

# WATER COOPERATION for a SECURE WORLD

## Focus on the Middle East

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### HIGHLIGHTS



Ban Ki Moon, Secretary General of the United Nations, has expressed concern on several occasions about linkages between water, peace, conflicts and security. Water cooperation between countries sharing trans-boundary water resources is directly correlated with security of nations involved in such cooperation and peace in the continent or subcontinent they belong to. Conversely, absence of active water cooperation is directly correlated with risk of war between countries sharing trans-boundary water resources. Out of 148 countries having trans-boundary water resources, 37 face the risk of war and they are home to more people on the earth than others. These are precisely the countries which have avoided active water cooperation with their neighbours.

Most of the countries in the Middle East are at risk of war as they have avoided regional cooperation in water. If they want to construct a river basin organisation or enter into another form of regional water cooperation arrangement, all the elements from experiences around the world are available.

This report provides evidence of a problem that has been neglected for too long. It also provides detailed options for solutions.

**Any two  
countries  
engaged in**

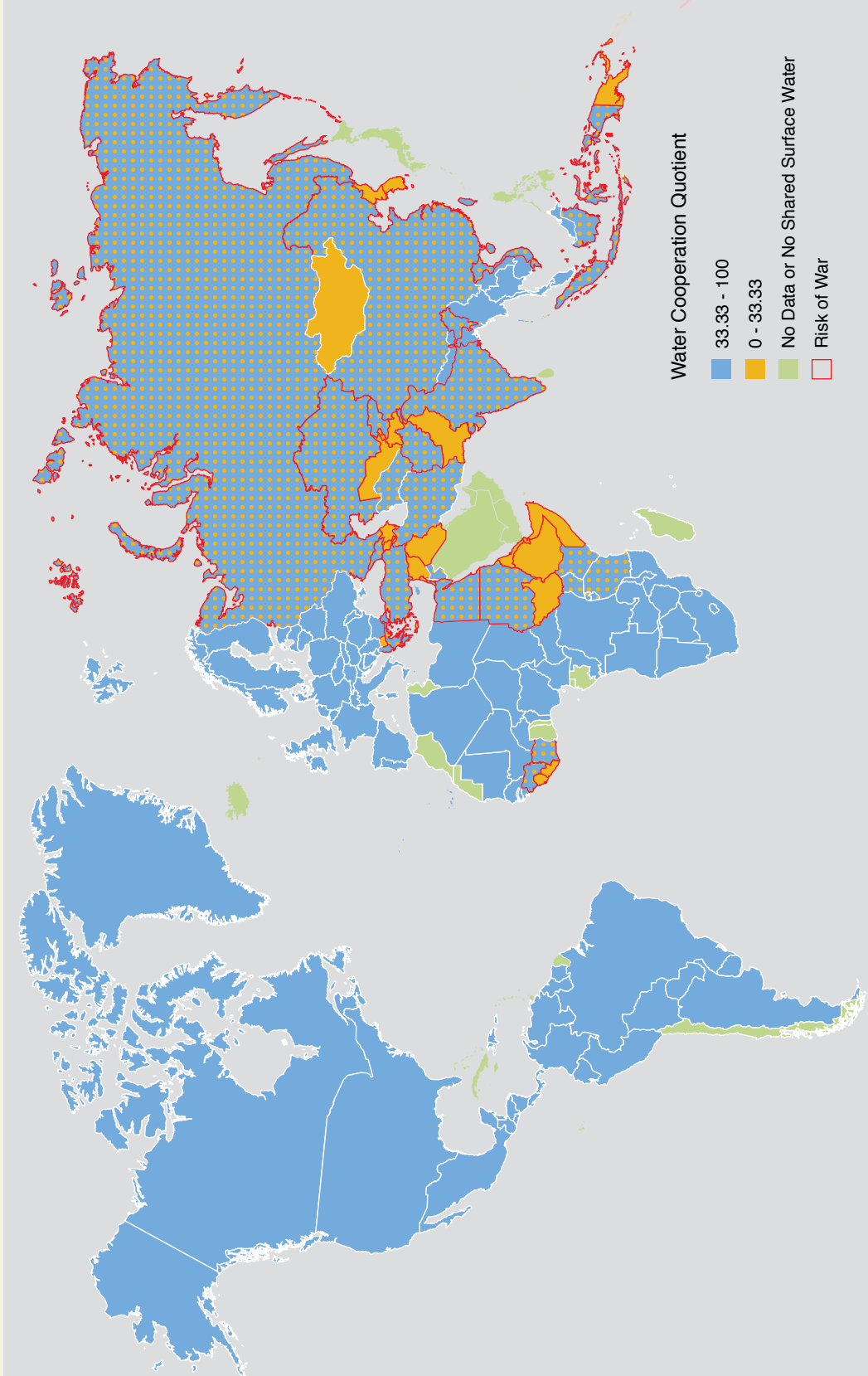
**ACTIVE**

**WATER**

**COOPERATION**

**DO NOT  
GO TO WAR  
for any reason  
whatsoever.**

WORLD



## The Water Cooperation Quotient was calculated using the following parameters:

- 1 **Agreement:** if there is a formal agreement for cooperation
