the world**

Some states facing water scarcity, resort sometimes to environmentally destructive solutions, such as over-pumping of groundwater aquifers, diversion of rivers that drain into lakes (and consequently the destruction of these lakes), even wars in order to gain control of water resources. In the extremely unfavorable geopolitical region of MedMENA, there are examples of all these situations. Apart from these, the climate and water scarcity make the whole situation even more difficult and complicated.

Therefore, if an idea of transboundary rivers' management will be successfully implemented in the most unfavorable, hydrological and geopolitical, region of the planet, this will act as a catalyst for its implementation in every other area of the Earth. Furthermore, if an idea is impractical, this will be revealed faster and more economically in the unfavorable area.

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<sup>20</sup> Millennium Development Goals <https://www.un.org/millenniumgoals/>  
<https://www.un.org/sustainabledevelopment/>

#### **4. LINKING INTERNATIONAL LAW OF TRANSBOUNDARY RIVERS TO INTERNATIONAL CRIMINAL LAW AND TO INTERNATIONAL HUMANITARIAN LAW, BY TAKING INTO ACCOUNT INTERNATIONAL CRIMES COMMITTED IN THE WAR IN SYRIA**

Taking into account situations and facts in the Middle East and especially in the armed conflict in Syria, it could be argued that International Law of Transboundary Rivers has been connected -for the first time- with International Criminal Law and International Humanitarian Law. At the following sessions of the paper, it will be analyzed in which ways war crimes, crimes against humanity, terrorism and fundamental human rights' abuses were committed, by both sides, in the Syrian war, with acts related to transboundary rivers and their resources.

According to analysts, this armed conflict is a battle for water; water control provides strategic control to both cities and the province. It is noteworthy that former US Vice President Al Gore argued that water scarcity, due to climate instability, in Syria was one of the key factors that triggered the armed conflict.<sup>21</sup> Former US President Barack Obama linked climate change to terrorism.<sup>22</sup> In addition, former US Secretary of State John Kerry declared that climate change was a contributing factor in the Syrian war, as immediately prior to the war, the country experienced the worst drought on record. He added that as many as 1.5 million people migrated from Syria's farms into Syria's cities, and that urbanization intensified the political unrest that was beginning to brew.<sup>23</sup>

##### **4.1. War crimes committed in the war in Syria with acts related to transboundary rivers**

In the international armed conflict in Syria, both sides have committed war crimes with acts related to transboundary rivers and their resources. In particular, the following committed criminal acts and operations<sup>24</sup> constitute war crimes:

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<sup>21</sup> <http://www.nationalobserver.com/2015/07/09/news/climate-change-opened-gates-hell-syria-al-gore>

<sup>22</sup> <http://www.cbsnews.com/videos/obama-on-threat-of-terrorism-vs-climate-change/>

<sup>23</sup> <http://www.cnsnews.com/news/article/patrick-goodenough/kerry-climate-change-contributing-factor-syrian-conflict>

<sup>24</sup> The facts and related details have been taken from relevant UN Human Rights Council Resolutions and from the findings of the Independent International Commission of Inquiry on the Syrian Arab Republic, as recorded in many Periodic & Oral Updates and Reports of the Commission.

For further study, Virginia Balafouta, "The protection and management of transboundary rivers in relation to international peace and security and the promotion of human rights. Integration of related issues to International Criminal Law, with references to the Middle East", International Conference "Contemporary Geopolitical Readings of the Wider Middle East: Security, Economy, Politics, Culture", National and Kapodistrian University of Athens, European Public Law Organization (EPLO), Athens, 2017, Volume *Contemporary Geopolitical Readings of the Wider Middle East: Security, Economy, Politics, Culture*, Leimon Editions, Athens, 2018, pp. 95-118.

- (i) the intentional disruptions of water supply and sanitation services in civilian areas, in many parts of the country, by both sides of the conflict, resulting - inter alia - in epidemics and diseases (eg in 2014, disruption of water supply in Tal Dura and Salamiyeh -by Jabhat Al Nusra- targeting Ismaili, disruption of water supply in Aleppo, etc.),
- (ii) the bombardment, by pro-government forces, in 2016, of the al-Feijeh water source in Wadi Barada district -which source supplies 70% of Damascus' water- depriving of water more than 5.5 million people, for more than a month,
- (iii) systematic refusal of water, food and medical care, in certain areas, causing -among other things- deportation of civilian population,
- (iv) the prolonged siege along with the deprivation of water, sanitation, electricity, humanitarian aid, health care, food and fuel, by both sides; with the aim of causing particularly serious harm to the civilian population (e.g. in Tal Dura and Salamiyeh to Afrin in 2014 by anti-government armed groups, in Masharah and Dayr az Zawr by pro-government forces),
- (v) causing starvation of civilians in the manner described above (in Dumah, Arbin, Zamalka, Kafr Batna, Harasta, Jisreen, Saqba and Al-Mliha Muadamiyah, Daraya, Yarmouk camp, Homs Old City, Nubul and Zahra, Hama, and in 2016 against the Yazidis in Sinjar, whose genocide was committed by ISIS),
- (vi) the intentional widespread destruction of tanks and water pipes by military and security forces.

