



Regional/Cross-continental process:  
Priority for Action: 6<sup>th</sup> World Water Forum PFA/CS

Date

**Regional Target Group "...3..."**

**Conduct Regional Dialogues on the 1997 UN Convention on International Watercourses and on the UNGA Resolution 63/124 on the Law of Transboundary Aquifers, and compile points of agreement and objections for wider consensus by 2015**

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## 1. Introduction

Many of the world's freshwater basins are shared by two or more countries. There are 261 transboundary basins in the world which include rivers and lakes, a third of which are shared by more than two countries. Over 145 countries share these basins. Within Africa alone, there are 60 transboundary basins. Moreover, 50 of the world's 318 transboundary Groundwater aquifers are shared in Africa.

Africa is a continent with lots of water related development challenges, from achieving the water MDG's to enhancing agriculture and industry. Therefore sustainable water resources management can be one of the continent's main mandates, currently. Due to the transboundary nature of most of Africa's main water bodies, transboundary water resources management cannot be separated from other aspects of Integrated Water Resources Management (IWRM) in particular and sustainable socio-economic development of the continent in general. This calls for joint dialogues and fostering of regional integration and cooperation on the management of shared water resources in all of Africa.

In May 1997, 106 nations met to express their standpoints towards the United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses (UN Watercourses Convention) which is meant to be a flexible and overarching global legal framework that establishes basic standards and rules for cooperation between states on the use, management, and protection of international watercourses. After almost fifteen years, the Convention counts today 24 contracting states, this number is 11 short of the number required for entry into force. It is worth mentioning that 10 of these contracting states have ratified the Convention in the last five years. Similar draft articles that are solely dedicated to transboundary groundwater aquifers are currently under discussion and negotiation and are in an early phase of global recognition compared to the UN Watercourses Convention.

Africa has significantly contributed to the ratification of the UN Watercourses Convention as one third of the contracting countries are African. The eight African countries that ratified the convention are (In order of ratification): South Africa, Namibia, Libya, Tunisia, Guinea-Bissau, Nigeria, Burkina Faso, and Morocco.

South Africa shares six international basins shared with its neighboring states. The four most important basins are the Limpopo, Incomati, Maputo and Orange which are shared with Botswana, Lesotho, Mozambique, Namibia, Swaziland and Zimbabwe. Namibia also shares the Zambezi River with Angola, Botswana, Zambia, Zimbabwe, and Mozambique. Nigeria shares the Niger River with Guinea, Mali, Niger, and Benin, while Burkina Faso shares the Volta River with Ghana, Togo, Mali, Ivory Coast, and Benin.

Tunisia, Libya and Morocco on the other hand do not share any rivers with any country, except for some perennial streams that are shared between Morocco and Algeria in some cross-border surface-subsurface systems such as the Isly-Moealah, the same situation exists on the Tunisian-Algerian border where the Mejerdah basin lies. Libya doesn't have any natural rivers.

## 2. Background and rationale of the target

Several upstream and downstream riparian countries in the Niger, Volta, and Zambezi Rivers did not ratify the convention. None of the Nile river basin countries have ratified the UN Watercourses convention, which indicates that reasons could be attributed to downstream and upstream issues with the acceptance of the convention. Six of the eleven riparian countries sharing the Nile River Basin signed a Cooperative Framework Directive without reaching an agreement with some of the remaining riparian countries on some of the articles. Out of 15 Economic Community of West African States (ECOWAS), only Nigeria, Guinea-Bissau and Burkina Faso have ratified the convention. As for the 15 Southern African Development Community (SADC) countries, South Africa and Namibia ratified the convention. However, SADC has developed a Shared Water Management Protocol, which was firstly drafted in 1995 and was improved and a new version of it was finalized in 2000 and entered into force in 2003 as most of the member countries ratified it. It is worth mentioning that although most of the regional or basin level agreements may be reflecting some of the articles or principles of the UN Convention, however they may still be missing some of the main principles of the Convention, or in some cases may be including some of the principles that the Convention may be missing. And that explains the fact that riparian countries may have ratified ones and not the other.

Dialogues on the draft articles of the International Law of Transboundary Aquifers have been initiated via the Internationally Shared Aquifer Resources Management (ISARM) for West, South and East Africa. GIZ has initiated efforts within the shared basin of Lake Victoria. It is therefore important to compile the points of agreement and disagreements on the UN Watercourses Convention, as well as give adequate consideration to the United Nations International Law Commission (UNILC) draft articles that have been annexed at the United Nations General Assembly Resolution A/63/124 on the Law of Transboundary Aquifers adopted by the UN General Assembly in December 2008. Conducting regional dialogues on these instruments is therefore of great importance, as it will help reaching a wider consensus and could possibly achieve a wide acceptance. Organizing virtual and physical meetings could significantly enhance proper understanding of the 1978 convention among different countries and sectors of the society. Conducting dialogues within the same basin and across different basins would

definitely help in bridging the gap between riparian countries towards reaching the set African Target of reaching a wider consensus on points of agreement and disagreements on the 97 UN Convention and studying in detail the UNILC draft articles to eventually support the negotiation of a new convention on transboundary aquifers by 2015.

