Lessons Learned, Lessons Shared

GLOBAL PERSPECTIVES FROM TREATIES ON TRANSBOUNDARY WATERS

2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science, Conflict Resolution and Cooperation

Florida International University
Nebiyu Daniel Tiruneh, Ph.D.
DISCLAIMER

This presentation was prepared by Nebiyu Daniel Tiruneh in his personal capacity. The opinions expressed in this article are the author's own and do not reflect the view of the agency the author works for or that of the United States government.
OUTLINE

- Transboundary water resources
- The emergence of regulatory framework
- Transboundary water treaties
- The global experience of transboundary water resources management
- Lessons learned
Transboundary Water Resources

- 270 transboundary river basins.
- 200 transboundary aquifers.
- 39 countries have more than 90% of their territory within one or more transboundary river basins.
- 21 countries lie entirely within one or more of these watersheds.
- 40% of the world population lives in them.

UNEP GEF International Waters: [https://www.grida.no/publications/230](https://www.grida.no/publications/230)
[https://www.whymap.org/whymap/EN/Home/gw_world_g.html](https://www.whymap.org/whymap/EN/Home/gw_world_g.html)

Nebiyu Daniel Tiruneh: 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science, Conflict Resolution and Cooperation
Global Figures on Transboundary Waters

148 countries: Territory within one or more transboundary river basins
39 countries: More than 90% of their territory within one or more transboundary river basins
21 countries: Within one or more of these watersheds

Almost 450 agreements on international waters signed between 1820 and 2007
Historic conflict and cooperative events

1950
1960
1970
1980
1990
Average
The Emergence of Regulatory Framework to Manage Transboundary Waters

- More than 300 bilateral and multilateral agreements since 1814.
- About 37 incidents of acute conflict over water since 1948.
  - The Indus, The Jordan, The Columbia
- Approximately 295 international water agreements were negotiated and signed in the same period.
- The International Law Association (ILA) in 1954 embarked on an ambitious plan to study the legal aspects of the use of the waters of international drainage basins
  - The Indus
  - The Jordan
  - The Nile
Treaties and Agreements

Treaties and Other International Agreements

- **Major Global and Regional Agreements**
  - Convention and Statute on the Regime of Navigable Waterways of International Concern (Barcelona, April 20, 1921)
  - Convention on Wetlands of International Importance especially as Waterfowl Habitat (Ramsar, February 2, 1971)
  - Convention on the Protection and Use of Transboundary Watercourses and International Lakes (Helsinki 1992)
  - Protocol on Water and Health to the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes

- **United Nations Convention on the Law of the Non-Navigational Uses of International Watercourses** – Sources of Regional, Multilateral and Bilateral Agreements

- **Non-Treaty Instruments:** The Helsinki Rules, The Berlin Rules, The Seoul Rules,...
Timeline of Water Rules by ILA

NON-TREATY INSTRUMENTS

1954-1966
The first committee
The 1966 Helsinki Rules.

1966-1986
The second committee
Drafting of articles
amplifying aspects of the
Helsinki Rules

The third committee,
continues this work of
amplification

1990
Convention on the Law
of the Non-navigational
Uses of International
Watercourses.

1997

2004

The Seoul Rules, approved by the International Law Association in 1986 as a supplement to the Helsinki Rules to address groundwater (ILA 1986),

International Law Association

1954-1966
1966-1986
1990
1997
2004
International Rules and Conventions

**The Helsinki Rules**

Requires the reasonable and equitable sharing of the benefits of the waters of an international drainage basin, is seen as the one best suited for achieving the rational management of these waters.

