Global Water Partnership

Global Water Partnership South Asia

Regional Workshop on Transboundary Water Cooperation in the context of the SDGs in South Asia and beyond

23-24 May 2017, Pokhara, Nepal

GWP Nepal

JVS

GENEVA WATER HUB

PÔLE EAU GENÈVE

United Nations Educational, Scientific and Cultural Organization

IHE DELFT Institute for Water Education in partnership with UNESCO

Table of Contents

List of figures

Abbreviations

ACU	Aquifer Country Unit
BCU	Basin Country Unit
BDP	Basin Development Plan
CBD	Convention on Biological Diversity
CBFEWS	Community Based Flood Early warning System
DRR	Disaster Risk Reduction
GTS	Global Telecommunication Stations
GWP	Global Water Partnership
GWP CACENA	Global Water Partnership Central Asia and Caucuses
GWP SEA	Global Water Partnership South East Asia
GWP SAS	Global Water Partnership South Asia
HKH	Hindu Kush Himalayan
IAEG	Inter-Agency and Expert Group
IB	Indus Basin
ICJ	International Court of Justice
ICIMOD	International Centre for Integrated Mountain Development
ILC	International Law Commission
IWRM	Integrated Water Resources Management
IWT	Indus Water Treaty
KHEP	Kishenganga Hydro-Electric Project
LMB	Lower Mekong Basin
LMC	Lancang-Mekong Cooperation
MDGs	Millennium Development Goals
MoU	Memorandum of Understanding
MRC	Mekong River Commission
NGO	Non-Governmental Organisations
PIWC	Permanent Indus Water Commission
RBO	River Basin Organizations
SDGs	Sustainable Development Goals
UIB	Upper Indus Basin
UNCCD	United Nations Convention to Combat Desertification
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNWC	UN Watercourses Convention
WMO	World Meteorological Organisation
WSSD	World Summit on Sustainable Development
WWF	World Wide Fund for Nature

Executive Summary

GWP South Asia, GWP and GWP Nepal in collaboration with the Geneva Water Hub, IHE Delft Institute for Water Education and World Wide Fund for Nature (WWF) organised a regional workshop on 'Transboundary Water Cooperation in the context of the Sustainable Development Goals (SDGs) in South Asia and beyond' in Pokhara, Nepal on 23 and 24 May 2017.

Twenty-nine participants representing 16 countries including water practitioners; lawyers working on transboundary water laws; members of women, youth and civil society organisations across the world and Asia who are active in transboundary cooperation attended the workshop. At this meeting the Regional Chairs and Coordinators of GWP Asia – representing China, South Asia and South East Asia and Country Coordinators of GWP South Asia got-together to discuss and to share knowledge, experiences and expertise on key issues in the areas of transboundary water law, SDGs, gender and youth.

The workshop commenced with a synopsis on current international agreements on transboundary waters and overview of transboundary cooperation in Asia. The water experts from Asia led the session on 'Insights from cooperation in major Asian river basins'. The session on overcoming challenges to transboundary cooperation in Asia was the third session with the key note on 'Conflict avoidance and dispute settlement mechanisms'. 'Transboundary water cooperation in the context of the SDGs' session was concluded with a group activity while the session on 'Making transboundary water cooperation more inclusive' covered three topics including transboundary water cooperation, public and civil society participation, transboundary water cooperation and gender equity and involving youth in transboundary cooperation and Integrated Water Resources Management (IWRM)'.

The workshop was able to build trust and develop negotiation skills through relevant role players and working groups. It generated an inclusive approach, which leave no one behind, involving civil society, women and youth. The discussions facilitated exploring possible joint activities, context-specific solutions and way forward on knowledge exchange in international water law and transboundary cooperation.

It was observed that, although the workshop participants represented almost all the sectors and geographical locations inline with the workshop objectives, the only weakness of the workshop was lack of local government and/or community representation who actively engage in different capacities on transboundary cooperation. Therefore, it was emphasised that involving all relevant stakeholders in organising such workshops in future PAN Asia activities is vital. The two days' workshop was fully loaded with information and knowledge sharing, so sketching the way forward was a challenge given the time limitation. Therefore, the group decided to identify concept notes on transboundary cooperation developed in their regions/countries that could be replicated in other basins and to share with the rest of the participants as the way forward.

The workshop was the third workshop under the Pan-Asia Memorandum of Understanding (MoU) signed in May 2016 between GWP China, GWP South East Asia (GWP SEA), GWP Central Asia and Caucasus (CACENA), GWP South Asia (SAS) and GWP Secretariat. Another joint Pan-Asia meeting is scheduled to be held towards the end of year 2017.

Group Photo

Opening and Introduction

Moderator: Ms Lesha Witmer, WWF

Dr Vijaya Shrestha, Chair, GWP Nepal inaugurated the workshop and welcomed the GWP Regional Chairs, Regional Coordinators of Asia and Country Coordinators of GWP South Asia. Further, she warmly welcomed the water professionals, experts and youth who arrived from various parts of Asia and around the world to Nepal to attend the workshop.

besides transboundary cooperation in Asia falls into the same category. Therefore, she expressed, the content that will be discussed at the workshop will provide knowledge and guidelines to the participants to develop a road map for transboundary water cooperation in Aisa.

Dr Shrestha thanked Ms Angela Klauschen, Senior Network Officer, GWPO and Dr Lam Dorji, Chair, GWP SAS for organising the workshop in South Asia.

She said "under GWP fraternity, nothing could be more important than the cooperation among regions and rallying for Integrated Water Resources Management (IWRM). GWP's efforts in achieving a dedicated water goal in Sustainable Development Goals (SDGs) was remarkable and was one of the landmark achievement of GWP". By highlighting the barriers to transboundary cooperation in Asia she mentioned, it is a challenging task to accommodate conflicting and competing interests at a forum -

Dr Lam Dorji making the opening speech recapped the progress made by PAN-Asia group for the last two years by organising experts and stakeholders gatherings in several occasions. The first PAN-Asia meeting was held in China on South-South Cooperation in Flood Management in December 2015 while the next was in Singapore in July 2016 on Innovative Urban Water Management. "GWP SAS is glad to host the third PAN-Asia workshop on

Transboundary Water Cooperation in the context of the SDGs in South Asia and beyond in Nepal" he said. Emphasising the relevance of the meeting, he indicated that we have to respond appropriately to manage water resources since water is a basic human need and a scarce resource. The fundamental problem we face is incapability of prioritising the water needs and it is one of the reasons for United Nations to develop SDGs and to assign a dedicated water goal - SDG #6.

Dr Dorji invited all to take the advantage of the two-day meeting to learn and understand better on transboundary water cooperation in the context of SDGs from the experts attending the workshop who actually involved in developing, prioritising and negotiating water management among and between governments and other stakeholders.

Dr Watt Botkosal, Chair, GWP South East Asia in his remarks said, "As water professionals, we all are committed to achieve SDGs. So we here got together aiming on two things, to share information, experience, and challenges and to seek for solutions to address these challenges". By highlighting the importance of having a regional approach for IWRM, Dr Botkosal mentioned that IWRM does not work in isolation. It takes place in different societies, systems and sectors where failure in one region may leads to fail the whole world achieving IWRM.

Prof Jiang Yunzhong, Secretory General, GWP China thanked the organisers on-behalf of GWP China for inviting the Chinese delegation for the meeting and arranging the meeting at a beautiful location. While reiterating the value of the meeting he concluded his remarks mentioning that he is confident the workshop would provide an opportunity for PAN-Asia group to come to a common understanding about transboundary water cooperation in Asia.

Then, self-introduction of participants was carried out where the participants were invited to mention their name, the organisation they work for and three key words on the things that they are currently working on.

Following these brief introductions, Ms Angela Klauschen concluded the introductory session by briefly explaining the workshop agenda. The agenda for the first day was focused on overview of contemporary transboundary cooperation at global and local level with the special attention on transboundary laws and Asia. At the end of each session, the participants were given an opportunity to interact with the experts as well as each other. The first day was concluded with a group discussion on challenges and how to overcome those challenges. The second day was dedicated to SDGs and its relation to transboundary cooperation. Involving gender, youth and civil society dimensions in transboundary cooperation were discussed towards the end of the meeting.

Session1: Setting the scene

Moderator: Dr Lam Dorji

Key note: Status of current international agreements on transboundary waters (1997 UNWC, 1992 UNECE, Draft Article on TB Aquifers, HRW)

Dr Mara Tignino, Geneva Water Hub/University of Geneva

Dr Tignino discussed three current international agreements to introduce the status of the international water law to the participants.