In the past, nations have addressed water allocation issues by adopting and implementing treaties that govern interstate cooperation on specific international water bodies. As a result, there are many different watercourse agreements, but most of the world's transboundary water resources still lack sufficient legal protection, either because no management agreements are in place, existing agreements are inadequate, or because not all states within the basin are parties to existing agreements. Without such protection, it will be difficult, if not impossible, for watercourse states to cope cooperatively with existing and future threats from human pressure and environmental change (Loures, 2008). Therefore, an international or a regional Convention will be a useful tool to make sure that riparian countries properly share the benefits of transboundary water resources.

In May of 1997, after more than a quarter of a century of working on the topic, the UN Convention was adopted by a recorded vote of 103 in favor, 3 against, and 27 abstentions. Thirty-three countries were absent during the convention's adoption. During the voting, states underscored the importance of the Convention and urged all member states of the United Nations to support its adoption. The states that sponsored and voted in favor of the Convention are not under a legal obligation to become parties. However, their sponsorship and approving vote created an expectation in the international community that, in response to the call for ratifications contained in resolution A/RES/51/229; those countries would eventually ratify and join the Convention. The total number of states who voted in favor was 103 in addition to three absent states representatives claiming that they would have voted in favor. The voting process has also seen 26 abstentions, 3 states voting against the conventions, while representatives of a total of 31 states were absent. As for the five states that have the power of veto, three states voted in favor, one state voted against (china), While France abstained from voting back in 1997, but ended up ratifying the convention in 2010.

The list below shows the African voting records, including the Convention's sponsors.

#### **Sponsors (2)**

Cameroon, Sudan.

#### **In Favor (22)**

Algeria, Angola, , Botswana, Burkina Faso, Cameroon, Côte d'Ivoire, Djibouti, Gabon, Kenya, Lesotho, Liberia, Libyan Arab Jamahiriya, Madagascar, Malawi, Mauritius, Morocco, Mozambique, Namibia, South Africa, Sudan, Tunisia, Zambia.

The official African vote recorded 22 votes in favor and 6 abstentions. However, the Nigerian delegation later informed that they had intended to vote in favor and eventually ratified the Convention in 2011. Moreover, Morocco, Libya, South Africa, Tunisia, Namibia, and Burkina Faso have also ratified the Convention.

### **Abstentions (6)**

Egypt, Ethiopia, Ghana, Mali, Rwanda, United Republic of Tanzania.

### **Absent (12)**

Benin, Cape Verde, Comoros, Eritrea, Guinea, Mauritania, Niger, Senegal, Swaziland, Uganda, Zaire (Now DR. Congo), Zimbabwe.

### **Against (1)**

Burundi

At the time of voting, some African countries have made official statements as to why they abstained from voting.

**Tanzania's** representative has explained his country's reservations towards the convention. The first of their reservations was related to article 5, particularly to the phrase "take into account the interests of the watercourse States concerned". In their opinion, the statement has introduced an element of uncertainty. The Tanzanian delegates believe that Basin-wide regulatory measures were a necessary step towards environmental protection. However, those measures did not address different capabilities of States for monitoring and compliance. Addressing other elements of the convention, they said that it is not just for a State to allow unhindered access to those claiming injury as a result of a right arising under the Convention, while denying others to seek redress to its judicial organs on matters other than those prescribed by the Convention. The Tanzanian delegation believe that such an obligation failed to address constraints facing States in whose jurisdiction a cause of action was considered strictly territorial. Lastly, they said that the draft convention preserved and authenticated existing agreements on non-navigational uses of international watercourses. However, the delegation wondered how much law on the subject had been codified.

**Ethiopia's** delegation had abstained in the voting because they believed that the text of the Convention was not balanced, particularly with respect to safeguarding the interests of upper riparian States. Article 7 and Part III of the Convention were of particular concern. Part III put an onerous burden on upper riparian States. They also said that the element in article 3 on adjusting application of the Convention's provisions to the characteristics of a particular watercourse could undermine the Convention. Specific watercourse arrangements should be adjusted to the Convention, not the other way around. They believe that the Convention was tilted towards lower riparian States.

However, while, reserving the right to use the water of its international watercourses, Ethiopia had not voted against the Convention but had abstained. It had done so in the hopes that the Convention might encourage negotiations to ensure equitable utilization and promote cooperation.

**Rwanda** had abstained in the voting claiming that the Convention lacked any reference to the sacrosanct principle of State sovereignty. The Government also had problems with Article 33, on the settlement of disputes, as well as with provisions in Article 2, on the management of underground waters.

