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## International Water Issues Need More Than Cooperation

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### ABSTRACT

UN Secretary-General Ban ki-Mun pointed out extremely important and extraordinary points in his remark at Opening of the 7th World Water Forum held in Daegu, Gyeongbuk, The Republic of Korea in 12 April 2015. He said that; “Instead of seeing scarce water as a reason for competition or conflict, we have to treat it as a challenge to collaborate, a challenge to engage in innovative hydro-diplomacy. In today’s world, we must be more aware of the risks of water conflict.” It is important to note the emphasis on “collaboration and innovative hydro-diplomacy” in his remarks. While speaking on the occasion of World Water Day 2013, the Secretary General had also said, “Water scarcity threatens economic and social gains... And it is a potent fuel for wars and conflict.” Secretary General Ban Ki-moon’s warnings were reflected in the official definition of water security provided by the United Nations University- IWEH, which says. “The capacity of a population to safeguard sustainable access to adequate quantities of and acceptable quality water for sustaining livelihoods, human well-being, and socio-economic development, for ensuring protection against water-borne pollution and water-related disasters, and for preserving ecosystems in a climate of peace and political stability.” It is important to note the emphasis on “in a climate of peace and political stability” in this definition. The concerns of the United Nations are justified as the world faces an era of depleting water resources. The World Water Development Report of UNESCO, released in March 2015 warns us of serious depletion of water supplies by 2050, while at the same time, significant increase in demand due to population growth, economic development and urbanisation, among other factors. Different effects of climate change are today contributing to even more water scarcity and greater security risks. It shows us that we need an effective and mutually beneficial solution of water resources-related problems. At the global scale, the effective and mutually beneficial solution of water

resources-related problems underlie peace, security and stability. But this can become a reality only if we change our conceptual approaches to domestic and transboundary water management.

**Keywords:** Transboundary Water; New Water Paradigm; Water Conceptual Change; New Hydro Diplomacy; Traditional Water Cooperation; New Hydropolitics; Shared vision; Shared goal

## **1. INTRODUCTION**

Throughout history, nations have generally focused on how to share the transboundary river discharges. New developments force the nations to share cost and benefits of the river on the basis of river basin. The key issue here has always been and remains to be the development of new Hydro Diplomacy. If water more often unites than divides people and societies then we can find the best suitable way to get increasing risk and threat out.

The major task, which the international community is facing today in the field of water resources, is the transfer of committed obligations into concrete actions that need Shifting Paradigm from classical cooperation to real collaboration.

### **1. 1. Water Cooperation Term's Definition and Meaning**

Cooperation is defined as “Voluntarily arrangement in which two or more entities engage in a mutually beneficial exchange instead of competing. Cooperation can happen where resources adequate for both parties exist or are created by their interaction.” In the business dictionary<sup>1</sup>.

As it is indicated in the dictionary “Cooperation can happen where resources adequate for both parties exist”. If the resources are not adequate and under serious threat like water resources, we realized that it hasn't been easy to cooperate especially on international water basins.

There are still some fundamental steps to be taken. Even now it hasn't been reached a global consensus on the term to be used to refer to a water source (rivers/lakes/aquifer) that flows from one country to another. Transboundary, international, shared are some of the ways that countries characterise these water bodies. In this case water cooperation effort begins with the lack of same definitions that can be effective to block further steps.

It is now necessary to be clear about what we mean by cooperation. In the report [6] it is identified like that “Merely signing treaties for allocation of water resources between riparian countries is not cooperation. Even signing treaties which go beyond allocation and provide for exchanges and joint ventures is also not cooperation. For cooperation to be meaningful, it must be active in an operational way.”

This identification clearly shows that classical cooperation approach is not enough and it needs redefining the cooperation term

As it is said in the identification “For cooperation to be meaningful, it must be active in an operational way”. It is a certainly true an extended explanation of cooperation that means Active Cooperation.

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<sup>1</sup> <http://www.businessdictionary.com/definition/cooperation.html>

Infact if a meaningful cooperation is identified as “active in an operational way” this requires that more than classical cooperation approach. It is a more meaningful and more goal-oriented approach which can be identified as collaborative approach .

## **1. 2. Water cooperation mechanisms**

Water cooperation needs some mechanisms. There can be found several water cooperation mechanism in the literature. Some examples of water cooperation mechanisms used in the report [6] to calculate<sup>2</sup> Water Cooperation Quotient<sup>3</sup> are given below; Agreement, Commission, Ministerial Meetings, Technical Projects, Environmental Protection & Quality Harmonization, Joint monitoring of Water Flows, Flood Dam, Reservoir Cooperation, High Political Commitment and/ or Involvement of HOGs, Integration into Economic Development, Actual Functioning of Mechanism.