- 1997 Convention on the Law of Non-Navigational Uses of International Watercourses (UN Watercourses Convention)
- 1992 Convention on Protection and Use of International Watercourses and International Lakes (UN Economic Commission for Europe (UNECE), UNECE Water Convention)
- 2008 International Law Commission's (ILC) Draft Articles on Law of Transboundary Aquifers (ILC Draft Articles)

There is a clear relationship between local, basin and regional agreements and it is noticeable that in developing these conventions, the stakeholders have considered both surface and ground water. The two global instruments of transboundary waters are UN Watercourses Convention and UNECE Water Convention and these two are instrumental for management and protection of shared waters. The conventions have close relationships and addressing similar subjects i.e. transboundary waters. However, the few differences are related to their scope of application on groundwater resources. Both these conventions are framework conventions and taken as references in developing instruments at the regional and basin level.

The UN Watercourses Convention (UNWC) was a result of 30 years of negotiations, and this instrument has been adopted by the UN general assembly in 1997. There are 36 countries parties to the Convention and so far only two countries in Asia: Uzbekistan and Vietnam. Most of the European Union countries and a significant number of African States, especially West and Southern Africa are parties to the UN Watercourses Convention. In South America, Venezuela and Paraguay have only signed the UNWC but have not ratified so far. It is interesting to know that the first states to ratify the convention were Middle East countries with the objective of using the convention as a tool to overcome the asymmetrical relationship between the countries.

There is a comprehensive list of principles, which are applicable to governance, management and protection of water resources. The Convention codifies the principles of international customary law, notably the principle on equitable and reasonable utilisation and the obligation not to cause a significant damage. However, these principals are general and need to be applied taking into account the specificities of each basin.
Art.5 of the UN Watercourses Convention gives a reference to the benefits the countries can get by ratifying the Convention.

"Watercourse States shall in their respective territories utilise an international watercourse in an equitable and reasonable manner. In particular*, an international watercourse shall be used and developed by watercourse States with a view to attaining* optimal and sustainable utilisation thereof and *benefits therefrom*, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse"
Article 6 of the UNWC enumerates the factors to be taken into account for an equitable and reasonable utilization which include,

- Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character;
- The social and economic needs of the watercourse States concerned;
- The population dependent on the watercourse in each Watercourse State.

In the case of a conflict between uses, the Convention also highlights the priority of vital human needs (Art.10 of the UN Watercourses Convention).

Article 7 of the UNWC reads as follows;
"Watercourse States shall, in utilizing an international watercourse in their territories, take all appropriate measures to prevent the causing of significant harm to other watercourse States".
Some elements related to the significance of the UNWC are:

- The entry into force of the 1997 Convention plays a role in the recognition of the customary nature of the principles of international water law
- The Convention provides a legal framework to share the benefits of international watercourse uses
- Frame of reference for the negotiation of future agreements on shared water resources
- Contributes to building a mutual trust between States
- Can help correcting the asymmetrical relationships of riparian States

Origins of the UNECE Water Convention:
The UNECE Convention was adopted under the aegis of UNECE, which is the UN Regional Economic Organisation, composed by 56 Member States. It includes not only European States but also States from Central Asia, North America and Israel. After the dissolution of the Soviet Union/end of the Cold war, water was used as a tool to strengthen the cooperation between Western and Eastern Europe. Taking into account this political context, the UNECE Water Convention was adopted in Helsinki, on 17 March 1992 and entered into force on 6 October 1996. As of July 2017, 41 States have ratified the UNECE Water Convention, while the UN Watercourses Convention by 36 States.

As per the UNECE Water Convention, the protection of the aquatic ecosystems may take different forms:

- Preventing, reducing and controlling pollution (art.2 (a)
- Conservation and protection of the environment of water resources (art. 2 (b)
- Reasonable and equitable use of transboundary water resources (art. 2 (c)
- Rehabilitation of aquatic ecosystems (art. 2 (d)

The following principles are closely related to International Environmental Law and are applicable to all the Parties.

1. Precautionary principle Art.2. 5 (a) of the UNECE Water Convention: "The precautionary principle, by virtue of which action to avoid the potential transboundary impact of the release of hazardous substances shall not be postponed on the ground that scientific research has not fully proved a causal link between those substances, on the one hand, and the potential transboundary impact, on the other hand"
2. Polluter-pays principle Art.2.5 (b) of the UNECE Water Convention: "The polluter-pays principle, by virtue of which costs of pollution prevention, control and reduction measures shall be borne by the polluter"
3. Principle of sustainable development Art.2.5 (c) of the UNECE Water Convention: "Water resources shall be managed so that the needs of the present generation are met without compromising the ability of future generations to meet their own needs"

A comparison between the UN Watercourses Convention and the UNECE Water Convention:
Both 1992 and 1997 Conventions set-up the principles and rules on the use, management and protection of shared water resources.

- They are both framework Conventions
- They both provide a normative framework to guide the development of regional and sub-

regional agreements that take into account the specificities of each basin or sub-basin
- Both Conventions give importance to the principle of equitable and reasonable utilization of international watercourses and to the obligation not to cause significant harm
- In addition to the 1997 Convention, the 1992 Convention also covers groundwater that are not connected with surface waters
- 1992 Convention specifies on environmental protection and cooperation duties
- The 1992 Convention establishes more precise and firmer norms aiming at avoiding harm to transboundary water and at institutionalising water management
- The UNWC provides additional guidance e.g. on notification and conflict resolution
- The 1992 UNECE Water Convention sets up an institutional framework, i.e. meeting of the Parties, Secretariat, Working Groups etc.

- The third instrument presented was the ILC Draft Articles on the Law of Transboundary Aquifers. The Draft Articles includes vital human needs as a factor in determining the principle of equitable and reasonable use.

- "In determining what is equitable and reasonable utilisation, all relevant factors are to be considered prior to coming to a conclusion. However, in weighing the different uses of transboundary aquifer or aquifer system, especial regard shall be given to vital human needs" Art.5.2 of the ILC Draft Articles on Transboundary Aquifers. Moreover, "vital human needs" are also mentioned in the case of emergency. According to Article 17.3 of the ILC Draft Articles: "Where an emergency poses a threat to vital human needs, aquifer States may take measures that are strictly necessary to meet such needs".

Dr Tignino concluded the presentation with significance of the ILC Draft Articles.
- The UN General Assembly considered the ILC Draft Articles in 2008, 2011, 2013 and 2016 and commended the Draft Articles to the attention of States "as guidance for the adoption of regional agreements or arrangements for proper management of transboundary aquifers" Resolution 68/118, 16 December 2013
- ILC Draft Articles are an important reference documents for the conclusion of agreements on transboundary groundwater (i.e. Guarani Aquifer Agreement of 2010 between Argentina, Brazil, Paraguay and Uruguay)

Q&A

Comments from Ms Lesha Witmer: The most recent developments of the conventions include,
- 131 countries are not parties of any of these conventions. The reason is there are certain gaps in procedures and issues in the conventions. To facilitate and motivate the states for signing the treaties, different institutions enlightening the governments on impact of transboundary cooperation. In general, the states having urgent issues would initiate negotiations around the tools provided by of the conventions eg. Debating and discussions of states bordering the Mekong River on tools in the conventions assisted in improving basin activities.
- There are two islands; Ireland and United Kingdom are parties to the conventions. Currently another two are having discussion to become parties to the two conventions, Sri Lanka and Japan; as they observed the hydrological cycle of the islands have being influenced by management of shared water in the main lands. These discussions accelerated by the influence of climate change.
- Four countries (Tanzania, Kenya, Senegal and Zambia) in West and East Africa have initiated national negotiations focusing on the framework convention. The process is at the initial stage.
- Finally, the SDG 6.5 is directly linked to these conventions. Apart from that, a debate on global architecture of water is ongoing. There is no overall governing (intergovernmental body)

and currently no agency in the UN has a sole mandate as on water, while UN Water is only a coordination mechanism.

Comment on the two main UN Conventions by Ms Klauschen.
The UNECE convention has a full range of tools with an established secretariat that is extremely useful for the application of the convention. Whereas, the 1997 convention does not have any and not even a budget provisions to that regard.

There were three questions from Dr Khondaker A. Haq to Dr Tignino.

- What is the additional benefits for countries that are in the advantageous position by signing these treaties? Dr Tignino brought up two examples on cases of transboundary waters for the given question. First was the case Gabcikovo-Nagymaros between Hungary v. Slovakia at the International Court of Justice (ICJ). The UN Watercourses Convention: The ICJ mentioned Article 5 and the Court recognised the principle of equitable and reasonable use of water as an international customary norm. The second example was the Pulp Mills on the Uruguay River case between Argentina v. Uruguay. Being a party to the 1975 Statute on the Uruguay River, allowed the countries to present the case to ICJ. Both Argentina and Uruguay referred to the UN Watercourses Convention in their written proceedings.

- If 131 did not ratify the conventions what does that mean, does it mean the convention is a failure? Ms Witmer answering the question said WWF is involved in discussing the conventions with the governments. As transboundary cooperation is a highly political issue and few countries have not signed it due to their global political opinions. It does not mean they will not sign it in the longer run or not support the philosophy. The best example is United States of America where in actual practice they work a lot on the issues discussed in the convention though it has not ratified the convention in principle (the overall stance of the senate on any treaty). India, Turkey, Brazil and Guatemala are another category who believe that the natural resources in the boundaries belong to them. Thus, they do not have any interest of signing the treaties. The third group had already voted in favour of the treaties but the agreements have not put into a formal ratification/accession process with their parliaments - in most of the cases the matter was simply overlooked and did not reach the appropriate ministry. These countries need to be followed up by national organisations and some countries need time, as e.g. still their national water governance is not in place.