**Egypt** expressed the hope that adoption of the Convention would enhance the Assembly's role in codifying and developing international law, with the aim of promoting international peace and security and upholding the rule of law. While the Convention contained some new regulations, they did not modify customary international law. The Egyptian delegate said that the Convention did not prejudice the legal weight of international law; its framework should not affect bilateral or regional agreements or established laws.

Irrespective of being upstream or downstream, countries within the same transboundary river basin did not have the same standpoint regarding the convention. For example, in the Nile river basin, Sudan and Kenya were in favor, Burundi was against, Egypt, Ethiopia, Rwanda and Tanzania abstained, while Eritrea, Uganda and Zaire (now DR Congo) were absent. It is worth mentioning that Burundi, along with five other upstream countries (Ethiopia, Rwanda, Uganda, Tanzania, and Kenya) have signed the Nile Basin Cooperative Framework Agreement (CFA) which some experts believe that it follows the same lines of the 1997 UN Convention. However, other experts argue that the CFA, which was signed by upstream Nile countries, is different in some important articles from the UN Convention in that it includes in its signed form a loose mention of the "prior notification" procedures and obligations, and does not mention the adherence to the existing agreements. Moreover, there is still a pending un-agreed article in the CFA that should determine a common interpretation of water security, which was supposed to be resolved before signature. This issue has added to the reasons for disagreement of the downstream countries to sign the CFA ([www.internationalwaterlaw.org](http://www.internationalwaterlaw.org)).

The difference in wording between "watercourse" in the 1997 convention and "drainage basin" in the 1966 Helsinki rules could be of extreme significance in the Nile "Basin" case. The notion of the "basin" in equitable utilization of water resources in the Nile Basin CFA experienced some procedural issues during the period between the negotiations and the signing of the CFA by the first four upstream countries to sign, Ethiopia, Rwanda, Uganda, Tanzania, followed afterwards by Kenya and Burundi. This added to the difficulty of signing the CFA in its current form by downstream countries.

This highlights that the “Basin” versus “Watercourse” still remains for some countries to be an issue with the UN Convention. Most, if not all, river and water related organizations worldwide use the term “River Basin” by default. For example The Nile Basin Initiative NBI adopts the following vision **“to achieve sustainable socio-economic development through the equitable utilization of, and benefit from, the common Nile Basin water resources”**.

Renewable water resources can be classified into green water and blue water. Blue water is defined as surface water or groundwater that is abstracted manually for the purpose of development or production. Green water is defined as the portion of beneficial abstractions of renewable water resources from green cover which comes from atmospheric water directly and is consumed by rain-fed agriculture, natural pasture, and forests (AbuZeid, 2008). The term "Basin" is closely related to the consideration of green water in the assessment, and the associated green cover of natural pasture, forests, and rain-fed agriculture, which will suggest more equitable allocation and benefit sharing. Proper water resources assessment in river basins provides opportunities for conflict resolution in international river basins (AbuZeid, 1997)

Falkenmark (1999) stated that it is becoming more and more evident that what has to be shared between the upstream and the downstream of a river basin is not the water currently going in the river, but rather the rainfall over the river basin. Sustainable, water-dependent, socio-economic development will simply not be possible without taking an integrated perspective on all water-dependent and waterimpacting activities in a river basin and their relative upstream\downstream relations (Falkenmark, 1999).

Rockstrom et.al (2010) indicated that key ecosystems services, such as agricultural production, depend on green water in terrestrial ecosystems. The same group of researchers from the Stockholm Resilience Centre quantified the opportunities to use effectively both "green" and "blue" water to adapt to climate change and to feed the future world population (Rockstrom et. al, 2009).

Although a downstream country such as Egypt, which depends totally on the blue water of the Nile “river”, may be consuming a large portion of the river’s “blue” water that historically has been reaching its boundaries naturally, the upstream countries normally consume larger portions of the river basin’s “green” water. This exercise shows the importance of considering green water, other available national water resources and population in assessing equitable utilization of transboundary waters.

Hence the term "Basin" is definitely more relevant than "watercourse", as it simply dictates which water must be considered for equitable utilization.

International law introduced various measures to promote water-sharing equity. These measures, including rights-based measures, needs-based measures, and measures based on economic grounds or efficiency, evolved over time.

The 1997 Convention suggests that “Regional economic integration organizations” could take the lead in supporting their region states with all issues related to the Convention, including settlement of disputes. Article 2d defines “Regional economic integration organizations” as an organization constituted by sovereign States of a given region, but doesn’t explicitly state that these countries have to be riparians to one river basin, which many experts has taken against the convention claiming that a transboundary water agreement should remain focused on countries who share water resources (AbuZeid, 2010).