It is difficult to see all of them even some of them in a cooperation process between riparian states. Because we can find different kind of cooperation identification needed to put this effort in force. But even so, it seems that traditional cooperation concept itself is not enough to strengthen shared water management relations between riparian states.

## **1. 3. What kind of Cooperation?**

In the water sector, the cooperative approach is still too often based only on hydrological and climatological data, on modeling and engineering, all relying on the application of scientific and mathematical principles to practical ends [9]. But this doesn't bring any mutual dependent relationship and trust. It could be a very preliminary step further for a mutually beneficial way. Therefore some experts have needed stronger, more beneficial and meaningful terms of cooperation to support their traditional thesis based on cooperative approach.

These are given below;

- 1) Intensive water cooperation
- 2) Improved water cooperation
- 3) Active water cooperation
- 4) Efficient water cooperation
- 5) Meaningful water cooperation

It seems that only cooperation intention didn't bring satisfactory results and these different kind of cooperation types are needed for being succesful in cooperation process.

But if we can't go beyond the traditional cooperative approach as a concept, these new kind of definitions of cooperation dosen't help us to improve international water management.

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<sup>2</sup> Each cooperative mechanism gets scored under each indicator depending on whether it exhibits the conditions mentioned.

<sup>3</sup> The WCQ is a set of ten indicators that help determine and quantify the extent of collaboration between two or more countries with shared watercourses.

#### 1. 4. Traditional “Water Conflict or Cooperation” Approach Ends

Conventional term "*Hydro-politics*" now should encompass consideration of variety of scale, new actors, increased interdependency nexus water, energy, food, new geopolitics and new technology.

The Oxford English Dictionary defines the word ‘cooperation’ as “working or acting together to the same end” for a common purpose or benefit [9]. Unfortunately, this process does not always take into account a "*shared vision*" to reach an ultimate goal. Real collaboration requires mutual dependent relationship and trust.

Conceptualizing conflict and cooperation in a linear fashion is not a solution-oriented approach. It is very hard to achieve transboundary water cooperation with normative assumptions starting from existing conflicted water issues. Therefore it needs a new conceptual approach. It may be productive to focus on the analyses of rapid changing which brought new areas to collaborate between basin states rather than taking discrete events related to transboundary water interactions.

We can say that “Traditional Water Conflict or Cooperation” concept ends with integrated approach with an emphasis on increased diversity and flexibility is needed. It is because of that numerous challenges are involved in water management. These various challenges call for multifaceted, more flexible hydro policy processes.