- 2 **Commission:** if the cooperation has been institutionalised in the form of a permanent body such as a Commission or otherwise
- 3 **Ministerial Meetings:** if the cooperation is a matter of priority at the ministerial level as reflected in ministerial meetings as and when required.
- 4 **Technical Projects:** if there are joint projects at the technical level.
- 5 **Environmental Protection and Quality Control:** if the riparian countries work together for environmental monitoring or quality control of the shared water body.
- 6 **Joint Monitoring of Water Flows:** if the riparian countries jointly monitor water flows with transparent verification mechanism and harmonised protocols for interpretation of data.
- 7 **Floods, Dams and Reservoir:** if the riparian countries collaborate actively and transparently in issues related to flood control, dams and reservoirs in border areas in a way that takes into interest of all relevant riparian countries and not merely the host country of the concerned project.
- 8 **High Political Commitment:** if there is a commitment at the highest political level such as Heads of Government, Parliaments or other institutions to the trans-boundary cooperation mechanism.
- 9 **Integration into Economic Cooperation:** whether cooperation in water resources is integrated with regional economic cooperation.
- 10 **Actual Functioning of the Commission or Trans-boundary Water Cooperation Mechanism:** if information available from open sources indicated whether the concerned cooperation mechanism is functioning efficiently and with dedication of the participation countries.

*The weightage is provided in ascending order with 1 for Agreement and 10 for Actual Functioning of the Commission.*