The two main principles of the 1997 UN Convention are "equitable and reasonable utilization", and "no significant harm" to other watercourse states. The concept and guidelines for "reasonable and equitable" sharing of common waterways were introduced in the Helsinki Rules of 1966, as well as the 1997 UN Convention. The factors affecting equitable and reasonable use according to the 1997 UN convention included geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character and also the social and economic needs of the watercourse states concerned. The convention, however, neglected some of the factors that were previously included in the 1966 Helsinki rules, such as the availability of other water resources beside the water body of interest.

Even if it is agreed that the international law has applied the same principles of surface water to groundwater, groundwater has its unique problems that cannot be addressed within the context of its connectivity to surface water, a good example of that is non-renewable (fossil) groundwater. The UNGA Resolution 63/124 on the Law of Transboundary aquifers is currently developed and should cater to the unique nature of groundwater problems and issues. Although, it is still in development, many global reservations have already been indicated concerning particular articles of the draft law. In particular, article 3 which mentions that each aquifer State has sovereignty over the portion of a transboundary aquifer or aquifer system located within its territory and shall exercise its sovereignty in accordance with international law and the present draft articles, has been globally considered a setback in International law compared to the 1997 UN Convention. Other reservations were too general, which portrays the importance of regional dialogue for reaching consensus. These reservations could be summarized as follows:

- Many of the factors relevant to equitable utilization are difficult to assess.
- Current wording does not reflect the complexity of Groundwater and Aquifers.

- More detailed technical suggestions should be included.
- Overlap with UN 1997 “Convention on the Law of Non- Navigational Uses of International Water Courses”, especially related to “discharge zone.
- Proposal for inclusion of reference to UN 1997 convention in preamble.
- Draft articles not sufficiently addressing non-renewable aquifers.
- Missing focus on groundwater quality and minimum flows for the environment.
- Areas of recharge / discharge zones and inclusion of these areas in the definition of Aquifer states.
- Non-renewable aquifers are not given special attention.

### 3. Target action plan and commitments

The main plan is to involve all African countries and organizations in dialogues related to the target. However this will be done in two phases, the first phase will start by organizing a session during the 6<sup>th</sup> World Water Forum, and shortly afterwards will include the basins and aquifers identified by the programme for Infrastructure Development in Africa (PIDA), the basins are: the Congo River, Gambia-Geba-Koliba Rivers, Lake Chad, Niger River, Nile River, Okavango River, Orange-Senqu River, Senegal River, Volta River, and Zambezi River. While the Aquifers are: The Nubian Sandstone Aquifer System, the North West Sahara Aquifer System, and the Iullemeden.

In the second phase, the dialogue will be expanded to more African Basins and Aquifers. A full list of contacts for potential partner organizations is included in the Annexes.

#### a. Virtual meeting for representatives of Transboundary river basins :

The Dialogue organizers will adhere to the following mandates:

1. Develop a shared understanding of the content and function of the Convention will be developed at the beginning. This requires the development of training materials, e.g., explanatory texts; and also training workshops.
2. Compare the existing legal architecture at the regional and basin levels to the provisions of the UN Watercourses Convention.
3. Identify barriers to the implementation of the provisions of the Convention; and examine strategies that could be adopted to overcome these barriers.

4. The dialogues should also support the development of a better understanding of the implications of ratification.

While, it is planned to devote efforts to ensure the participation of all stakeholders representing all river basins of Africa including river basin organizations and civil society, in its initial phase, the dialogue will be kick started with a focus on the following basins:

- **Congo- Basin**: represented by The Congo-Oubangui-Sangha Basin International Commission ( and representatives of Congo and Central Africa )
- **The Nile Basin**: represented by the Nile Basin Initiative and representatives of the Nile countries.
- **The Zambezi Basin**: represented by the Zambezi Watercourse Commission and representatives from Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, Zambia, and Zimbabwe.
- **Niger Basin**: will be represented by the Niger Basin Authority as well as country representatives.
- **The Senegal River Basin**: represented by the Economic Community of West African States and the *Senegal River Basin Development* Authority as well as country representatives.
- **Gambia River**: represented by the Gambia River Basin Organization and country representatives
- **Okavango River Basin**: represented by The Permanent Okavango River Basin Commission and country representatives.
- **Orange-senqu**: represented by the Orange-Senqu River Commission
- **Lake Chad**: represented by the Lake Chad Basin Commission.
- **The Volta Basin**: Represented by the Volta Basin Authority and Country representatives.

**b. Virtual meeting on the assessment of the UNGA Resolution 63/124 on the Law of Transboundary Aquifers:**

The meeting is expected to host participants from The Joint Authority and the Regional Programme Steering Committee for the Nubian Sandstone Aquifer, The North Western Sahara Aquifer, and the Illumedden aquifer , as well as the Moroccan Water and Environment Department, The Economic Community of West African States, and The Intergovernmental Authority on Development.