#### 1. 5. Water Cooperation Quotient

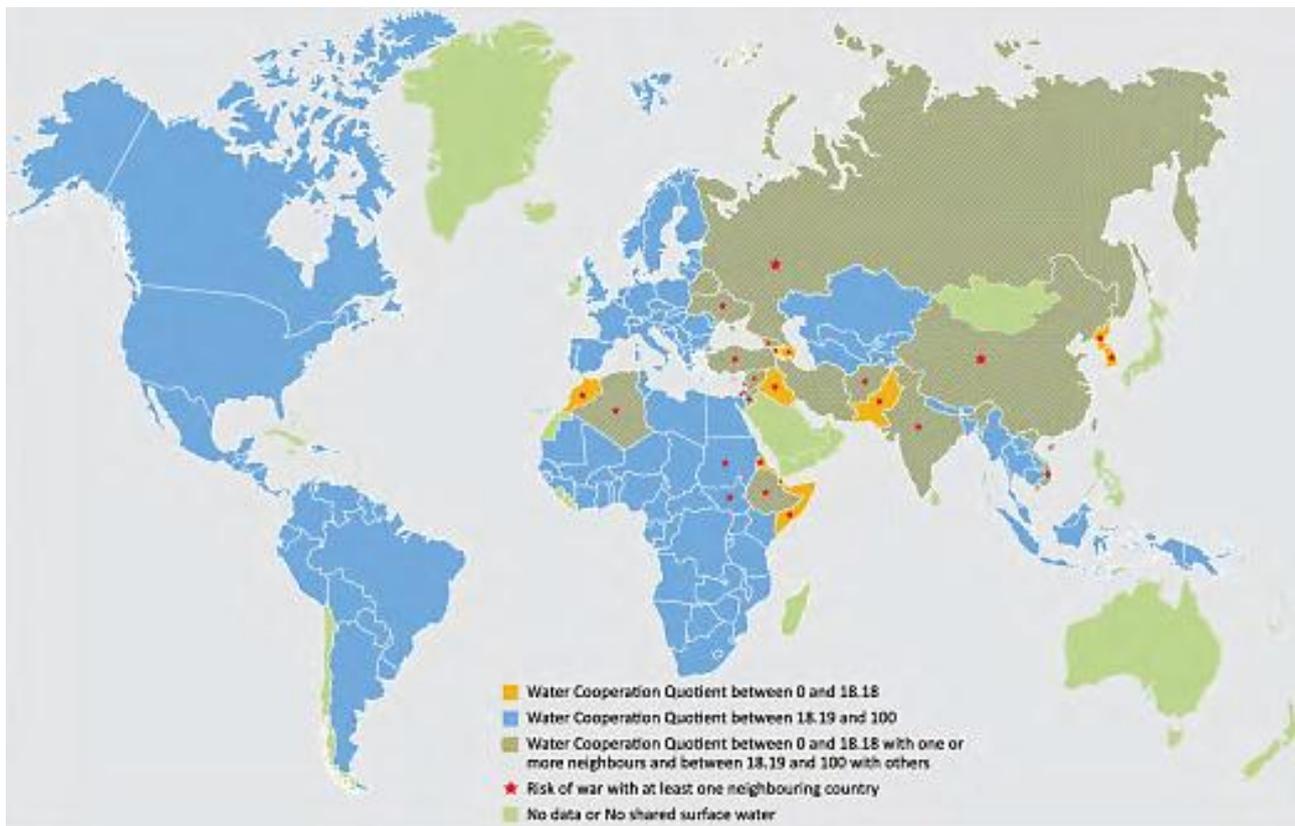


Figure 1. Active Water Cooperation and Risk of War [6].

Water Cooperation Quotient Report prepared by **Strategic Foresight Group** is a very valuable one [6]. It is aimed to propose how to measure the intensity and operational strength of trans-boundary cooperation in the water sector.

It is done by constructing Water Cooperation Quotient based on certain parameters. The parameters are drawn from the experiences of River Basin Organisations which are respected all over the world for successfully implementing water cooperation arrangements [6].

Water Cooperation Quotient can be used to identify gaps in the cooperative mechanisms and improve the strategies and methods of cooperation. The Quotient helped me to evaluate the already existing regional cooperation mechanisms that are not working well.

As shown in Figure 1, the red plotted points are representing the risk of war with at least one neighbouring country. That means that effort of active water cooperation mechanisms doesn't work well or cooperation effort itself doesn't bring any meaningful relations in the most water-stressed regions of the world.

We need a new paradigm to step further. I believe that it is necessary to begin with a new vision to criticise past experience gained from all over the world's transboundary issues. This new paradigm and approach are not exist at all and It is badly needed.

## **2. SHIFTING PARADIGM AND CONCEPTIONAL CHANGE**

We need to shift the transboundary water management approach from Water Cooperation to Collaboration to achieve one step ahead to water related goals and security issues as soon as possible

Concerns over transboundary water "cooperation" has to shift away from absolute water quantity to applicable benefit sharing collaboration on water supply. If collaboration is essential in sustainable transboundary water management, a mutually beneficial way can help built this collaboration in appropriate transboundary river basins.

Most of the developments including climate change and nexus water ,energy,food and ecosystem showed that a vital need is growing to get innovative approaches to transboundary water governance. We should develop very innovative approach to transboundary water governance in various basins of the World.

First of all we should downscale the concepts and principles of international treaties and regulations on water to a very local level. We should take into account that multilevel governance considering the balance between them.

If building trust between the riparian countries is a must. Then we should find a new and innovative approach and more interdependent relationship apart from classical "cooperation" approach to built dependable and sustainable trust.

### **2. 1. Building Trust-Basin target approach**

Building trust is not only a matter of international relationship. It basically needs of an engineering approach anymore. First of all it needs to find a effective way to create a unity of effort for the scale of transboundary basin. It can be called basin target trust building approach. In this equation, we should specify that how basin target trust building can be concretely implemented while adapting to local rules and specificities.

This process could be called as of new innovative hydrodiplomacy. Even if it is not identified properly yet the new innovative hydro diplomacy concept has already been in

process under the influence of new geopolitics, nexus, new security paradigm and climate change threat.