## WATER COOPERATION QUOTIENT

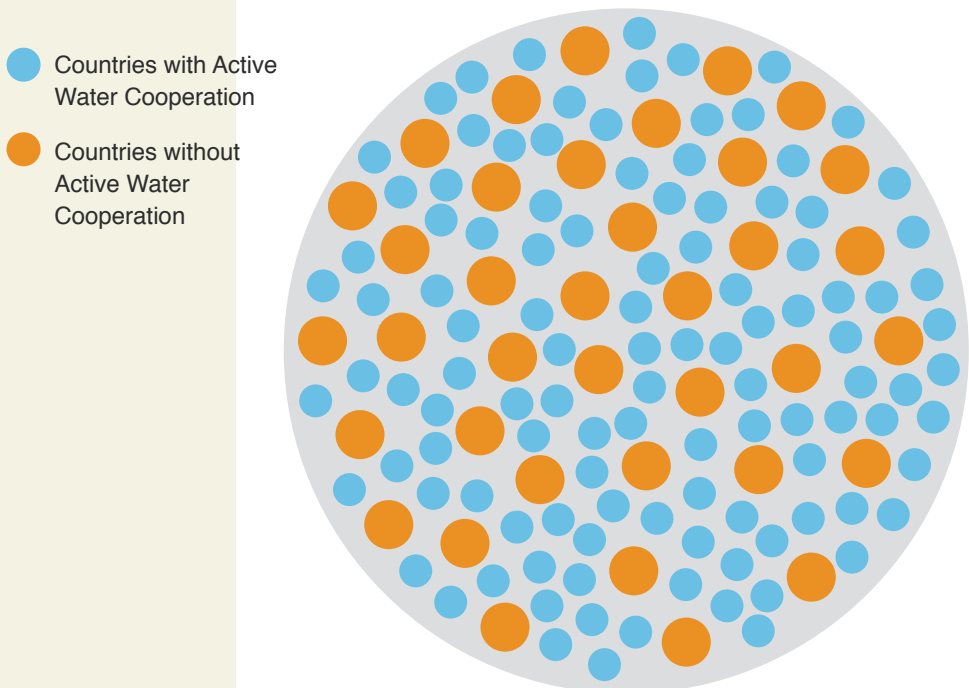
Central American Action Plan for Integrated Management of Water Resources	100
Trifinio Plan	100
Amazon Cooperation Treaty Organization (ACTO)	100
International Commission for the Protection of the Rhine (ICPR)	100
Finnish- Russian Joint Commission on the Utilization of Frontier Waters	100
Latvia-Lithuania Cross-Border Cooperation Programme	100
1959 Nile Waters Agreement (Egypt - Sudan)	100
South African Development Community (SADC)	100
International Joint Commission (US - Canada)	94.64
International Boundary and Water Commission (US - Mexico)	94.64
European Union Water Framework Directive (EUWFD)	94.64
International Commission for the Protection of Lake Geneva - Rhone (CIPEL)	94.64
International Commission for the Protection of the River Danube (ICPDR)	94.64
International Commission for the Protection of the Oder River against Pollution (ICPOAP)	94.64
Organisation pour la Mise en Valeur du fleuve Sénégal (OMVS)	91.00
Lake Victoria Basin Commission (LVBC)	87.36
La Plata Intergovernmental Co-ordinating Committee (CIC)	85.54
Mekong River Commission (MRC)	85.54
Bilateral agreement b/w Malaysia & Singapore	81.9
Joint Boundary Water Commission (Turkey - Georgia)	80.08
Malaysia and Thailand Collaboration Project	80.08
Finnish-Norwegian Transboundary Water Commission	74.62
Finnish- Swedish Frontier River Commission	74.62
Bilateral between India and Myanmar	70.98
Zambezi Watercourse Commission (ZAMCOM)	69.16
Bilateral coop b/w India- Bhutan	67.34
Bilateral cooperation b/w Brunei & Singapore	67.34
Treaty of Peace, Friendship and Arbitration (Haiti - Dom. Republic)	67.34
Bilateral between Russia and Kazakhstan (Ob-Irtysh)	65.52
Agreement between Moldova and Ukraine on the Joint Use and Protection of the Cross-Border Waters	65.52
Commission between Kazakhstan and Kyrgyz Republic for the Rivers Chu and Talas	61.88
Bilateral treaty b/w Israel & Jordan	60.06
Joint River Commission b/w India and Bangladesh	60.06

Helmand River Delta Commission	58.24
Niger Basin Authority (NBA)	56.42
Mahakali River Commission	56.42
Gambia River Basin Development Organization (OMVG)	54.6
The International Commission on Limits and Waters between Mexico and Guatemala (CILA)	52.78
Salween River Strategic Cooperation Framework Agreement	52.78
Bilateral between Iran and Turkmenistan (Atrak)	49.14
The Association of Southeast Asian Nations (ASEAN)	49.14
International Dnieper Basin Council	47.32
Kazakhstan – China Joint Commission on Use and Protection of Transboundary Rivers	43.68
Lake Chad Basin Commission	43.68
International Commission of Congo-Oubangui-Sangha (CICOS)	41.86
Nile Basin Initiative (NBI)	32.76
The Greater Tumen Initiative (GTI)	29.12
Interstate Commission for Water Coordination of Central Asia (ICWC)	27.3
Permanent Indus Commission	23.66
Mano River Union (MRU)	20.02
Bilateral cooperation on River Brahmaputra	12.74
Israel and Palestine Aquifers	10.92
Bilateral cooperation between Lebanon and Syria (El Kabir and Orontes)	7.28
Bilateral cooperation between Jordan-Syria (Yarmuk)	7.28
Cooperation amongst Iraq-Turkey-Iran-Syria- (Tigris-Euphrates/Shatt Al Arab)	1.82
Maritsa River Basin	0
Trilateral cooperation between Jordan- Syria-Lebanon	0
Astara Chay River Basin	0
Juba-Shibelli River Basin	0
Wadi Al Izziyah	0
Terek	0
Awash	0
Volta Basin Authority was set up in 2011	~
Struma River Basin - Joint group between Greece and Bulgaria was created only in 2011	~
Daoura/Dra/Guir/Oude bon naïma/Tafna River Basins - Memorandum of cooperation in 2011	~