**c. Overall Budget:**

Starting from April 2012 and through the target year 2015 an annual virtual meeting and an annual workshop will be organized for all the topics discussed in the virtual and

face to face meetings. All the foreseen activities and their associated budget are shown in the table below:

Item	EURO
<b>Dialogue inauguration Workshop- Location and date to be confirmed</b> <i>50 Participants</i> <i>Participants accommodation (100 Euros) and board (100 Euros) + incidentals(50 Euros), four days</i>	50000
<i>Participants travel costs (Economy)</i>	50000
<b>3 workshops annually (2012-2015) for 50 participants (9 workshops in total)</b>	900000
<i>Setting the virtual meeting</i> <i>Webmaster/ Portal Manager</i> <i>Monthly rate (2000 Euro)</i>	200000
<b>Travel + DSA for 50 participants to attend RIO+20(2-8) June 2012</b> <i>Travel+DSA for International transboundary related events</i>	72000
<i>(Based on active participation/ paper submission)</i>	250000
<b>Publications (periodicals, reports)</b>	900000
<i>Additional Personnel +other</i>	100000
<b>Total</b>	278000
	2800000

#### d. Commitments:

The following list of commitments has been announced and is directly linked to the solutions presented in this report:

- a) CEDARE is committed to regional dialogue facilitation within Africa and the Arab Region.
- b) CEDARE is also committed to develop methods of green water assessment in river basins, and to develop state of the water reports reflecting green and blue water availability and use.
- c) NBD has signed a memorandum of understanding with NBI to facilitate their proposed solution (presented in section 4) that involves bridging the Nile Information gap through the renaissance dam. NBD has also agreed in principle to work closely with the Eastern Nile Technical Regional Office (ENTRO) on the Joint Multi-purpose project which was the main study that gave rise to the inception of the grand renaissance dam and seek technical backstopping from ENTRO on the dam design and implementation.
- d) A project is being developed between the Global Water Partnership (GWP), NBI and UNEP. The project has planned a mapping of hotspots and hope spots within

the basin to define ecosystems-based adaptation options at all levels. As a second step, institutional resilience and a rights-based approach would be adopted. This will significantly facilitate the implementation of the “rights writing workshop by communities during mediation for the design of the management plan of Transboundary biospheres” solution.

- e) Arab Water Council is committed to facilitate dialogues and sessions during the Arab Water Forums to reach consensus on debatable issues regarding the 1997 UN Convention, and to work towards the refinement of the Transboundary Aquifer management articles.
- f) The Lake Chad charter (discussed in section 4) is considered as a commitment in itself.

#### 4. Solutions

To reach solutions, all constraints and obstacles have to be adequately addressed in a timely manner. It could be shown that the feasible solutions for reaching this important African target could be summarized as follows:

1. Conducting Consultations on the Basin and the Regional level to reach Consensus on Transboundary Legislative Issues through discussion of topics such as:
  - i. Watercourse versus River Basin Approach
  - ii. Blue Water/ Green Water Approach
  - iii. Prior Notification versus No Objection
  - iv. Criteria for Ratifying Transboundary Water Conventions
  - v. Criteria for measuring Significant Harm
  - vi. Criteria for equitable and reasonable utilization
  - vii. Sharing benefits versus sharing water
  - viii. Sharing benefits beyond the river
  - ix. Points of agreement and disagreement on the International Watercourses Convention & the Transboundary Aquifers Resolution
  - x. Solutions for wider consensus
2. Amending UN Convention to cater for the concerns and complaints expressed by different countries and experts, such as to embrace Helsinki Rules’ principles such as the river basin/green-blue water approach rather than the watercourse/blue water approach in Article 2, and including “other water resources” as an additional factor for equitable and reasonable utilization in article 6, and articles (11 through 19) concerning Prior notification to involve acquiring a “No Objection”

from riparian countries, and restricting ratification criteria for entry into force to countries sharing transboundary basins.

3. Strengthening regional agreements as alternative tools to international agreements, this solution could even be flexible enough to consider International laws that are not seen as conflicting to such agreements. In other words, these regional agreements will be in a higher legal rank than International agreements within the region where the particular basin of interest is located.
4. Making the ratification process more rigorous by restricting it to countries that have transboundary surface water bodies. According to this suggestion, the convention will be more subjective and political favors will be significantly reduced.
5. Support those countries interested in the UN Watercourses Convention in the ratification and future implementation processes, both at the country level and regionally.
6. Ensure the integrated and coherent implementation of the UN Watercourses Convention and the ILC Draft Articles;
7. Gather support for getting the 11 remaining ratifications so that the 1997 UN Convention enters into force.
8. Gather support for getting the 11 remaining ratifications so that the 1997 UN Convention enters into force, and then discuss amendments.
9. The United Nations Environment Programme (UNEP) organized an African Basin Consultative meeting in late 2011, which concluded that it is necessary to designate an agency to champion the ratification and implementation of the 1997 UN Convention as well as the ILC Draft Articles on the Law of Transboundary Aquifers. It was also concluded that Transboundary water resources can provide opportunities for generating benefits beyond sharing of water.