Overview of transboundary cooperation in South Asia

Prof Surya Nath Upadhyay, GWP Nepal

Prof Surya Nath Upadhyay started his presentation with a brief introduction to South Asia's contemporary geopolitics, impact of climate change and food security. The three main riparian countries of Ganges River are Nepal, India and Bangladesh. Ganges basin fresh water availability is given in the table below.

Figure 1: The fresh water availability of the countries

Country	Ganges basin freshwater availability (billion cubic meters or BCM)			2001 Ganges basin population	2001 Freshwater availability in cubic meters per capita per annum	2025 Ganges basin population	2025 Freshwater availability in cubic meters per capita per annum
	Total	Surface	Ground				
Nepal	230	217	13	23 million	10,000	37 million	8,649
India	671	500	171	440 million	1,525	634 million	1,060
Bangladesh	218	197	21	41 million	5,892	49 million	4,449

As reflect in the next table, Per capita energy consumption in the Ganges Basin, countries' (Nepal, India and Bangladesh) per capita commercial energy

consumption compared to global average is very low. Therefore, there is a very high demand for hydropower in these countries whereas Nepal is having a higher potential to generate nearly 140,000 MW and this generated energy could be shared between India and Bangladesh. Therefore, development of peer complementarity needs developed in the region.

Figure 2: Per capita energy consumption in the Ganges Basin

Per Capita Energy Consumption in Kilograms of Oil equivalent (kgoe)	Ganges Basin Countries			Global
	Nepal	India	Bangladesh	
1990	304	377	123	1,668
2000	334	452	145	1,657
2005	338	491	171	1,778
2013	369	606	215	1,929 (2014)

Source: WB 2013 & 2014

South Asia's efforts towards building transboundary cooperation open up a window to develop a comprehensive approach between Bangladesh and India.

- Ganges Treaty between India and Bangladesh (1996) is comparatively at a stable position.
- Project Agreements on the tributaries of Ganges between Nepal and India includes Koshi Agreement (1954), Gandak Agreement (1959) and Mahakali Treaty (1996). All these agreements are pro-Indian and Nepal is unable to benefit.

The Ganges Treaty (1996) Article 8: facilitates cooperation in finding long-term solutions for augmenting the flow. The Framework Agreement (2011) signed between Bangladesh and India on sub-regional cooperation for power and water management Article 7 does not have further developments. In 2011 another agreement was signed to undertake regional projects (Para 58) with no developments in place. As it has been discussed earlier, the advantageous countries i.e. India are not willing to compromise in water sharing. Another failed attempt is the Nepal-India Power Trade Agreement (2014): Recognition to common electricity market that could extend to sub-regional and regional levels. The example in 2016, the blockage enforced by India to Nepal depicts the ineffectiveness of these agreements. There is another agreement between China and India on sharing flood data on Brahmaputra, 20 June 2014.

The challenges faced by these three countries are confined to the past legacy especially between India and Nepal. Between India and Bangladesh, they share 55 rivers and it should be understood that these disputed interrupt the future developments. The situation is worst between China and India. It is evident that the countries in South Asia are not prepared to accept any common principle. No country in South Asia ratified the UN Watercourse Convention and not accepting other common platforms. Though Bangladesh and Nepal voted for the convention at the UN General Assembly, they also have not still ratified the treaty.

Therefore, if there happened to be a dispute between countries on transboundary waters, the only deciding factor that can be taken in the ICJ for SAS countries would be the Customary International Law in absence of being party to any of the UN water conventions.

In the given context, he brought the example of the 1995 Mekong River Basin Agreement and emphasised the importance of taking such measures by the countries around Ganges.

How GWP can intervene with remedial measures was briefly discussed at the conclusion. There are very few cases of joint studies. Only country-specific

studies are undertaking and there is no cross-fertilization of the research outcomes. Especially, such cooperation not seen among countries neither in conservation nor in utilization at the regional level. There is no holistic/basin wide agreement in the region.

Whereas GWP SAS is a repository of experts and Government/Non Governmental Organisations (NGO) personnel from the region. It has the network and capability for taking lead for regional cooperation. In programme planning, it is advisable for CWPs to choose common programmes on issues, which are common at least to two or more countries. Then they should be tailored to complement each other. At the regional level, the GWP SAS can take various measures such as exchange of information and experience, wide dissemination of information, working with the Governments with a view to complement the top-down approach with a bottom up approach.

Q & A

Mr Mohammad Ali Khan Khan had a comment on the figures on water availability in the three countries, Bangladesh, India and Nepal that is being used in the presentation. He took the example of Bangladesh and said the water availability of Bangladesh is highly seasonal. The country is suffering devastating floods as well as droughts. Therefore, in the discussions it is preferable to show the distribution of water throughout the year rather than demonstrating the overall figures as it shows very high figures that is not correct.

Dr Aditi Mukherji had and observation and a question. She said when looking at the nexus, water, energy and food – water and food are politically and emotionally loaded because there is a long history of conflict in between the countries who apparently should think about future cooperation. Whereas, energy is separated (though it is connected with water) and hence there is a new trend developing for cooperation where the region can have hopes.

She wanted a clarification from Prof Upadhyay on why still Bangladesh and Nepal are reluctant to sign the conventions. Prof Upadhyay said as per his observation, the countries are suspicious about each other, the governments are waiting for the other state with whom should cooperate with to initiate the ratification. Some think if others have not ratified those treaties what is the point of our government signing them. Ms Witmer had further comments on that, by approving Prof's idea she said it is also the responsibility of non-state organisations i.e. GWP to discuss the advantages of these treaties with governments with successful examples and to motivate them in ratifying the conventions without having waiting for others.

As per Mr Muhammad Akhtar Bhatti, though the Indus treaty was signed between India and Pakistan, Pakistan was suffering a lot from water logging and salinity due to mal functioning of the treaty. The current development is that India is indicating that it will deny the agreement. Prof Upadhyay mentioned that there is very less probability for India to take such a measure as challenging the agreements is similar to inviting new problems.

Mr Fany Wedahudutama commented that it is important to increase the level of discussion and to commit urgency in the minds of decision makers at the national level in negotiating transboundary cooperation. GWP, having a strong network is in a better position to be involved in the discussions of developing national and regional level water security.

Dr Shaheen Akthar shared her observation; there is so much of water nationalism in South Asia and no clear understanding about transboundary waters. The issues related to water sharing are complementing and depending on each other. In addition, the civil society involvement in the water management is lacking in the region and the interaction should be enhanced both vertically and horizontally.

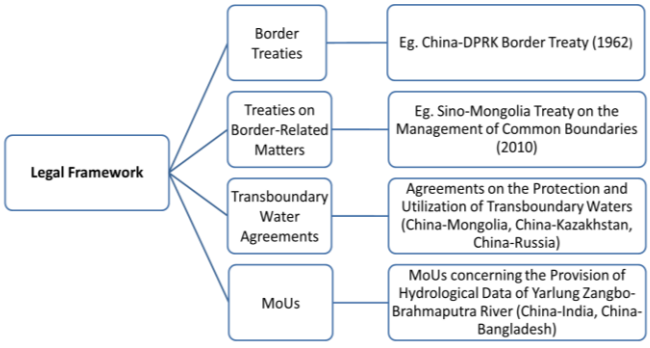
Status of transboundary cooperation between China and its neighbours -

Prof Chen Hui Ping, University of Xiamen

Prof Hui Ping started her discussion with China's Longstanding Foreign Policy. China is pursuing transboundary water cooperation is prime because China is connected and divided by international rivers, lakes and aquifers. China shares more than 40 major transboundary waters located upstream with 14 (mostly) downstream riparian neighbouring countries.

China's foreign policy is directed towards five Principles - Peaceful Coexistence, Good Neighbourliness and Friendship, South-South Cooperation, North-South Cooperation and Win-Win Cooperation. The transboundary water cooperation between China and its neighbours can be divided into two segments as substantive and procedural. The substantive Cooperation includes treaties, agreements and Memorandum of Understandings (MoUs).