- international drainage basins as indivisible hydrologic units
- includes all tributaries (including tributary groundwater) within the concept of “drainage basin”
- first formulated the phrase “equitable utilization

**The Berlin Rules**

- Participatory water management
- Conjunctive management
- Integrated management
- Sustainability
- Minimization of environmental harm

Three rules relating to water in a strictly international or transboundary context:

- Cooperation
- Equitable utilization and
- Avoidance of transboundary harm

Nebiyu Daniel Tiruneh: 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science, Conflict Resolution and Cooperation
THE GLOBAL EXPERIENCE OF TRANSBOUNDARY WATER RESOURCES MANAGEMENT
## From Database of treaties

ECOLEX The gateway to environmental law

<table>
<thead>
<tr>
<th>Type of Treaties</th>
<th>Number of Treaties (Search Results)</th>
</tr>
</thead>
<tbody>
<tr>
<td>River</td>
<td>172</td>
</tr>
<tr>
<td>Lake</td>
<td>68</td>
</tr>
<tr>
<td>Sea</td>
<td>655</td>
</tr>
<tr>
<td>Ocean</td>
<td>193</td>
</tr>
<tr>
<td>Nile River</td>
<td>5</td>
</tr>
<tr>
<td>Amazon River</td>
<td>1</td>
</tr>
<tr>
<td>Colorado River</td>
<td>21</td>
</tr>
</tbody>
</table>

TOTAL 1115 as of June 2020
ECOLEX The gateway to environmental law

Nebiyu Daniel Tiruneh: 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science,
From Database of treaties

<table>
<thead>
<tr>
<th>Geographical Area</th>
<th>Number of Treaties</th>
</tr>
</thead>
<tbody>
<tr>
<td>Africa</td>
<td>103</td>
</tr>
<tr>
<td>AFRICA FAO</td>
<td>69</td>
</tr>
<tr>
<td>Alps</td>
<td>53</td>
</tr>
<tr>
<td>Amazonia</td>
<td>32</td>
</tr>
<tr>
<td>Americas</td>
<td>85</td>
</tr>
<tr>
<td>Aral Sea</td>
<td>22</td>
</tr>
<tr>
<td>Arctic</td>
<td>62</td>
</tr>
<tr>
<td>Asia</td>
<td>181</td>
</tr>
<tr>
<td>ASIA AND THE PACIFIC</td>
<td>69</td>
</tr>
<tr>
<td>Atlantic Ocean Islands</td>
<td>3</td>
</tr>
<tr>
<td>Benelux</td>
<td>13</td>
</tr>
<tr>
<td>Black Sea</td>
<td>60</td>
</tr>
<tr>
<td>Caribbean</td>
<td>73</td>
</tr>
<tr>
<td>Caspian Sea</td>
<td>46</td>
</tr>
<tr>
<td>Central Africa</td>
<td>21</td>
</tr>
<tr>
<td>Central America</td>
<td>29</td>
</tr>
<tr>
<td>Central Asia</td>
<td>151</td>
</tr>
<tr>
<td>CIS (Commonwealth of Independent States)</td>
<td>64</td>
</tr>
<tr>
<td>East Asian Seas</td>
<td>19</td>
</tr>
<tr>
<td>East Pacific</td>
<td>52</td>
</tr>
</tbody>
</table>

TOTAL 1207 as of June 2020
(FAO Legal Office WATER TREATIES Database)
Colorado River Basin

Rivers Colorado, Rio Grande, Tijuana, Yaqui are rivers shared by Mexico and the United States of America.

The International Boundary and Water Commission (IBWC) - Comisión Internacional de Límites y Aguas entre México y Estados Unidos (CILA) govern all these rivers shared by the two countries.

### Upper Basin States, 7.5 x10^6 ac-ft/year Total

<table>
<thead>
<tr>
<th>State</th>
<th>Allocation (%)</th>
<th>Allocation x10^6 ac-ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>Colorado</td>
<td>51.8</td>
<td>3.86</td>
</tr>
<tr>
<td>Utah</td>
<td>23.0</td>
<td>1.71</td>
</tr>
<tr>
<td>Wyoming</td>
<td>14.9</td>
<td>1.04</td>
</tr>
<tr>
<td>New Mexico</td>
<td>11.3</td>
<td>0.84</td>
</tr>
<tr>
<td>Arizona</td>
<td>0.5</td>
<td>0.05</td>
</tr>
</tbody>
</table>