The abovementioned actions and operations constitute war crimes, as these are established in article 8 of the Statute<sup>25</sup> of the International Criminal Court. In fact, all the conditions set out by this article are met.

- a) These criminal actions and operations were committed in the international armed conflict in Syria.
- b) They are part of a plan and policy.
- c) They are part of a large-scale commission of such crimes, and
- d) They fall within the criminal description of war crimes required by the article, namely:

- Intentionally using starvation of civilians as a method of warfare by depriving them of objects indispensable to their survival, including willfully impeding relief supplies as provided for under the Geneva Conventions (article 8 (2) b xxv).

- Intentionally launching an attack in the knowledge that such attack will cause incidental loss of life or injury to civilians or damage to civilian objects or widespread, long-term and severe damage to the natural environment which would be clearly excessive in relation to the concrete and direct overall military advantage anticipated (article 8 (2) b iv).

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<sup>25</sup> Rome Statute of the International Criminal Court, (1998)  
[http://www.icc-cpi.int/nr/rdonlyres/ea9aeff7-5752-4f84-be94-0a655eb30e16/0/rome\\_statute\\_english.pdf](http://www.icc-cpi.int/nr/rdonlyres/ea9aeff7-5752-4f84-be94-0a655eb30e16/0/rome_statute_english.pdf)

- Unlawful deportation or transfer or unlawful confinement (article 8 (2) a vii).
  - Extensive destruction and appropriation of property, not justified by military necessity and carried out unlawfully and wantonly, (article 8 (2) a iv).
- e) Along with the objective elements of the crime, the subjective elements of the crime are also fulfilled, as these criminal acts were committed intentionally.

#### **4.2. Crimes against humanity committed in the war in Syria with acts related to transboundary rivers**

In addition, the abovementioned criminal acts, committed by both sides, constitute crimes against humanity, in accordance with article 7 of the Statute of the International Criminal Court. In fact, all the conditions set out by this article are met.

- a) These criminal actions and operations were committed as part of a widespread and systematic attack.
- b) They were directed against civilian population, and
- c) They fall within the criminal description of crimes against humanity required by this article, namely:
  - Extermination, including the intentional infliction of conditions of life, inter alia the deprivation of access to food and medicine, calculated to bring about the destruction of part of a population, (article 7 (1) b, 7 (2) b).
  - Deportation or forcible transfer of population, meaning the forced displacement of the persons concerned by expulsion or other coercive acts from the area in which they are lawfully present, without grounds permitted under International Law, (article 7 (1) d, 7 (2) d).

It should be mentioned that these crimes were committed during the Syrian armed conflict, but crimes against humanity are criminally punishable either in time of peace or in time of war.

Along with the objective elements of the crime, the subjective elements of the crime are fulfilled too, as:

- d) The perpetrators acted by intention, and
- e) They were aware of the wider context of the crime.

#### **4.3. Terrorism committed in the war in Syria with acts related to transboundary rivers**

The criminal acts committed by ISIS and Jabhat Al Nusra, which have been discussed above, also constitute the international crime of terrorism.

There is no common accepted definition of terrorism, in international level. Following Antonio Cassese's<sup>26</sup> definition of terrorism, these criminal acts meet the below mentioned conditions, to be considered as terrorism.

- a) They are acts affecting or capable of affecting fundamental legal rights.
- b) The perpetrators have intention to cause terror to the civilian population, in order to blackmail or influence the governmental policy.
- c) These criminal acts have ideological / political motives.
- d) They are transnational.
- e) There is intention on the part of the perpetrators.
- f) At the same time, there is a special criminal intention (*dolus specialis*) to cause terror in the civilian population.

#### **4.4. Human rights violations with acts related to transboundary rivers**

Having regard to the Universal Declaration of Human Rights,<sup>27</sup> the International Covenant on Civil and Political Rights,<sup>28</sup> and the International Covenant on Economic, Social and Cultural Rights,<sup>29</sup> the abovementioned criminal acts, which are connected with the human right to water and sanitation, infringe also the following rights:

- the right to life,
- the right to human dignity,
- the right to health,
- the right to adequate food,
- the rights of vulnerable groups: women, children, the older people, people with disabilities,
- the right to education,
- the right to work,
- the right to a healthy environment, and
- the right to development.