It is clear that one of the main concerns of the 7th World Water Forum is to move from identifying solutions to implementing them. We can find some example project that its partners are bringing concrete solutions and implementation techniques to one of the key challenges of water management. By new innovative hydro diplomacy we should create more example of how water-related dialogue, water related goals and security issues can go one step ahead. We should develop a strong collaborative approach sharing the same goals amongst countries which can establish strong partnership mechanisms applicable to all sectors and stakeholders. actually serves various broader purposes, in this case strengthening international cooperation.

## **2. 2. Why must we do that?**

The rising demands of a growing world population for food, water, and energy has put an increasing stress on land use, water resources and ecosystems. Despite considerable progress over the past ten years, forecasts for natural water cycle variability and extreme weather conditions show that in the short and medium term endeavors will still suffer from severe limitations. Therefore water management won't be any easier in future. Therefore, we should improve the understanding of the impacts of climate change on the hydrological cycle and develop a better scientific understanding of the land-water-energy-climate nexus.

Under these conditions, water management in many transboundary basins will be more important than others due to having been highly politicized and a considerable impact on conflict prevention, regional stability, and environmental peace-making and international governance. Taking into account the new inherent and external threats to water management, the strategy we propose, bottom-to-up local level approach with an adaptive new Hydro-Diplomacy, will pave the way for broader goals in regional and international collaboration through harnessing cooperation mechanisms, taking local level water related problems for granted at a minimum.

## **2. 3. Why do we need of Conceptual Change**

- Classical Cooperative approach is ineffective
- Creative process is necessary to built confidence and hydro stability
- Water energy food nexus also links crises effects to each sector
- Adaptation to Climate change effects is not a single play and needs working together and unity of effort
- Increased interdependency linked local crises to regional and global crises
- New Food Geopolitics opened new disputed areas
- A high level comprehensive collaboration reduce a tendency towards greater securitisation
- Collaboration is the bedrock of creative solutions and innovation
- We need creative solutions and innovation for moving forward

We must change the nature of international relations in water management from a zero-sum game based on resource grasps to a platform of mutually beneficial interrelations.

Moving forward requires shared vision, shared goal and unity of effort which means a real collaborative approach on the basis of new Hydro-diplomacy approach instead of tight classical cooperative one

Sustainable transboundary water management has been a collaborative issue Therefore We need a conceptual change from classical cooperation to collaborative approach That requires unity of effort, regional economic and political integration, We need a way of cooperation that strengthens regional integration

#### **2. 4. Diversity and Flexibility is needed**

Transboundary as well as national water development and management are strongly linked to sustainable growth and development of the regional peace and stability.

Thus, an integrated approach with an emphasis on increased diversity and flexibility is needed. New management approaches should be based on regional mutually beneficial principles, focusing on river basins and aquifer systems together. This requires a holistic management of surface and groundwater implemented with the entire river basin in mind.

Flexibility is needed in new management approach. It is because of that numerous challenges are involved, such as continuous changes in people's demands and values and structural transformations in society and environment, not to mention climatic anomalies and other exogenous shifts. These various challenges call for multifaceted, flexible decision-making processes

Many existing transboundary cooperation arrangements are highly sectoral; the majority address specific waterworks, water uses and measures to control and regulate water flows, others pollution or the environment. There is a need to revise these approaches in order to follow IWRM principles. Sectoral entities should be actively used as the building blocks of an integrated approach, with the right mechanisms as well as changes in legislation.

### **3. AN ADAPTIVE NEW HYDRO-DIPLOMACY, A FURTHER STEP**

Transboundary River Basin Management is not totally differs from general river basin management in terms of general rules and regulations. Therefore Adaptive Transboundary River Basin Management could be a key to go one step ahead of this complex processes.

Adaptive management can more generally be defined as a systematic process for improving management policies and practices by learning from the outcomes of management strategies that have already been implemented. Adaptive water management aims to increase the adaptive capacity of the water system by putting in place both learning processes and the conditions needed for learning processes to take place. As pointed out by Bormann et al. (1993), "Adaptive transboundary management is learning to manage by managing to learn." In this case, learning encompasses a wide range of processes that span the ecological, economic, and socio-political domains in the testing of hard and soft approaches (Pahl-Wostl 2002, Gleick 2003).

In this respect, adaptive management emphasizes the importance of the management process rather than focusing on goals, but without claiming that the process is an end in itself. It explicitly recognizes that management strategies and even goals may have to be adapted

during the process as new information becomes available, and that the quality of the process, e.g., who is involved and which kind of information is taken into account, is essential for the outcomes finally achieved.

As it is explained above transboundary basin management also should emphasize the importance of the management process and sharing benefits rather than focusing on sharing water discharge. Therefore we need to be aware of new learnings from the outcomes of management strategies. We should adapt during the process as new information becomes available and new development occurs.