### Lower Basin States, 7.5 x10^6 ac-ft/year Total

<table>
<thead>
<tr>
<th>State</th>
<th>Allocation (%)</th>
<th>Allocation x10^6 ac-ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>California</td>
<td>58.7</td>
<td>4.4</td>
</tr>
<tr>
<td>Arizona</td>
<td>37.3</td>
<td>2.8</td>
</tr>
<tr>
<td>Nevada</td>
<td>4.0</td>
<td>0.3</td>
</tr>
</tbody>
</table>

Treaty signed in 1944

Mexico 1.5x10^6 ac-ft/year

Interstate Compact signed in 1922
Danube River Basin

Governed by multilateral agreements since 1856

Non-navigational use governed by the Convention on Cooperation for the Protection and Sustainable Use of the Danube (the “Convention” or “DRPC”), signed on 29 June 1994 and entered into force in October 1998.

DRPC established the International Commission for the Protection of the Danube River (“ICPDR” or “Commission”).

The DRPC and ICPDR Contracting Parties are Austria, Bosnia-Herzegovina, Bulgaria, Croatia, the Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Serbia, the Slovak Republic, Slovenia, and Ukraine.

Provides mechanisms for:

- Dispute Resolution,
- Data Information Sharing, Exchange, and Harmonization
- Funding and Financing
- Benefit Sharing
- Compliance and Monitoring

http://www.internationalwatersgovernance.com/danube-river-basin.html

DANUBE
Area: 797,335 km²
Countries
Ukraine; Romania; Albania; Italy; Czech Republic; Kosovo; Poland; Montenegro; Macedonia; Moldova; Slovenia; Austria; Croatia; Bosnia and Herzegovina; Hungary; Switzerland; Germany; Republic of Serbia; Slovakia; Bulgaria

Nebiyu Daniel Tiruneh: 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science, Conflict Resolution and Cooperation
Jordan River Basin

- Diverse ecosystem, extreme seasonal and annual variability of river flow (ex- 40% of annual flow in February, but 3-4% in summer and autumn when needed most).
- Surface water 35%, groundwater 56% of the water resources of the basin.
- Several dams on the river (IR, HY, WS, FP, RE, NAV)
- Water quality an issue (esp. Lake Tiberias)
- The 1994 peace agreement between Jordan and Israel has provisions for the alleviation of water shortages ➔ created a Joint Water Committee (JWC).
- The treaty specifies allocations of the Yarmouk River and groundwater abstraction.
- includes other alternative and innovative ways of sharing resources.

Upper Tributaries
Hasbani: Emerging in Lebanon, flowing mostly in Lebanon.
Banyas: Emerging and flowing in Syria.
Dan: Emerging and flowing inside Israel.
The three tributaries meet at a location inside Israel and form the beginning of the Jordan River

Lower Tributaries
Yarmouk: Four tributaries in Syria, one in Jordan, flowing in a gorge where the common borders are located. Downstream it forms the borders between Jordan and Israel.

Area = 18,500 km²
- 40% - Jordan
- 37% - Israel
- 10% - Syria
- 9% - West Bank
- 4% - Lebanon
Indus River Basin

- Diverse ecosystem that extends from the Himalayas to the dry alluvial plains of Sindh province in Pakistan.
- Climate varies—subtropical to semi-arid.
- Surface water: glacier melt, snowmelt, rainfall and runoff.
- Extensive aquifer (16.2 million ha.)
- Irrigation boundaries resulted in Indo-Pakistan water dispute (1948) [India unilaterally cut off supply to Pakistan canals].
- Indus Water Treaty (1960).
- Indus Basin Project (1960-1971): 8 canals, 6 barrages, 3 dams, 4 remodeling of existing works.
- Extensive developments resulted in Pakistan owning the world’s largest contiguous irrigation system.