It could be noticed that some solutions may seem to be contradicting to one another, which will positively enhance and strongly enrich the proposed dialogue.

For the solution that suggests amending the convention, One of the main concerns that needs immediate attention is promoting the idea that binding water agreements do not necessarily contradict territorial sovereignty of a watercourse state, specially that no

country will ever be pressured to sign an agreement,. Choosing to show some commitment for the welfare of all parties does not invade any country's sovereignty.

Another suggestion that could make a big difference is a slight, yet extremely significant, change in the wording, particularly changing the term "watercourse" to "basin" as it is more accurate in assessment of the different water resources available to each country within the river basin. It could also open the door to a clearer definition of significant and equitable use which is another major concern to many countries.

Some countries had concerns about the degree of consideration that the convention has towards historical agreements, while others have argued that future agreements should also be honored in the convention. Article 3 of the Convention, however, provides a high level of clarity regarding that issue, stating that ***"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"***.

The solution that adequately addresses the blue water versus the blue and green water approach corresponds to the watercourse and River basin terminology issue, respectively.

As for the solution promoting regional agreements, which can be either a standalone solution or a complementary solution to others, there are many examples of good cooperation in Africa in a manner that is close to what the solution suggests the following examples are given:

#### **1) Lake Chad:**

In the Lake Chad region, cooperation has a longstanding history. The riparian countries of Nigeria, Niger, Chad and Cameroon founded the Lake Chad Basin Commission (LCBC) as early as in 1967, being the first Lake Basin Organization on the continent. Meanwhile, the Central African Republic and Sudan (although having an observer status for not yet ratifying the founding convention), who have a share in the lake's basin, joined the organization. Libya was the last country to join in April 2007.

As Lake Chad faces heavy degradation and has shrunk to about one-tenth of its size within 30 years, problems concerning the water use and the borders arise regularly. All countries wish to expand irrigation to achieve independence in the food sector and augment cotton export.

Recent plans of the LCBC consist of an Inter Basin Transfer from the Congo Basin which is aimed to prevent the lake from drying up completely. Due to the

ecological costs and the non-sustainability of such a project, donor countries have been reserved on the subject so far.

### **3) Lake Victoria:**

Lake Victoria faced problems caused by invasive species: The water hyacinth as well as the Nile perch and the Nile Tilapia have had their ecosystems heavily disturbed and, above that, over fishing has recently become a serious problem. This is particularly negative, as the fishing industry is an important sector in all riparian countries. Situated in a most densely populated area, the lake also suffers from waste water discharge and wetland destruction.

Kenya, Uganda and Tanzania founded the Lake Victoria Fisheries Organization (LVFO) in 1994 in the context of the Lake Victoria Environmental Management Plan. As its name indicates, cooperation efforts first focused on the fish resources. Currently, the LVFO forms part of the East African Community (EAC) that has extensive plans about regional integration. In 2003, Kenya, Tanzania and Uganda signed the Protocol for Sustainable Development of Lake Victoria Basin on the basis of which a Lake Victoria Commission will be established.

Since the lake is also the source of the White Nile it is an important asset for all countries within the Nile Basin. In spite of these recent, positive developments, there remains tension between the management of the lake to benefit the riparian communities and managing the lake to benefit the downstream countries of the Nile. This issue is currently being addressed by the Nile Basin Initiative (NBI), which brings together all ten countries in the Nile Basin which is of particular significance as Lake Victoria is an inseparable part of the Nile Basin.

### **4) The Nubian Sandstone Aquifer:**

The Nubian Sandstone Aquifer System (NSAS) is a transboundary groundwater basin in the North Eastern Sahara of Africa. The international waters of this regional aquifer are non-renewable and shared between Chad, Egypt, Libya and Sudan. The area occupied by the Aquifer System is 2.2 million square km; 828,000 square km in Egypt, 760,000 square km in Libya, 376,000 square km in Sudan, and 235,000 square km in Northern Chad. The volume in storage represents the largest freshwater mass in the whole world. An estimate of the storage capacity is shown in Fig.1. The total recoverable volume of about 15000 cubic kilometers is also shown, where it was assessed based on 100m drawdown in the unconfined aquifer and 200m drawdown in the confined aquifer (AbuZeid, 2003).

The four countries sharing the NSAS represented by their National Coordinators adopted a regional information network aiming for cooperation and knowledge exchange in order to achieve the best scenario for sustainable development, and agreed to continue the monitoring of the aquifer through a mechanism specified in two agreements. Regional thematic maps, regional mathematical model, and a regional information system were developed. Also, a regional strategy was developed based on extensive data collection and Numerical Modeling (CEDARE, 2002). Throughout the regional programme as well, the role of the Joint Authority for the Study and Development of the NSAS was revitalized. The countries agreed to update the information by continuous monitoring and sharing of the following information: Yearly extraction in every extraction site, Representative Electrical Conductivity measurements (EC), and water level measurements (AbuZeid, 2002).