Gained experiences have shown that sustainable solution of transboundary water management issues are not only a matter of cooperation and dialogue between riparian states but also finding more effective way to collaborate for regional development, peace and stability. Therefore belowmentioned new approaches could be considered as more effective way to create shared vision, shared goal and unity of effort to stimulate collaborative action and political commitment that will help to deliver benefits in all areas, including collaborative water management.

- **A multilevel, inclusive approach for water cooperation:** Water resources management issues must be addressed at the local, national and at appropriate regional and international levels. All stakeholders, including those in government, international organizations, the private sector, civil society and academia, should be engaged, paying special attention to the livelihoods of the poor and most vulnerable people.
- **Innovative approaches for water cooperation:** Mobilizing political will and commitment to address water issues worldwide remains crucial. Equally important are forward thinking and a willingness to consider innovative ways to approach local, regional and international cooperation.

### **3. 1. Benefits and Costs Sharing Approach**

Riparian countries should focus first on optimizing the generation of basin-wide benefits, and secondly on sharing those benefits in a manner that is agreed as fair. The use of water, rather than the allocation of water itself, provides by far the best scope for identifying mutually beneficial actions. The perception by all countries that a collaborative basin development and management plan which maximizes overall benefits is “fair” is essential to motivating and sustaining collaboration. It is therefore important that consensus over basic entitlements is reached and that attention is paid to the differential distribution of costs resulting from the use of the water resources of the entire water body in question. It should be recognized, however, that due to the limited amount of overall available water in some cases, such decisions sometimes involve very difficult trade-offs and choices [5].

Payments for benefits (or compensation for costs) can only be made in the context of collaborative arrangements. Downstream countries can be compensated, for example, for the creation and operation of additional storage capacity by upstream countries. This basin solidarity also might entitle upstream countries to share some portion of the downstream benefits that are generated, and thus share the costs of these practices. It is important, however, to apply a special approach to those benefits and costs that are not easily quantifiable or commensurable. Payment for ecosystem services (PES) – such as for flood mitigation, regulating run-off and water supply – is a new and still contested approach. Nonetheless, if implemented well, PES has the potential to be an environmentally effective,

economically efficient and socially equitable tool for IWRM that can internalize environmental costs, broaden sources of finance and create incentives for environmentally friendly investments and behaviour [5].

#### **4. CONCLUSIONS**

Gained experiences have shown that there is a lot to do in transboundary surface and groundwater basin management. Radical change in way of thinking is a must in transboundary basin management. Therefore what to do first is simply accepting that "It needs more than cooperation" anymore.

It's time now to focus on the implementation of already identified tools, technological advancements, and new approaches (such as many of the great proposals that were presented during the conference) and evaluate and document what works and what doesn't.

There is also a need to move from the global analysis (which is very useful to quantify the problem) to localized and contextualized solutions that involve local partners. One solution definitely doesn't fit all. Participants concluded that during the past years there has been positive progress in awareness, knowledge and tools development but there is a need to advance on policy coherence and sectorial planning.

Climate change progressively became a security issue for the countries, leading to a necessary change of water policies as well as their behavior to transboundary water management. It should therefore be a priority to promote deeper cooperation, comprehensive collaboration on transboundary water management in assessing climate change and its impacts on these strategical water resources.

In fact, classical cooperation approach between co-riparian states wouldn't be enough to manage the Transboundary Rivers and transboundary aquifers under the effects of climate change as well as new international relationships and new geopolitics. Besides the Transboundary Rivers, the proper governance of transboundary aquifers requires particularly high levels of international collaboration.

Sustainable transboundary water management need greater political and diplomatic engagement that can't be achieved only classical cooperative approach on water issues.

It requires shared vision, shared goal and unity of effort which means a real collaborative approach on the basis of new Hydro-diplomacy approach instead of tight classical cooperative one. International water issues need more than Cooperation.

#### **Biography**

Dursun Yıldız is a hydro-politics expert and Director of the Hydro-politics Academy Association located in Ankara-Turkey. He is a civil engineer and used to be Deputy Director at State Hydraulic Works in Turkey; completed hydro informatics post-graduate course at the IHE in Delft, Technical training programme in USSR-USA and a master degree in Hydro-politics at the Hacettepe University-Turkey. He has over 5 years of teaching experiences in some Turkish Universities and now works as head of his own Hydro Energy & Strategy consulting company located in Ankara. He has published several international articles and 11 Books. He received Most Successful Reseracher Award on International Water Issues from Turkish Agricultural Association in 2008. dursun.yildiz@gmail.com

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