Two main tributaries
- Kabul (on the right bank)
- Panjnad (on the left bank)

Area = 1.12 million km²
- 47% - Pakistan
- 39% - India
- 8% - China
- 6% - Afghanistan

- The Sutlej Valley Project (1933) [4 barrages, 2 canals]
- Kotri, Taunsa and Guddu barrages (1958) [controlled irrigation]
- The Indus Basin Project (1960-1971) two major storage reservoirs Jhelum (Mangla0 and Indus (Tarbela)


Nebiyu Daniel Tiruneh: 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science, Conflict Resolution and Cooperation
Nile River Basin

River Length: 6,695 km
Area of the Nile Basin: 3,176,541 km²
Population: 257 million

Eleven countries share the river: Burundi, the Democratic Republic of the Congo, Egypt, Eritrea, Ethiopia, Kenya, Rwanda, the Sudan, South Sudan, the United Republic of Tanzania and Uganda.

The Nile Basin Initiative (NBI) is an intergovernmental partnership of 10 Nile Basin countries namely; Burundi, DR Congo, Egypt, Ethiopia, Kenya, Rwanda, South Sudan, The Sudan, Tanzania and Uganda, established on 22nd February, 1999. Eritrea participates as an observer.

Country Estimated Total Area Area in the Nile Basin

\begin{tabular}{|l|c|c|c|c|}
\hline
Country & Estimated Total Area & Area in the Nile Basin & (of total basin Area) & (of total country area) \\
 & (km²) & (km²) & (%) & (%) \\
\hline
Burundi & 27,834 & 13,860 & 0.44 & 49.39 \\
DR Congo & 2,345,410 & 21,796 & 0.69 & 0.91 \\
Egypt & 996,960 & 302,452 & 9.52 & 30.34 \\
Eritrea & 121,722 & 25,697 & 0.81 & 21.11 \\
Ethiopia & 1,144,035 & 365,318 & 11.50 & 31.93 \\
Kenya & 593,116 & 51,363 & 1.62 & 8.66 \\
Rwanda & 26,338 & 20,625 & 0.65 & 84.01 \\
South Sudan & 644,329 & 620,626 & 19.54 & 97.71 \\
Sudan & 1,864,049 & 1,396,230 & 43.95 & 74.90 \\
Tanzania & 945,000 & 118,507 & 3.73 & 12.69 \\
Uganda & 241,248 & 240,067 & 7.56 & 99.51 \\
\hline
Total & 3,176,541 & & & \\
\hline
\end{tabular}
Orange-Senqu River Basin

The total Orange-Senqu River basin extends over four countries, Botswana, Lesotho, Namibia, and South Africa. Total Area = 1,000,000 km²
South Africa: 64.2% Namibia: 24.5%
Botswana: 7.9% Lesotho: 3.4%

‘Agreement for the Establishment of the Orange-Senqu Commission’ (November 3, 2000)
The Orange-Senqu River Commission (ORASECOM) promotes the equitable and sustainable development of the resources of the Orange-Senqu River. ORASECOM agreement refers to, and recognizes the following agreements:
  - Helsinki Rules (1966)
  - UN Convention on Non-Navigational Uses of International Watercourses (1997)
QUANTIFYING COOPERATION

SUPPORTING MECHANISM TO ESTABLISH A DECISION SUPPORT TOOL
The WCQ distinguishes between:
• basic and active water cooperation
• technical and political dynamics and
• routine and effective actions
WCQ of a riparian nation is computed using ten parameters. These parameters are indicative of water cooperation in the technical and the political realm.