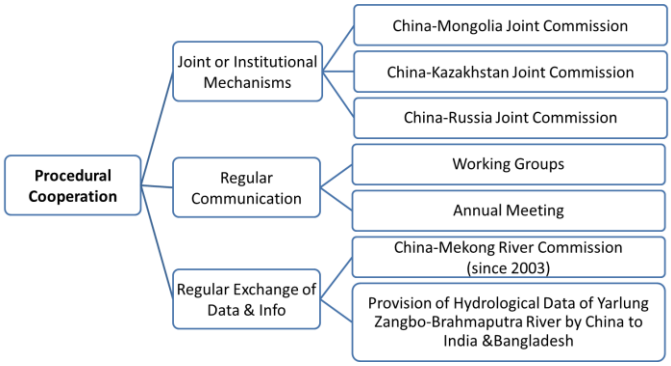
Figure 3: Substantive Cooperation: Examples of China's International Legal Framework for water cooperation



China addresses transboundary water issues through boarder treaties. There are three important transboundary water agreements namely, agreements on protection and utilisation of transboundary waters between China and Mongolia, China and Kazakhstan and China and Russia. These are mostly in line with UN Water Conventions. Although there is no treaty between China and India or Bangladesh, China signed a MoU between the two countries on information sharing.

Under procedural cooperation, China established several joint commissions on transboundary waters with its northern and western riparian neighbours and China has a bigger role to play in transboundary cooperation.

Figure 4: China's Procedural Cooperation



She further discussed China's "One Belt, One Road" initiative, which represents a large-scale, regional development cooperation including promoting practical cooperation in all the fields. The Silk Road Economic Belt is the land-based route, which connects China with Europe through Central and Western Asia. The 21st Century Maritime Silk Road is the Ocean based route, which connects China with Southeast Asian states, Africa and Europe. The initiative covers most of the Asian countries. The initiative was well recognised by the international community. More than 100 countries and international organizations including the UN took part in the launch held recently in China. China has established three financial institutions to support the initiative. Furthermore, in response to 2030 Agenda of SDGs, China in its National Plan mentioned "Goal 6.a -Actively advance South-South Cooperation on water- and environment-related areas, help other developing countries strengthen the capacity building for resource conservation, climate change mitigation and green, low-carbon development, and provide them with assistance and support within China's capacity."

One Belt and One Road Initiative promotes cooperation on the Mekong River. In 2015 China, Myanmar, Laos, Thailand, Cambodia, and Vietnam launched the Lancang-Mekong Cooperation (LMC) Mechanism. This mechanism covers five priority areas; interconnectivity, production capacity, cross-border economic cooperation, cooperation on water resources and cooperation on agriculture and poverty reduction. In 2016, the Sanya Declaration was launched at the first LMC Leaders' meeting namely 'For a Community of Shared Future of Peace and Prosperity among Lancang-Mekong Countries'. The declaration will enhance cooperation among LMC countries in sustainable water resources management and utilisation through the following activities:

- establishment of a center in China for Lancang-Mekong water resources cooperation to serve as a platform for LMC countries to strengthen comprehensive cooperation in technical exchanges
- capacity building
- drought and flood management
- data and information sharing
- conducting joint research and analysis related to Lancang-Mekong river resources.

The initiative would also promote Transboundary Water Cooperation through Water Maintenance Facilities (China-Uzbekistan Cooperation), Chinese overseas investment in water resources eg. building of dams and hydropower stations in Indonesia and Capacity-Building- Sharing of Experience and Technology in the utilisation and management of water resources.

Q & A:

Ms Mukherji asked if China's foreign policy is in principle in line with the UN Watercourse Convention why China did not ratify the 1997 UN Watercourses Convention. Prof Hui Ping clarified it as not signing the convention does not mean that China is totally disagreeing with the 1997 Convention. China supports most of the statements and there are only a few minor statements that China disagreed. Ms Witmer added that, some of the arguments raised by the countries are time bound; the decisions on Conventions may change depending on the time and urgency. Therefore a country does not ratify an agreement does not mean that it is completely against the Convention (among others in the case of Burundi that voted against in 1997 has now ratified the convention).

Secondly, as there is an existing Mekong River Commission why China wanted to initiate a new cooperation - LMC? China is a dialog partner to the Mekong River Commission while Myanmar is not. However, Myanmar has become a member of LMC. Therefore, in terms of decision-making, it is advantageous and effective to have all the riparian countries to be in one committee.

Session 2: Insights from cooperation in major Asian river basins

Moderator: Mr Tauhidul Anwar Khan

Transboundary water cooperation in Mekong countries, key issues, challenges and interventions to address

Dr Watt Botkosal, Chair GWP SEA

After giving a brief overview on the Mekong River, Dr Watt Botkosal discussed about the trends in water resources development in the river basin that includes hydropower development, irrigation development, mining, public and industrial water supply, tourism and eco-tourism, navigation, flood protection and fisheries. These will bring high economic benefits to the surrounding communities. In contrast, the developments affect the basin in terms of watershed degradation and flash floods, changes in stream flow, water quality, fisheries, sedimentation and degradation of aquatic ecology. However, development pressures in all countries sharing the Basin are already affecting the river's regime and the livelihoods of those dependent upon the river's rich bio-diversity.

He further discussed about the Cambodia Mekong Basin, which is called 3S Zone (Sesan, Srepok and Sekong river basins), which is critical for transboundary water cooperation of Mekong countries. The main Transboundary issues in this zone include, uncoordinated river basin use and management, pressure on the natural resources and eco-systems, river flow/water quality, sedimentation and floods. Therefore, there is a need for meaningful and effective cooperation in the 3S Zone.

Challenges for River Basin development, management and their impacts:

- Wrong planning of the large-scale water resources development including development of cascading hydropower plants, irrigation and other water related development plans.
- The water resources development plans, which create large economic benefits - in contrast affecting the eco-systems.

However, the water flow in the dry season remains the same due to interplay between developments of hydropower and irrigation. Flooding has become a growing problem in the basin, mostly due to watershed deterioration. Clear statements of national water-related policies and strategies are lacking therefore, River Basin Organizations (RBOs) have been established to support the implementation of integrated approaches to address water allocation and other water management issues in the River Basin. However, there is a need for a stronger national water management agency and the provincial departments to steer an integrated multi-sector planning and management process and to balance a range of desired outcomes and prevent, minimize and mitigate environmental and socio-economic impacts.

Figure 5: Mekong River

Dr Botkosal discussed the major drivers of change including development activities, frequent local seasonal scarcity of water, change of river morphology, change in land use, urbanisation and climate change.

As an intervention to address the challenges in transboundary water resources management, the Mekong Agreement was signed in 1995. The Agreement is about cooperation on balancing basin development and protection. Basin Development Plan (BDP) as the general planning tool and process to identify, categorise and prioritise the projects and programmes to seek assistance for and to implement the plan at the basin level. The Lower Mekong Basin (LMB) is divided into 10 Sub-Areas for BDP-transboundary panning process. BDP process started since the signing of 1995 Agreement with seven steps that developed a participatory process, tools, strategic directions, and lists of non-controversial projects. BDP will be achieving three key strategic objectives, efficiency, equity and sustainability.

The Mekong River Commission (MRC) promotes Transboundary IWRM Projects. It enhances country's institutional capacity and technical infrastructure to sustainably manage water resources and more effectively engage in transboundary water management. The project will contribute to the twin goals of poverty alleviation and shared prosperity through supporting sustainable natural resources management along the mainstream Mekong and tributaries and building capacity for sustainable river basin management in important basins. The MRC pursues a balance between pro-active social and economic development on the one hand and conservation of finite natural resources and fragile ecosystems on the other. He further discussed the trade-offs and why trade-offs are important.

BDP will be achieving three key strategic objectives, efficiency, equity and sustainability.
Agreed long-term Joint transboundary action plan consisting of transboundary water management and cooperation frameworks for 3S river basin, effective and coherent implementation of MRC procedures by 3S Countries, promote effective dialogue and cooperation between 3Scountries, promote better monitoring and communication and forecasting, impact assessment and dissemination of results strengthened for better decision-making by 3S Countries. Finally, to develop the Transboundary River Basin Organization among 3S Riparian countries.

Therefore, the three countries have started to discuss, develop, negotiate and agree the Integrated Transboundary Management and Cooperation Frameworks. These will provide benefits to the country through greater utility from a given amount of water, reduced groundwater mining, transboundary intensive use and reuse of water, improved water quality, incorporation of current social and environmental values into shared water use, inclusion of a wider range of 3S basin stakeholders into and for decision making and reducing conflict among countries and other users in individual country.

With this, Dr Botkosal concluding his presentation mentioned strong political will and commitment are needed to support sustainable transboundary water cooperation.

Q&A

Prof Jinjun You asked how the three countries attached to 3S basin are going to manage the sustainable development in the Mekong River. Answering to the question Dr Botkosal said, transboundary water cooperation is still quite new for the 3S Basin countries but the three countries have a long-term experience in establishing and maintaining a partnership for peace and development in the region as they have successfully increased cooperation in various sectors of their economy, including transport, education, and inter-connected power grids. Therefore, the countries are planning to use the same strategy in transboundary cooperation and to benefit and cost sharing among the countries.