## POPULATION AT RISK

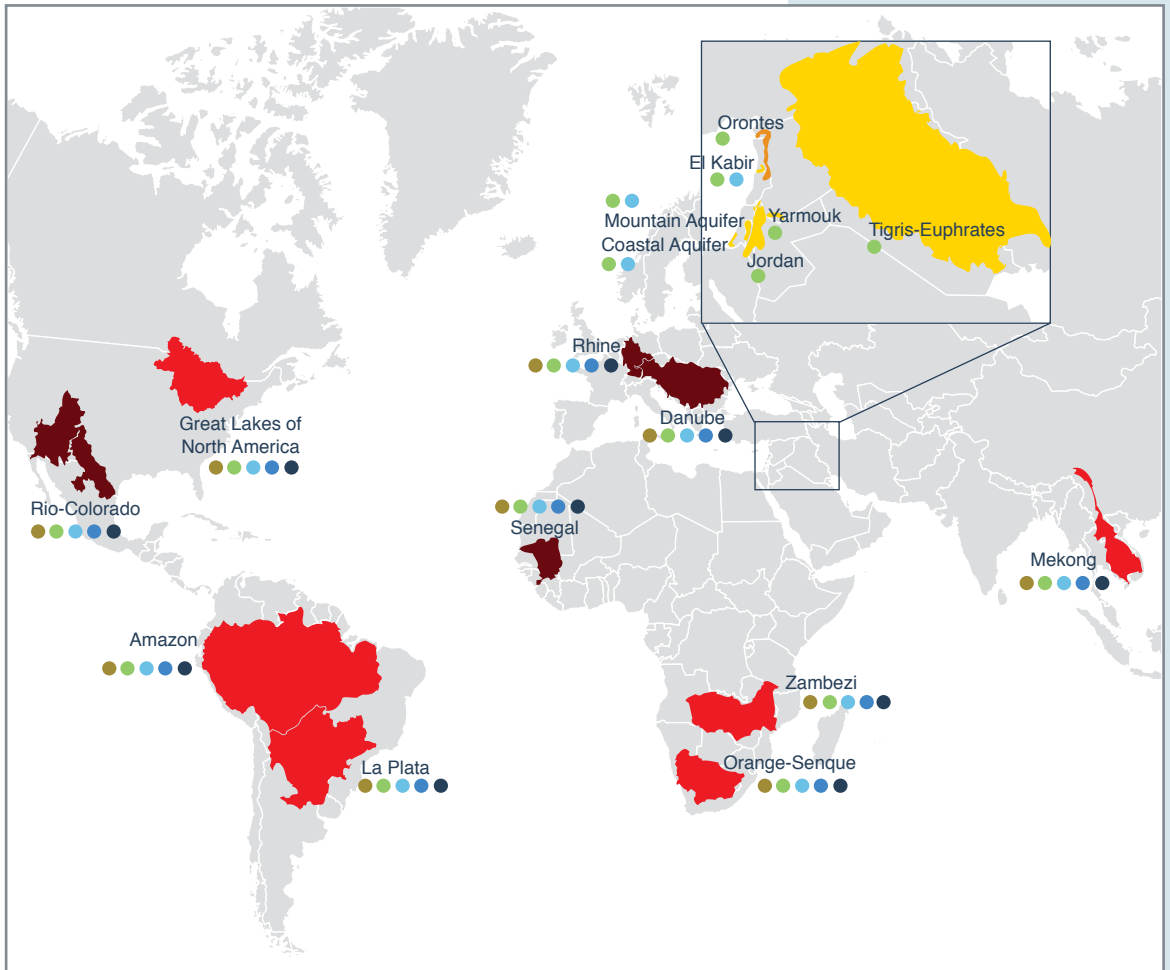
Out of 148 countries sharing water resources, 37 do not engage in active water cooperation. Almost a fourth of the community of nations misses optimum benefits of cooperation in water resources and exposes its population to insecurity in its relations with its neighbours. Any two or more countries of these 37 countries face a risk of war in future.