Riparian countries with
WCQ < 23.33 are likely to face the risk of war.
WCQ ≥ 50 likely to enjoy a relatively peaceful and stable relationship and zero risk of war.
Scoring and WCQ

Total Score 30

Agreement
Communication mechanism
Technical projects
Exchange of data
Alternative dispute resolution
Floods, droughts and ecosystem protection
Water infrastructure
Inclusion
Political commitment
Institutional functioning

Agreement
Communication mechanism
Technical projects
Exchange of data
Alternative dispute resolution
Floods, droughts and ecosystem protection
Water infrastructure
Inclusion
Political commitment
Institutional functioning

SCORE 30/30

WCQ 100
WCQ Comparison: Colorado River Basin

Colorado, Rio Grande, Tijuana, Yaqui.
Countries: Mexico-United States of America (USA)
Authority: International Boundary and Water Commission (IBWC) - Comisión Internacional de Límites y Aguas entre México y Estados Unidos (CILA)
WCQ Comparison: Danube River Basin

Danube
Countries: Austria, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Germany, Hungary, Moldova, Montenegro, Romania, Serbia, Slovakia, Slovenia, Ukraine
Authority: International Commission for the Protection of the Danube River (ICPDR)

- Agreement
- Communication mechanism
- Technical projects
- Exchange of data
- Alternative dispute resolution
- Floods, droughts and ecosystem protection
- Water infrastructure
- Inclusion
- Political commitment
- Institutional functioning

SCORE 30/30

WCQ 100
## WCQ Comparison: Jordan River Basin

|Jordan River*| Countries: Israel, Jordan, Lebanon, Syria**| Authority:| Israel-Jordan: Israeli-Jordanian Joint Water Committee| Israel-Lebanon: No cooperation|

<table>
<thead>
<tr>
<th></th>
<th>Israel-Jordan</th>
<th>Israel-Lebanon</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Communication mechanism</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Technical projects</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Exchange of data</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Alternative dispute resolution</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Floods, droughts and ecosystem protection</td>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>Water infrastructure</td>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>Inclusion</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Political commitment</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Institutional functioning</td>
<td>5</td>
<td>0</td>
</tr>
</tbody>
</table>

**SCORE** | 17/30 | 0/30

**WCQ** | 56.67 | 0
**WCQ Comparison: Indus River Basin**

**Indus**  
Countries: Afghanistan, China, India, Pakistan  
Authority:  
India-Pakistan: Permanent Indus Commission between India and Pakistan  
Afghanistan-Pakistan: No cooperation  
China-India: No authority

<table>
<thead>
<tr>
<th>Agreement</th>
<th>India-Pakistan</th>
<th>Afghanistan-Pakistan</th>
<th>China-India</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Communication mechanism</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Technical projects</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Exchange of data</td>
<td>1</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Alternative dispute resolution</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Floods, droughts and ecosystem protection</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Water Infrastructure</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inclusion</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Political commitment</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Institutional functioning</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**SCORE**  
- India-Pakistan: 6/30  
- Afghanistan-Pakistan: 0/30  
- China-India: 1/30

**WCQ**  
- India-Pakistan: 20  
- Afghanistan-Pakistan: 0  
- China-India: 3.33
WCQ Comparison: Nile River Basin

### Nile

**Countries:** Burundi, Democratic Republic of the Congo (DRC), Egypt*, Eritrea**, Ethiopia, Kenya, Rwanda, South Sudan, Sudan, Tanzania, Uganda  
**Authority:** Nile Basin Initiative (NBI)  
Egypt-Sudan: Permanent Joint Technical Commission for the Nile Waters (PJTC)

<table>
<thead>
<tr>
<th></th>
<th>NBI</th>
<th>PJTC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Agreement</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Communication mechanism</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Technical projects</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Exchange of data</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Alternative dispute resolution</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Floods, droughts and ecosystem protection</td>
<td>3</td>
<td>3</td>
</tr>
<tr>
<td>Water infrastructure</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Inclusion</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Political commitment</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>Institutional functioning</td>
<td>5</td>
<td>5</td>
</tr>
</tbody>
</table>