Transboundary Water Cooperation in the Indus Basin: Challenges and Opportunities

Dr Shaheen Akhtar, Associate Prof / Head of Department, National Defense University, Islamabad, Pakistan

Dr Akhtar started her presentation with three water related problems that Pakistan is facing - climatic threats; rising population, rapid urbanization, industrialization and increasing usage of resources for industry and agriculture, which aggravates the water stress in Indus Basin (IB). There is an existing institutional structure-the Indus Water Treaty (IWT), which governs the IB regime and provides cooperative framework in sustainable management of the IB. The climatic, demographic, economic and political challenges within IB, aggravate the need for India and Pakistan to enhance the existing framework (IWT) within broader parameters. However, the treaty is not comprehensive and has been neglected. Pakistan as a lower riparian country is suppressed by the upper riparian India and tend to loose further when trying to negotiate. To avoid these circumstances, the two countries should abide to the treaty without diverting. Most importantly, India and Pakistan have to negotiate and adopt a cooperative and coordinated approach for sustainable management of IB, which assist in achieving SDG #6.

Pakistan is one of the world's driest countries with an average annual rainfall of 240 mm. It is moving from water stressed to water scarce country and per capita water availability has fallen from 5,600 cubic meters per person in the 1950s to 1,066 cubic meters in 2010. The country has very little water storage capacity, barely store 30 days of water in the Indus basin, while India can store for 120-220 days, Egypt up to 700 days and the US for 900 days. The Indus basin shared by Pakistan, India along with China and Afghanistan is highly dependent on water derived from the melting of snow and glacier in the upper part of the basin. The contribution of melted water to the flow of Indus River is estimated to be from 50 to 70 percent of the total flow and remaining comes from rains during monsoon season from July to September. The quantum of water flowing in the Indus and its tributaries widely varies annually, depending on snowfall in the Himalayan and Karakoram ranges and rainfall in the catchment areas.

There is very high uncertainty in the behaviour of glaciers in the Upper Indus Basin (UIB), especially the cryosphere. Several different studies showed the effects of glaciers retreat on river flows. It has been estimated that at the beginning, there will be 20 to 40 percent increase in Indus flows and after 50 years, there will be glacial retreat and flows will drop down to 30 to 40 percent in 100 years. Reports showed that the average annual flow in Chenab, has declined by 12 percent between 1960 and 2011, while in the river Jhelum has declined in 17 percent.

Indus watershed is highly vulnerable to deforestation and pollution. The environmental degradation in the upper reaches of IB is creating adverse impact on down stream flows of the western rivers. Forest cover in the Indus basin is extremely low, remains at 0.4 percent especially more than 90 percent of the original cover has been lost mainly in the upper parts of the basin. Constructing dams in the upstream deteriorated the conditions of local as well as transboundary rivers. eg. Kishenganga Project on Gurez Valley and Neelum Valley. Furthermore, the upper IB is prone to natural disasters i.e earthquakes, floods, landslides, avalanches, high velocity winds, snowstorms that are being aggravated by climate change. The degradation of water bodies affected both quality and quantity of water in the catchment and three

major lakes, Wular Lake, Dal Lake and Mansbal Lake are facing environmental degradation due to high pollution.

Agriculture sector is the largest consumer of water in Pakistan and India. Extensive irrigation is placing IB water resources under heavy stress. Over-pumping and inefficient irrigation techniques have led to sharp decline in groundwater levels, loss of wetlands and salinization of agricultural lands. Growing population, urbanization and industrialization lead to higher water demands for domestic and industrial uses and for food and energy production.
Growing water stress in the two countries coupled with looming climatic threats at the IB and change in demographic, hydrological, political, economic and energy environment influenced the creation of Indus Water Regime in 1960. As a result, India and Pakistan signed the IWT that governs transboundary water rights and obligations in 1960. Pakistan as a lower riparian wants to ensure its water security, without compromising its water rights under the Treaty. With all these constitutions in place, construction of upstream dams in western rivers led to controversies on compliance with the provisions of the Treaty. It does not specify the number of dams that India can build and consequently Pakistan got apprehensive about India's design over the western rivers. These issues broadened distrust between the co-riparian and Pakistan took India's Baglihar Hydroelectric power project to Neutral Expert and Kishenganga and ongoing Ratle hydroelectric projects to the Permanent Court of Arbitration while India to the case to Neutral Expert. Honourable Narendra Modi, the Prime Minister of India said "blood and water cannot flow simultaneously" referring to Uri incident in September 2016. Pakistan warned revocation of Indus Water Treaty could be taken as an act of war or hostility against Pakistan. Pakistan has also expressed concerns over the designs of five Indian hydroelectric projects: 1000MW Pakal Dul, 850MW Ratle, 330MW Kishanganga, 120MW Miyar and 48MW Lower Kalnai.

Dr Akhtar highlighted a cooperative framework for sustainable management of IB, which includes:

- Bridging knowledge gaps - joint monitoring of impact of Climate Change on the IB river system, joint study on the behaviour of Himalayan glaciers and joint study on the effects of Glacial Retreat on run off.
- Coordination in watershed management
- Strengthening capacity of Permanent Indus Water Commission (PIWC)
- Community Based Management on hydropower development
- Integrated approach to Water Resources Management

Regional Cooperation on Water: Opportunities for South Asia

Dr K. A. Haq, President, Bangladesh Water Partnership (BWP)

Bangladesh and India share 54 transboundary rivers and another three between Bangladesh and Myanmar. Bangladesh signed only one treaty, which is only for Ganges water sharing in 1996. A treaty on sharing of Teesta River water is expected to be signed very soon and there are limited agreements on sharing water of Feni River where water is being used only for drinking.
As mentioned earlier, transboundary water cooperation is highly politicized. Therefore, rather than finding remedial measures to water sharing there are several non- contentious issues that can be addressed which allow meeting the same objectives.

- Flood Control
- Data sharing on flood control
- Intervention through infrastructure development like control and regulating structures in the upper riparian countries
- Prevention of riverbank erosion
- Construction of infrastructures in appropriate location of the riparian countries
- Proportionate joint investment by riparian countries may be explored for joint investment
- Improving navigation
- Capital dredging of main rivers
- Prevention of shifting of main channel of the rivers in dry season through river training
- Due to reduction of flow in the dry season Calcutta port has silted up and this is one of the agreements signed for diverting water from Ganges River at Farakka to flash the Calcutta port
- Management of Silt: a large volume of silt is carried by the transboundary rivers to the lower riparian countries especially to Bangladesh. It is estimated that nearly 1.5 billion tons of silt is transported to Bangladesh by rivers and deposited in the riverbeds affecting navigation. Silt management can only be done through cooperation of all the riparian countries.
- Protection of ecosystem and environment
- Ensuring E-flows
- Ensuring adequate flow to prevent saline water intrusion
- Prevention of pollution of water resources eg. The ecosystem of Sundarban, largest natural mangrove forest in the world and the United Nations Educational, Scientific and Cultural Organization (UNESCO) designated world heritage site and home of the internationally famous Royal Bengal Tiger is seriously threatened by salinity.
- Inter-country and intra-country pollution
- Effect on ecology and aquatic resource
- Arsenic contamination of ground water (India, Bangladesh, Nepal and Pakistan)

Through the regional co-operation, Asia can achieve improved food security and increased water productivity of major crops including cereals.

Asia region has limited land and water resources to support the huge population. Some countries in the region are already facing water scarcity while some are approaching the limits of sustainable use due to the growing population and high pollution. The impacts of climate change adversely affect the availability of water resources in the long run eg. The effects of seawater rise

Although there are initiatives at the national level i.e. growing rice without ponded irrigation that has been successfully tested, these methods are not been widely adopted by farmers. Lack of will or interest among the riparian countries for joint water management is one of the major constraints to improve joint management of water. A strong political will has to be generated among the countries to develop a comprehensive basin wide management approach. Considering Track II efforts that originates from the civil society (Track I is the government) has to be re-visited. Even though productive discussions are being held, there is no substantial progress in implementation of the recommendations. There is a huge potential for hydropower generation in Nepal and Bhutan. New agreements could be introduced or the signed agreements/treaties should by revisited to revise the treaties as per changed environment.

In conclusion, Dr Haq said the South Asia region should think about an agenda on “win-win” water sharing, as currently the prospects are not promising. Nevertheless, this can be done only if all the countries’ political leadership agree on a common agenda and could mobilize the public opinion. They shall also have to raise above petty national and political interest in-favour of achieving a realistic regional cooperation for long term and sustainable water resources management in the region.

Q&A

There was a comment from Prof Prof Jinjun You; he said initially his perception was that Bangladesh is highly threatened by floods whereas now he realized that Bangladesh is also suffering from other challenges related to water. Mainly the country is not in a position to control the flow of water as a lower riparian country. Therefore, it is vital to have transboundary cooperation with the upstream. By confirming the statement, Dr Haq brought another example. Bangladesh is now comfortable with the status of hydropower as the country is importing hydropower from Bhutan and India. The issue is irrigation as 80 percent of the water table is being used for agriculture and most of the farmers are having privately owned dug wells that are being used for irrigation. Therefore, the ground water is fully exhausted. Soil that has been recharged during the rainy reason will be fully utilised at the dry period due to low retention rates and most people believe that toxifying groundwater with arsenic is an impact of over extraction of groundwater.