All the remaining solutions presented above deal with the ratification of the 1997 UN Convention, with a clear diversity ranging from expediting the global ratification process, to changing it so as to involve only countries with shared rivers. Those solutions, although in some cases contradicting, will significantly enrich the on-going dialogue.

The following solutions have been submitted through the 6<sup>th</sup> World Water Forum “Solutions for Water” online platform:

- a) **Elaboration of an international Water Charter in order to define a framework for water resources management and prevent conflict in the Lake Chad Basin:** this existing solution has been sponsored by the Africa Water Facility and resulted in a very precise and close cooperation between legal experts and integrated water management specialists including hydrologists. The legal tool is conceived to be as close as possible to technical and field preoccupations. The full solution is posted on the following webpage:

<http://www.solutionsforwater.org/solutions/elaboration-of-an-international-water-charter-in-order-to-define-a-framework-for-water-resources-management-and-prevent-conflicts-in-the-lake-chad-basin-2>

- b) **A rights writing workshop by communities during mediation for the design of the management plan of Transboundary biospheres:** This solution is an emerging initiative in the inter-governmental institution of the Nile Basin Initiative. It is a human rights based approach to capacity-building through a rights writing action as part of the design of integrated management and livelihood plans of biospheres and which could inform environmental protection guidelines for the interpretation of the equity principle in international climate change law as well as equitable utilization in international and regional watercourses law. The solution builds on a current sub project titled “Adapting to Climate change induced water stress in the Nile Basin” which involves many partners including UNEP, Global Water Partnership (GWP), Nile Basin Initiative (NBI), and CEDARE. The full solution is posted on the following webpage:

<http://www.solutionsforwater.org/solutions/a-rights-writing-workshop-by-the-communities-during-a-mediation-for-the-design-of-the-management-plan-of-transboundary-biospheres-a-tool-for-human-rights-and-ecosystems-based-climate-governance>

- c) **Bridging the Nile cooperation Information gap through the Renaissance Dam:** The solution revolves around the construction of the Ethiopian grand renaissance dam where the Nile Basin Discourse (NBD) will work closely with the relevant actors to ensure that information availability and concerted dialogues, leads to a recognition and implementation of international water law principles. If the stakeholders involved effectively participate and have enough information to make rational decisions which ensure that adequate attention is given to safeguards to protect Sudan population from destruction and for Egypt losing water due to the quick filling up of the dam, this will foster cooperative engagement and trust building. One of the comments that this solution received on the same virtual platform is the fact that the 1997 UN Convention requirements for sharing of information and the procedures for the prior notification of planned measures were not adhered to before the initiation of the Dam. Also, it was commented that the stakeholder participation should be encouraged before the construction of dams and other infrastructures not after the fact. The full solution is posted on the following webpage:

<http://www.solutionsforwater.org/solutions/bridging-the-nile-cooperation-information-gap-through-the-grand-renaissance-dam>

- d) **Adopting the River Basin / Blue-Green Water approach rather than the Watercourse / Blue Water approach:** Direct beneficial use of rainfall is a substantial amount of water (green water), which if properly assessed, could significantly switch the balance of equitable utilization formulas. A proper water resources assessment is an essential step for the equitable utilization of shared water resources as it provides the opportunity for cooperation among riparian countries of a river basin to develop the untapped water resources in the basin rather than compete over already utilized water resources (blue water). The new approach defines each country's actual utilized water as extracted surface and ground water as well as any beneficial evapo-transpiration resulting from rainfall on the river basin. It also accounts for all possible potential water resources in each country, within or outside the river basin. For the purpose of waters in a transboundary river basin, this approach favors the Helsinki Rules of using a drainage basin rather than the UN Convention of using the watercourse as the domain of cooperation and equitable utilization. This approach defines its domain as a "basin" rather than a "watercourse" as the latter corresponds to blue water only, while the term "basin" corresponds to both blue and green water. Although the UN Convention has positive aspects in terms of defined procedures for

notification of planned measures on a transboundary basin, the Helsinki Rules provide a better way of defining the domain of interest for sharing waters and benefits on a more equitable basis by adopting the River Basin / Green-Blue Water Approach which is more in line with the principles of IWRM. The full solution is posted on the following webpage:

<http://www.solutionsforwater.org/solutions/adopting-the-river-basin-blue-green-water-approach-rather-than-the-watercourse-blue-water-approach>