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<sup>26</sup> - Antonio Cassese, *International Criminal Law*, Oxford University Press, New York, 2003, pp. 120-132.

- Antonio Cassese, *International Law*, Gutenberg Editions, Athens, 2012, pp. 529-531.

<sup>27</sup> Universal Declaration of Human Rights (1948) <http://www.un.org/en/documents/udhr/>

<sup>28</sup> International Covenant on Civil and Political Rights (1966)

<http://www.ohchr.org/en/professionalinterest/pages/ccpr.aspx>

<sup>29</sup> International Covenant on Economic, Social, and Cultural Rights (1966)

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## **5. CONCLUSIONS - PROPOSALS**

While the population of the Earth and water demand are increasing daily, the quality of river waters -through their multiple use and pollution- constantly deteriorates, and their quantity decreases -from inappropriate policies, especially for agriculture-. This issue is particularly intense in the Middle East and North Africa region, due to the scarcity of water resources and the unfavorable climatic conditions.

In the current paper, proposals have been made, which could be applied both to the MENA region -where transboundary river governance is extremely urgent- as well as to other areas of the Earth. In particular, (i) water saving in irrigation as a new source of water, (ii) stakeholders participation in rivers' management, and (iii) effective cooperation between state governments, scientists, international organizations and local farmers, -men and women-, could contribute significantly at global level.

By the effective involvement of the river basin residents in the decision-making, a realistic approach and the solution of many problems can be achieved. Therefore, the level of relevant knowledge and skills of the river basin residents should be upgraded, so that they could be valuable collaborators of technocrats, in managing issues concerning transboundary rivers. Thus, by generalizing the meaning of the term "education", we can emphasize the crucial role that International Law of Transboundary Rivers, environmental education and the principle of free access to information have to play.

Furthermore, competition between water users will continue to intensify, and this is a major destabilizing factor in international basins and especially in areas and periods of water scarcity. By analyzing the armed conflict in Syria, we could conclude that one of its causes was the water, while at the same time the management of transboundary rivers and their resources were used by both sides as a means of war strategy. In addition, acts related to transboundary rivers committed by both sides, constituted war crimes, crimes against humanity and the crime of terrorism. These facts highlight -even more- the value of transboundary rivers.

The fact that international crimes were committed with acts related to transboundary rivers, indicates the crucial importance of rivers for the lives of people and for their fundamental human rights. For this reason -in the current paper- actions related to transboundary rivers were connected with international crimes, namely crimes which offend the humanity as a whole and the "global collective consciousness".

Thus, "International Law of Transboundary Rivers" should be established as an autonomous legal branch / field of International Law. Along with the particularly important environmental dimension of the rivers; with actions

related to them, international crimes may be committed. In addition, from an hydrological point of view, their primary importance comes from their short renewability rate, relatively to lakes and underground aquifers. For this legal field, an initial / basic legal framework has been proposed above, which could be further strengthened.

In particular, -as highlighted in the paper- the protection and governance of transboundary rivers is directly linked and promotes the primary purposes of International Law. This conclusion is very important, as it stresses the importance of transboundary rivers' governance. Moreover, the linkage of their governance to the purposes of International Law (as enshrined in Article 1 of the UN Charter) offers the possibility to apply the Charter -the superior legal text in the world- for the resolution of issues related to transboundary rivers.

At the same time, extremely important is the connection of transboundary rivers' issues with the jus cogens prohibition of threat or use of force under Article 2 (4) of the Charter, which is the "cornerstone" of International Law.

Also, noteworthy is the linkage of International Law of Transboundary Rivers with International Human Rights Law. By the invocation of the human right to water and sanitation and of all the abovementioned human rights; it is possible to exploit the content and mechanisms of implementation of International Human Rights Law for transboundary rivers' issues.

In addition, the inclusion of these issues in the field of International Criminal Law indicates their importance, as it is recognized criminal character for violations of International Law of Transboundary Rivers. Similarly, their connection with International Criminal Law -which consists almost entirely of jus cogens rules, that create erga omnes obligations- provides a sufficiently rigorous framework, and strengthens International Law of Transboundary Rivers.

Furthermore, linking issues related to transboundary rivers' governance with International Humanitarian Law, enables the use of its -mostly- customary framework.

In conclusion, the particular legal, humanitarian, environmental, hydrological, economic, cultural, and geopolitical importance of transboundary rivers -proved once again in the Syrian war- highlights the necessity of establishing and implementing an adequate and coherent legislative framework for their governance.



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