More people live in the countries NOT engaged in active water cooperation, and at risk of war, than those living in the countries engaged in active water cooperation and enjoying security and peace with their neighbours.



## CONFIDENCE BUILDING MEASURES IN SHARED BASINS



### Demonstration of trust and political willingness among riparians

- Very High
- High
- Medium
- Low

- Continuous Dialogue and Meetings
- Treaties and Agreements
- Involvement of all riparian states in some form
- Cooperation in other areas such as Economic
- Holistic vision and goals for the future

## TO COOPERATE OR TO COMPLAIN?

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Trans-boundary water relations are difficult. It is particularly possible for the countries adversely placed in a basin or a hydro-political region to detect injustice or unfairness. It is therefore natural for them to complain. But does mere complaining solve their problem? How are some countries using cooperation effectively and innovatively to overcome their difficulties? There are examples in almost every continent.



**Singapore:** With no natural water resources of its own, almost all of Singapore's water came from Malaysia at the time of independence in 1965. Following failed negotiations over increased water rates, Singapore decided to achieve self-sufficiency through its four taps strategy: sourcing water from rainwater, recycling, desalination, and imports. With new water reservoirs, desalination and recycling plants, it has reduced its dependence on Malaysia to about 50 per cent and thus averted potential conflict in the future.

**South Africa:** A downstream but powerful state, South Africa has used its economic position to collaborate with Lesotho, a lesser developed economy with abundant water resources. The Lesotho Highlands Water Project ensures that South Africa has greater access to the shared river to fulfil their water demand, in exchange for aiding infrastructure development in Lesotho. By building dams under the project, Lesotho is also getting sustained hydropower for the country, which is ultimately improving their economic output.





**Argentina:** Recognizing the shared resources between the countries and the need to co-operate and take joint actions for the sustainable development, Argentina, a downstream country, in 1966 paved the way for regional co-operation through the creation of Intergovernmental Coordinating Committee of the La Plata Basin Countries (CIC). The 1969 La Plata Basin treaty includes trans-boundary co-operation of Argentina, Bolivia, Brazil, Paraguay and Uruguay on the management of the world's fifth largest basin with Parana, Paraguay and Uruguay rivers.



**Senegal:** Senegal, a newly independent country in the 1960s and under developed economy, soon realized the benefits of co-operation to resolve its internal problems of agriculture and drinking water supply. Prior to joining the OMVS, droughts and floods adversely affected agriculture production but with the joint construction of the Manantali dam, irrigation along the dam in Senegal has widely increased in the last 3 decades, and now an estimated 90 per cent of the rice is harvested here. The Diama dam which halts salt water intrusion, is also helping Senegal to achieve its Millennium Development Goal on drinking water supply. The dam provides water for Lake Guiers, which in turn supplies Dakar and Thies.



**The Netherlands:** Following extreme floods in 1993/95, the province of Gelderland in The Netherlands in 1997 approached the German state of North-Rhine Westphalia to cooperate on flood control in the border area. In the Rhine river basin, Germany is an upstream country to the downstream Netherlands where 2/3rd of its land area is flood prone. The Dutch-German Working Group on High Water was formed for 'communication and research' to improve the flood protection at the Lower Rhine ('NiederRhein'). The group changed the flood control strategy from enforcing defence systems to 'Room for the River' policy which is now also included in the Rhine River Commission's 'Action Plan on Floods'.