**SCORE**  
12/30  17/30

**WCQ**  
40  58.67
WCQ Comparison: Okavango and Orange

<table>
<thead>
<tr>
<th>Okavango</th>
<th>WCQ 50</th>
<th>Orange</th>
<th>WCQ 73.33</th>
</tr>
</thead>
<tbody>
<tr>
<td>Countries: Angola, Botswana, Namibia, Zimbabwe*</td>
<td></td>
<td>Countries: Botswana, Lesotho, Namibia, South Africa</td>
<td></td>
</tr>
<tr>
<td>Authority: Permanent Okavango River Basin Water Commission (OKACOM)</td>
<td></td>
<td>Authority: Orange-Senqu River Commission (ORASECOM)</td>
<td></td>
</tr>
<tr>
<td>Agreement</td>
<td></td>
<td>Agreement</td>
<td></td>
</tr>
<tr>
<td>Communication mechanism</td>
<td></td>
<td>Communication mechanism</td>
<td></td>
</tr>
<tr>
<td>Technical projects</td>
<td></td>
<td>Technical projects</td>
<td></td>
</tr>
<tr>
<td>Exchange of data</td>
<td></td>
<td>Exchange of data</td>
<td></td>
</tr>
<tr>
<td>Alternative dispute resolution</td>
<td></td>
<td>Alternative dispute resolution</td>
<td></td>
</tr>
<tr>
<td>Floods, droughts and ecosystem protection</td>
<td></td>
<td>Floods, droughts and ecosystem protection</td>
<td></td>
</tr>
<tr>
<td>Water infrastructure</td>
<td></td>
<td>Water infrastructure</td>
<td></td>
</tr>
<tr>
<td>Inclusion</td>
<td></td>
<td>Inclusion</td>
<td></td>
</tr>
<tr>
<td>Political commitment</td>
<td></td>
<td>Political commitment</td>
<td></td>
</tr>
<tr>
<td>Institutional functioning</td>
<td></td>
<td>Institutional functioning</td>
<td></td>
</tr>
</tbody>
</table>

**SCORE**

- Okavango: 15/30
- Orange: 22/30

Nebiyu Daniel Tiruneh: 2020 International Conference on the Nile and Grand Ethiopian Renaissance Dam: Science, Conflict Resolution and Cooperation
Lessons learned

- Water resources have been bones of contention as well as entry points of overall cooperation.
- Equitable and reasonable sharing is a core principle that needs to be an integral component of agreements.
- Agreements are absolutely necessary and delays are the forebearers of wasted opportunities in terms of cooperative economic development.
- It is important to have a regional sustainable view of water resources development.
- International cooperation and treaty mechanisms provide a good starting point for regional cooperation agreements.
- Treaties need to have clearly defined arbitration rules and remedial measures.
- Sharing both costs and benefits enhances cooperation.
- Climate change and ecosystem considerations need to be addressed in regional agreements.
- It is important to contextualize water use on the basis of appropriate technology and resource development.
Points to ponder

- Transboundary lake and river basins account for an estimated 60 per cent of global freshwater flow and is home to 40 per cent of the world’s population. (UN-Water: Transboundary Waters: Sharing Benefits, Sharing Responsibilities, 2008)
- An estimated 148 states have international basins within their territory, and 21 countries lie entirely within them. (4th UN World Water Development Report, 2012)
- Around 60 per cent of the world’s international river basins lack any type of cooperative management framework. (4th UN World Water Development Report, 2012)
- In the 20th century, only seven minor skirmishes took place between nations over shared water resources, while over 300 treaties were signed during the same period of time. (UN-Water: Transboundary Waters: Sharing Benefits, Sharing Responsibilities, 2008)
- There are numerous examples where transboundary waters have proved to be a source of cooperation rather than conflict. (4th UN World Water Development Report, 2012). However, failure to engage the basin hegemon constructively will hamper effective cooperation on transboundary waters. (SIWI: Addressing Power Asymmetry: How Transboundary Water Management May Serve to Reduce Poverty, 2011)
- There are several ways that improved transboundary water management arrangements may bring about benefits for poor people living within shared basins. More equitable and efficient water sharing amongst farmers across borders, for example, can lead to more sustainable water use and more secure yields. (SIWI: Addressing Power Asymmetry: How Transboundary Water Management May Serve to Reduce Poverty, 2011)
Thank You