Ms Witmer had three comments:
In developing dams, countries have to consider the Hydro-Power Sustainability Assessment Protocol, which guides more sustainable hydropower projects. Usage of the given protocol is very limited whereas if the protocol is being used there is a very high potential to protect water resources.

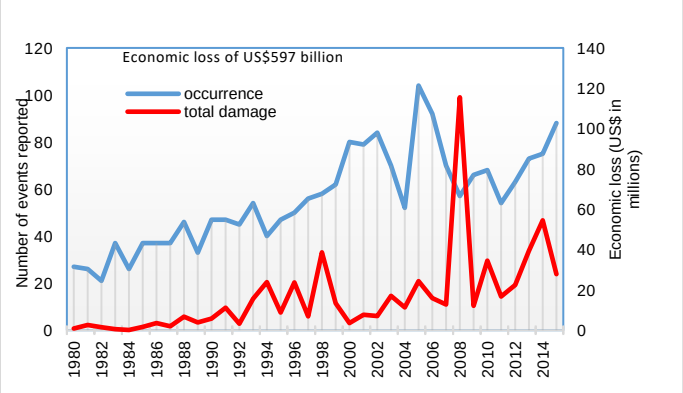
It is preferable to use the term “nutrition per drop’ instead of “crop per drop” and simply change the mindsets of farmers and the consumers.
Changing the structures of delta is not advisable. The structures developed in Netherlands have started breaching due to climate change, and the government started a new programme (Room for the river) to address the emerging problems and be fit-for-purpose, by undoing some of their previous measures. This is a long-term expensive programme, which is a challenge for the country’s economy but needed.

Transboundary floods and how regional flood information systems as well as community based flood early warning can help

Dr Aditi Mukherjee, Theme Leader (Water), International Centre for Integrated Mountain Development (ICIMOD)

Increasing trend of disasters in the Hindu Kush Himalayan (HKH) are threatening sustainable development in the region. There is an increasing trend of economic damage due to disasters that occur because of climate change, population increase, haphazard urbanization and lack of implementation of policies and plans. Weak institutions and governance arrangements, lack of investments on mitigation and adaptation and lack of technologies and preparedness aggravate the situation. Therefore, there is a high demand for addressing disaster resilience and adaptation.

Figure 6: Total economic loss due to disasters



Source: EM-Dat Database

Through the HKH-HYCOS project, ICIMOD established monitoring stations with real-time flood information systems. In this initiative, flood data and information will be exchanged timely through an accessible and user-friendly platform. The project is supported by the World Meteorological Organisation (WMO) and implemented by ICIMOD with collaboration of six regional countries. India and China are observer countries while 38 hydro met stations have been set up in Bangladesh, Bhutan, Nepal and Pakistan. The dual data transmission system makes real time data available for all partner countries. WMO also has access to more than 300 Global Telecommunication Stations (GTS) and the system is using latest technology for data collection and transmission (GPRS/GSM). So all these techniques will facilitate in developing a flood outlook that will be given to hydromet services to improve national flood forecasts for timely flood warning and to provide real-time 24 hours advance warning to the beneficiaries. Currently, ICIMOD has already developed a flood outlook system for the Ganges- Brahmaputra basin utilising freely available data and weather forecasts. It has been observed that 24-hour accuracy is achievable and there is a need for improving accuracy beyond 24 hours. The initiative is a regional level project but not so much of community interface.

ICIMOD is also working on a Community Based Flood Early warning System (CBFEWS). These are extremely small scale; people centred and use low cost ICT tools. The gages or the stations are installed in upstream villages mostly suffered from flash floods, closer to selected flashy rivers. The cost of a unit is around USD 3,000 and a communication system between the installed sensors in the upstream and the downstream village was established through SMSs. There are institutional set-ups in place, which provides most relevant data with nearly five hours to 24 lead-time. These systems have been started piloting in Assam in India which now being taken up by the Assam Disaster Management Authority and going to upscale in the entire state. Further recently the Government of Bihar shown their interest on the system. The systems was established in Ratu Khola water shed in Nepal (Indian part) and some areas in Afghanistan and Pakistan have been selected as potential areas. The system is quite attractive because of the simple nature and the fact that the communities can easily operate it and can get timely warnings.

The four elements of CBFEWS includes:

1. Risk Knowledge and Scoping - systematically collect data and undertake risk assessments and scoping
2. Community Based Monitoring and Early Warning – Install early warning instrument and flood monitoring by upstream communities
3. Dissemination and Communication - flood information is communicated by upstream and provide early warnings to downstream communities
4. Response Capability and Resilience - enhance community response capabilities and build resilience

As ICIMOD piloting the technology, it also stared enhancing the technology from wire to wireless technology and in Ratu Khola to telemetry based system. As the wires can just brake due to many reasons, the communities demanded for wireless systems. Similarly, the Department of Hydrology and Meteorology (DHM) requested for the telemetry system although it is comparatively costly than the wireless system but having more advantages. Further, the hands-on trainings were given to the stakeholders by also involving delegations from Afghanistan and Pakistan. A handbook was developed and all these information are being uploaded in the website.

In conclusion, she said, in managing transboundary floods in South Asia, hi-tech approach of regional flood outlook and sharing of real time information across boundaries can be coupled with low-tech community based approaches for reaching out to the most vulnerable communities. In managing floods, regional co-operation is not only about countries cooperating with each other; but it can also mean communities across the borders sharing information and help each other.

Q&A

Mr Wedahudutama indicated that development of a warning system would be completed if a good evacuation system were in place. Ms Witmer brought the example of Sri Lanka where having a good warning system but lacking in an evacuation plan which again putting the communities into vulnerable situation. Dr Mukherjee confirmed the statement and stated that the organisations like ICIMOD or GWP can only go to a certain extent with introducing or initiating similar types of mechanism and these needs to be combined with the government action plans. By giving an example from Bangladesh she said, Bangladesh is operating the early warning tremendously and capable of saving lives of people. Therefore, South-South learning is important if the region wants to improve in flood early warning.

Both Mr Khan and Khalid requested for more details about the warning alarms and SMSs as grassroots will not clearly understand the depth of the physical damage that can be occurred by getting to know only about the figures. As per Dr Mukherjee the system generated SMSs containing specific information i.e. evacuate etc. and when the flood levels are rising high the SMS flow generated by the telecommunication agency will also be increased. In the alarm system – the volume will go up with the rising of the flood level.

Session 3 – Overcoming challenges to transboundary cooperation in Asia

Moderator: Dr Khondaker Haq

Key note: Conflict avoidance and dispute settlement mechanisms

Ms Zaki Shubber, IHE Delft

Ms Shubber started her presentation with a general discussion on the different aspects of conflict and the different stages of possible interventions. Prevention or avoidance is the active attempt to identify conflict causes before the conflict occurs by removing or minimizing them (e.g. through legal arrangements, awareness raising, public participation and institutional building). Management is the use of a dispute resolution mechanism once the conflict has been acknowledged as such. There may be different outcomes to the process: in some cases, it is settlement, which deals with some of the symptoms of conflict, but is often not sustainable because the root cause of the conflict has not been eliminated, and thus conflict may later re-emerge. Resolution is generally a mutually acceptable and sustainable agreement, which has dealt with the root cause of the dispute.

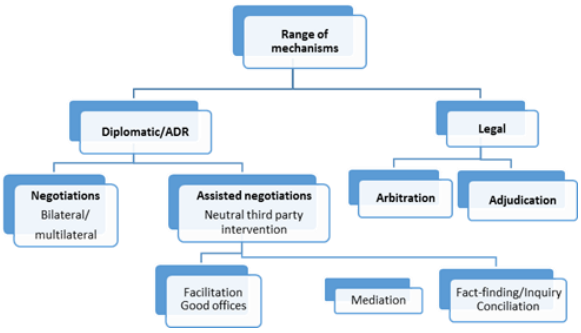
Water use influences the flow regime, and may have a quantitative impact; it can also negatively affect water quality, as well as timely availability of water. Typically, activities conducted upstream affect the availability of water downstream, though the opposite may also occurs. Indeed, where there is an existing downstream dam, constructing an upstream dam may affect the operation of the downstream one. All of these impacts can lead to disputes and conflicts between different users, including riparian states. It is thus important to consider conflict avoidance and dispute settlement mechanisms.

In the context of transboundary watercourses, water crosses, and ignores, boundaries, which creates challenges for the different riparians of that water body. Indeed, this requires them to cooperate in order to reconcile their potential or actual competing interests and uses of the water. This is particularly relevant in where there are intentions by

a riparian to implement a new water development project.