- e) **Amending the 1997 UN Convention and its ratification process:** The 1997 UN Convention for the Non-Navigational uses of International Watercourses is the world's most recent effort for reaching a global agreement to harmonize the management of these shared water resources. However, in Africa, as well as other continents, it is far from being widely accepted as only eight out of fifty-four African countries have ratified it. As some countries in Africa have announced their reservations regarding the Convention, this solution suggests some changes to be made within the Convention in a way that should increase the consensus on the convention. The solution suggests also a change in the ratification process. The suggested changes in the convention involve changing the term "water course" to "River Basin" as it is more accurate in assessment of the different water resources available to each country and that affects the waters that contribute to the river or watercourse. It could also open the door to a clearer definition of significant harm and equitable use which is another major concern to many countries. The Convention should also consider all available water resources in the "Basin", which includes both "green" water and "blue" water. A direct mention of green and blue water assessment in the convention will significantly go in line with the "River Basin approach". The other suggestion is making the ratification process more rigorous by restricting it to countries that have transboundary surface water bodies. This way, the convention will be more subjective and political favors will be significantly reduced. The full solution is posted on the following webpage:

<http://www.solutionsforwater.org/solutions/amending-the-1997-un-convention-and-its-ratification-process>

- f) **Setting up a consultative mechanism for managing the water resources of the lullemeden aquifer system:** The "Managing Hydrogeological risks in the lullemeden Aquifer System" project discussed many threats, and featured a Transboundary Diagnostic Analysis with three major transboundary risks. It also incorporated data assembled from more than 17000 boreholes as well as GIS maps, these data were the major input for a mathematical model. The full solution is posted on the following webpage:

<http://www.solutionsforwater.org/solutions/setting-up-a-consultative-mechanism-for-managing-the-water-resources-of-the-iullemeden-aquifer-system>

## 5. Recommendations for follow-up

The proposed activities involve several annual meetings as well as a virtual portal. The virtual portal will act as a continuous and dynamic dialogue platform. Aside from scheduled virtual meetings that will be facilitated through the portal, participants will be able to initiate discussions and start threads at any given time, in the same manner like popular social networking platforms. It will be important to make sure that all participants are well connected in-between face to face workshops.

As for the annual meetings, it will be necessary to have side meetings for participants from individual river basins / aquifers prior to bigger workshops that will focus on the whole continent. Adequate follow up efforts will be made to ensure that the side meetings go in line with the continental meetings in terms of solutions discussed and type of material presented.

The dialogue will be featured in big International water related events such as the Sixth World Water Forum in March 2012 and the following Forum that will take place in South Korea 2015 in addition to the annual Stockholm Water Week. Also Regional Fora and water weeks such as the Arab Water Forum and the Africa Water Week will be good platforms that will assure that the dialogue will be continuously advancing. The 4<sup>th</sup> Africa Water Week will take place in Egypt in May 2012.

Moreover, some efforts will be devoted to follow up on the global reaction towards the 1997 United Nations Watercourses Convention as well as the ILC Draft Articles. Any official statement or standpoint from any African country will provide a lesson that would significantly enhance African participants' discussions.

The feasibility of the solutions suggested in this report and submitted on the virtual platform, will be further investigated in-between meetings.

Also, worldwide water related bilateral or regional agreements have to be monitored by AMCOW for more information to enrich the Dialogues.

It is worth mentioning that the whole target will be directly linked to the relevant global targets which have been already identified and include but are not limited to Integrated Water resources management and cooperation and peace.

## 6. Conclusion

The third African target for the 2012 sixth world water forum is to Conduct Regional Dialogues on the 1997 UN Convention on International Watercourses and on the UNGA Resolution 63/124 on the Law of Transboundary Aquifers, and compile points of

agreement and objections for wider consensus by 2015. Eleven main solutions/alternatives have been proposed based the analyses above. The solutions are flexible enough to be implemented as standalone solutions, yet, they are not mutually exclusive. Some of the solutions are contradicting to one another as they represent different views. More diversity will be expected, as more stakeholders get involved in the dialogue. The presented solutions came from different experts, as well as online users of the sixth World Water Forum. The feasibility of the first solution that deals with conducting regional and global dialogues to bridge the gap and achieve wider consensus through discussion of some significant issues is the highest, as it is the most relevant to the purpose of this report. Some of the solutions were in the form of multiple variations on a common theme. For example, a group of four solutions revolved around the 1997 UN Convention ratification process, while a group of two solutions revolved around amending the same convention. The two groups had an intersection point in the form of the solution that suggests amending the convention after ratification as well as the solution that suggests changing the ratification process, as it will also require an amendment to the convention. A third group of solutions could be easily labeled as the “technical group”, this group involves the solution that honors green water in river “Basin” assessment and also the solution that suggests the amendment of the convention to accommodate more scientifically sound terminology. The latter solution is the intersection point between the technical group and the first group. The variety of solutions, as well as their intersection assures the importance of experts from all water related fields in the dialogue.

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