Conflicts can arise through different types of uses: there may be disputes between existing uses because less water becomes available; between existing and planned new uses, where existing uses may be disrupted by the proposed new use (such as the development of new water infrastructure); or between planned future uses, which will impact each other. Conflicts can also develop due to emergencies such as floods especially if the upstream riparian did not undertake timely warning to the downstream riparian, which may create tension. In the absence of adequate interaction with other riparians there is a risk of tension with them if the project proceeds unilaterally.
The risk of tension is increased in the absence of an agreed framework or of joint institutions (as well as agreed dispute resolution mechanisms) between the riparians. A general mechanism for conflict avoidance is to have a legal and institutional framework in place. International water law contains substantive and procedural principles aiming at supporting inter-state cooperation and provides dispute resolution mechanisms, which are operationalised at a basin, multi-state or bilateral level depending on the water body in question. Beyond legal frameworks dealing with dispute avoidance, conflict management and resolution can be done through a range of mechanisms.

Figure 7: Mechanisms for conflict management and resolution



Source: Zaki Shubber

In the case of conflict resolution, a general principle under international law is the peaceful resolution of disputes between states. A notable point also is the difference between national law and international law: in international law, the involved states have to consent to the use of any of the mechanisms of dispute resolution whereas in domestic legislation this happens within an existing and structured legal framework with enforcement mechanisms. The mechanisms of international water law mirror the general mechanisms followed by UN Charter, which are negotiations, enquiry, mediation, conciliation, arbitration, judicial settlement, resort to regional agencies or other peaceful means pursuant to its Art. 33.

This range of mechanisms can be divided into two categories, diplomatic and legal (as illustrated in the figure above): negotiations and assisted negotiations (with a neutral third party involved in a capacity agreed by the parties) are diplomatic or alternative dispute resolution (ADR); and arbitration and adjudication come under the legal category. Each has its advantages and disadvantages, which include cost, time, ownership over the outcome, and possible asymmetries between the parties. Ultimately, it is for the parties to assess the process that will be the most appropriate for the circumstances at hand based on their situation and requirements.

The mechanisms mentioned above can be found the 1997 Convention on the Non-navigational Uses of International Watercourses. Its Article 33 lists the following: negotiations, good offices, mediation, conciliation, joint watercourse institutions, a fact-finding commission, which is a process particular to the Convention (see Art. 33(3)-(9), arbitration and the International Court of Justice (ICJ). Article 22 of the Convention on the Protection and Use of Transboundary Watercourses and International Lakes of 1992 proposes negotiations or any means of dispute settlement acceptable to the parties, as well as legal mechanisms. There are no provisions related to dispute resolution in the Draft Articles on Transboundary Aquifers though some of its

provisions are intended to support dispute avoidance (e.g. art.7(2) – joint mechanisms of cooperation; art. 15 – planned activities).
In addition to the mechanisms mentioned above, there are other processes, such as consensus building or consultations, which can be used in the context of water related disputes. Consensus building is where stakeholders seeking a common decision or outcome in certain processes (such as policy dialogues, planning, etc.) are brought together in an enabling environment that helps develop trust and leads to a commonly agreed outcome facilitated through agreed rules. Consultations are often conventional mechanisms requiring parties to discuss a variety of issues with a view to preventing or avoiding disputes. Another mechanism is the Implementation Committee under the 1992 Convention on the Protection and Use of Transboundary Watercourses and International Lakes: it provides support to its signatories on how to implement the convention, as well an opportunity for clarification on how to implement it, and guidance for parties on the resolution of potential disputes with other signatories.

In conclusion, there are range of means available in conflict management and resolution, each with their advantages and disadvantages. Every option depends on the consent, and good faith, of the states concerned, and of course on political will. However, the focus should be on the prevention of conflict by agreeing and implementing substantive and procedural rules.

Q&A

Prof Huiping commenting on legal mechanism for conflict resolution mentioned that arbitration and adjudication do not always completely resolve a problem. Supporting the statement Ms Shubber mentioned the example of the dispute between Hungary and Slovakia over dams on the Danube. One of the elements of the judgment in the ICJ in 1997 on the Gabcikovo-Nagymaros case was a request to the parties to go back to negotiations, which are ongoing to this day.

Prof Upadhyaya asked about the role of the UN in conflict resolution. In particular, he wondered about the value for a country of signing a convention on international water law and if that country is currently in a comfortable situation, from the point of view of its water, what would be the additional gain a country of signing a UN convention. Ms Shubber answered the question by mentioning that one advantage of these instruments is that they offer mechanisms to resolve a dispute. Still, what is challenging is the lack of enforcement mechanisms (even through the UN). Some upper riparian countries do not sign treaties on shared watercourses as they assume that they have control over the waters within their borders without taking into account downstream users.
Further Lesha Witmer mentioned that there is a group of experts on water employed by the UN who work as mediators, from which countries can ask assistance if there is a conflict and they are seeking for a resolution.

Case #1: Facilitating Transboundary Water Cooperation in South Asia – A Case Study for Kabul River Basin

Dr Bilal Khalid, Water Programme, LEAD Pakistan

Kabul River basin is a shared river basin between Pakistan and Afghanistan. This emerges from the glaciers of HKH and eventually empting into Indus River. Kabul River is important for both Pakistan and

Afghanistan while Pakistan is both an upper riparian and a lower riparian country to the River. Despite the absolute quantity of water, Kabul River is not a significant fresh water resource, still nearly, 26 percent of Pakistan's population living in the river basin rely on fresh water of Kabul River. Farmers in both Afghanistan and Pakistan use the Kabul River for irrigation. There is no existing formal Afghanistan – Pakistan transboundary cooperation framework. Historically there were not many issues between the two countries because for the long lasting civil war which artificially suppressed the water demand for agriculture in Afghanistan. Now with establishment of a new stable governance system, the domestic uses in Afghanistan have started becoming more diversified. Consequently, there is a demand for a water sharing agreement between the two countries.

In trying to find a guiding principle to develop a transboundary framework for Kabul river, the existing and most relevant is the India-Pakistan IWT. However, IWT is not the ideal guiding framework in case of Afghanistan. There are few challenges in relation to IWT approach. The treaty mainly focuses on the division of water and it is not considering the environment at the downstream. The treaty is favourable if the river is having multiple tributaries, which is not the case in Kabul River. Further people living along the riverbanks derive other benefits from the river more than water sharing. Therefore, there is a need for a sustainable and innovative approach.

The concept of benefit sharing in terms of Kabul River: There should be a strategy to facilitate transboundary water cooperation; not only should the quantities of water but also rest of the benefits be shared among the communities. Therefore, it is necessary to focus on social, economic and environmental benefits of Kabul River in hydropower development. Benefit sharing requires a high level of trust between the parties. Therefore, it is needed to consider a prolong approach consisting of credible scientific evidence base and Strong Public Policy Engagement. Having a strong Track-II dialogue process also highly important which brings a panel of experts who serves as an informal pressure group to facilitate the discussion as people will be uncomfortable to interact closely with the high ranked government officials.

LEAD Pakistan is conducting the project Understanding Water-Climate Change Challenge and Policy Options on the Afghan-Pakistan Transboundary Kabul River, with the USAID funding and in collaboration with research organisations of Pakistan and Afghanistan. The three objectives of the project are to:

- Develop a case for cooperative benefit sharing regime for Kabul River Basin based on robust scientific and social analysis.
- Strengthen linkages among cross border stakeholders of Kabul River Basin to build trust and confidence for cooperative water resource management.
- Capacity building and sensitization of local stakeholders for an optimized water resources management framework for Kabul River Basin.

The challenges faced include the access and availability of data mainly due to the prolonged civil war in Afghanistan. The lack of independent, credible local research institutes, as the research is mostly being done through the government institutions. Logistical challenges for transboundary exchanges was another problem faced during the process.

Q&A

Ms Klauschen mentioned that she is interested to see how the project is actually happening in terms of involving Track II diplomacy. Mr Khalid indicated that LEAD Pakistan is using USAID as a third party neutral organization as the mediator which facilitates involving former high level government officials, academics and NGOs having expertise on transboundary laws and international relations.

Case #2: Indus Waters-Kishenganga Arbitration case (Pakistan/India)

Dr Mara Tignino, Geneva Water Hub / University of Geneva

Dr Tignino started her presentation with an introduction to the IWT signed between India and Pakistan in 1960, after 10 years of negotiations facilitated and mediated by the World Bank. The Treaty is composed of 12 Articles, 8 Annexures, 9 Appendices and a Protocol. The World Bank continued playing a major role under the Treaty especially as a dispute settlement mechanism. The treaty does not cover China and Afghanistan, which represents 13 percent of the basin also, two important tributaries of the Indus River flows down to Afghanistan in Kabul and Kuram. Therefore, as per the agreement if there is an intervention, the World Bank as the mediator will inform Afghanistan about this project.

The dispute settlement mechanisms established by the 1960 IWT are as follows:

According to the Article IX if IWT, any question which arises between the Parties concerning the interpretation or application of IWT or the existence of any fact which, if established, might constitute a breach of this Treaty shall first be examined by the Permanent Indus Commission, which will endeavour to resolve the question by agreement. If the Commission does not reach to an agreement, a difference will be deemed to have arisen. In this case, the difference was settled with a Neutral Expert (annexure F) or by an arbitral Tribunal. In both cases (expert or arbitral Tribunal), the IWT requires the presence of a technical expert that reflected in Annexure F: the Neutral Expert shall be a highly qualified engineer and Annexure G: a highly qualified engineer shall be part of the arbitral Tribunal. The article highlights the importance of having technical and scientific expertise in dispute settlement mechanisms. Within the Permanent Indus Commission, the two Commissioners are high-ranking engineers, competent in the field of hydrology and water-use. They shall study and report to the two governments on any problem relating to the development of the waters of the rivers. They may conduct an inspection on the development of the river, once in every five years. The Permanent Indus Commission plays a role in the exchange of information between two countries on the foreseen projects. The Commission contributes in preventing differences. The Commission's work was not interrupted by the armed conflicts that arose between the two countries.

With all these systems in place, in 1990s India started constructing the Baglihar dam across the Chenab River in the southern Doda district of the Indian state of Jammu and Kashmir. According to the IWT, this river is attributed to Pakistan whereas India detains rights of usage of the waters for power generation. Pakistan claims that the construction of hydroelectric project violates the IWT. In 2005, the World Bank offered its services, first as facilitator and later as a participant in the negotiations between the two countries. Pakistan appointed a Neutral Expert to solve the dispute who considered the technical aspects of the dispute, which included the maximum flow rate in the event of flooding, and characteristics of the spillway gates (sedimentation, geology, and earthquake risks). The Neutral Expert made decisions in 2007 based on technical aspects, legal aspects and procedural aspects. In his report, the Neutral Expert concluded that India would proceed with the Chenab Project under certain conditions, i.e. characteristics of the spillway, river flow. The control of sediment runoff was a key concern for the Neutral Expert in taking his Decision.

The next case study was the case concerning the Indus Waters Kishenganga arbitration. India proposed a diversion of the river Kishenganga (Neelum) into another tributary in order to produce hydroelectric power. The construction on the project began in 2007. The Kishenganga River crosses the Line of Control in the Kashmir region, which is divided between India and Pakistan and the river flows in the area administered by Pakistan. The project started in the 1980s. In 1988, the Pakistani Commissioner of the Permanent Indus Commission

became aware of the Kishenganga Hydro-Electric Project (KHEP) and asked for the interruption of the works. Later in 1989, the Indian Commissioner asked for information on the hydroelectric project of Pakistan on the Neelum River, the "Neelum Jhelum Hydro-Electric project". In the 1990s and 2000s, India and Pakistan exchanged information about the two projects through the Commission. The dispute was not solved through negotiations. Pakistan initiated proceedings against India. In its Request for Arbitration, Pakistan stated that the Parties had failed to resolve the "dispute" concerning the KHEP conducted by India. Pakistan requested appointment of an arbitral Tribunal in 2010 and through a Request for Arbitration dated 17 May 2010, A Court of Arbitration of seven members was established and Court issued four decisions between 2011 and 2013.

- Order on the Interim Measures Application of Pakistan issued by the Court on 6 June 2011
- Partial Award issued by the Court on 18 February 2013
- Decision on India's Request for Clarification or Interpretation, 20 December 2013
- Final Award, 20 December 2013

Q&A

Dr Akthar commenting the IWT said the new concepts of climate change and technical issues i.e. the structure of dams and diversion of river water are not included in the IWT. Therefore, Pakistan had to bring these aspects into discussion in the arbitration.

Case #3: Cooperation in the Aral Sea

Ms Elena Tsay, Regional Expert, GWP CACENA

The Aral Sea was an endorheic lake lying between Kazakhstan in the north and Uzbekistan in the south. The Aral Sea drainage basin encompasses Uzbekistan and parts of Tajikistan, Turkmenistan, Kyrgyzstan, Kazakhstan, Afghanistan and Pakistan. The lake has been steadily shrinking since the 1960s after the rivers that fed it were diverted by Soviet irrigation projects. The level of salinity has been increased by more than 13 to 25 times exceeding average salinity of the world ocean by 7 to 11 times. The socio-economic challenges face by the inhabitants include human health problems, degradation of local economy and livelihood opportunities, loss of cultural heritage and increased environmental migration.

Countries in Central Asia and international community joined hands to mitigate the consequences of the environmental catastrophe in the Aral Sea Basin. In concluding her presentation, Ms Tsay highlighted the mitigation paths and efforts done by the local and international community.

- creation of improved living conditions for the population in Aral Sea zone;
- Improving water management system and water saving i.e. developing of coordinated mechanisms for management and protection of water resources in Aral Sea region and implementation of IWRM principles in river basin;
- Afforestation of Aral Sea dried bed and fighting desertification;
- Protection of biodiversity, rehabilitation of environmental resources: flora, fauna and special protected zones in Aral Sea zone, management of wetlands;
- Further improvement of institutional basis of cooperation in Aral Sea region under auspices of International Fund for Saving the Aral Sea "IFAS".
- Institutional measures, technical and technological measures were taken to improve the situation in the Aral Sea region. Although the basic provisions are available, the region needs external assistance in the following areas.
- To maintain the existing fragile ecological balance in the Aral sea region, and combat

desertification, aiming at improved water management system, economical and rational use of water resources;
- To create conditions for reproduction and genetic conservation, public health in the Aral Sea region, development of social infrastructure and a wide network of medical and educational institutions;
- To create the necessary social and economic mechanisms and incentives to improve the quality and standard of living of the population, development of basic infrastructure and communications;
- The conservation and restoration of biodiversity of flora and fauna in the region;
- Further institutional reinforcement and strengthening of cooperation between countries in the region, in the framework of the International Fund for Saving the Aral Sea, and stepped-up efforts to alert the international community on the Aral Sea catastrophe.

Case #4: Cooperation in the Management of common rivers in South Asia

Mr Tahidul Anwar Khan, Bangladesh

The countries in South Asian faces challenges i.e. meeting the basic needs, securing the food supply, protecting the ecosystems and environment and many other issues which are directly or indirectly linked with the availability of the waters of common rivers both in temporal and spatial teams. There are a few larger countries dominating over smaller countries, which are co-riparian of some transboundary rivers generating dearth of confidence and trust between neighbours. There is no enforcement by the international community to promote collaborative management of common river water resources in these regions. This generates inequality in many parts of the region and the smaller countries are unable to reap the benefits from the use of watercourses.

In contrast, India and Bhutan are working solidly with each other to harness the waters of the Bhutanese tributaries of the Brahmaputra. India and Nepal since the early part of the last century are trying harness to Nepalese tributaries of Ganges River but have not succeeded. India and Bangladesh signed the Ganges Water Treaty in 1996, which is not implementing as expected and are trying to manage the rest of the 53 common rivers. India and Pakistan have signed the Indus Water Treaty in 1960's which is remaining as a token agreement.

Mr T. A. Khan said, in order to progress it is necessary to promote and/develop political will amongst the common actors and governments of the region to collaborate with each other. This will lead to enhanced people-to-people interaction, mobilised international pressure groups, help to create a climate of trust and confidence and the will to collaborate and start disseminating and exchanging all water related data and information amongst all the countries of the region.
This basin-wide collaborative management of common river waters can greatly reduce the depth, duration and intensity of floods. The new approaches will increase and stabilize the dry seasonal flow of water in the tributaries resulting multiple benefits of millions of people and save lives. New employment opportunities will be created leading to flourishing national economies. Most importantly, the ecosystems will be benefitted greatly. All these achievements will lead to development of climate of trust and confidence within the region.

Q&A

South Asia is one of the largest uses of ground water but any of the treaties or agreements when sharing interests have not mentioning at any point about the groundwater. Dr Mukherji's question was if there is a specific reason for not including the groundwater in these treaties. Ms Witmer responded to the question mentioning that this question is not only relevant to South Asia and is common to the whole world. People tend to negotiate and discuss only what they can see. Whereas the mapping of groundwater has started recently and pollution of groundwater was a problem identified very recently. Most importantly, the boundaries of groundwater/aquifers is not clear enough yet. However, the discussions and debates can be expected in the coming years. Further Ms Shubber bring the legal perspective said that groundwater governance around the globe is very limited.

Break out session on "Overcoming challenges in transboundary cooperation in Asia"

Five separate groups had lengthy discussions on how to overcome the challenges in transboundary cooperation in Asia.

Question 1: What are the obstacles/bottlenecks/difficulties you can identify regarding transboundary cooperation in Asia and perceive as key to be addressed?

- Lack of political will: the countries in the region lack the will to cooperate and collaborate in general, including over water issues.
- All the regional agreements are bilateral and lack of multilateral agreements and impetus to focus on regional water issues.
- Inclusiveness: indigenous groups, local populations, youth and women are not included in the discussion and cooperation
- There is a lack of implementation and enforcement of agreements, which are already in place. Further, there are no incentives to establish new agreements, as current ones are ineffective.
- Lack of reliable communication between states, as well as between a nation-state and the stakeholders and local users.
- There is lack of access to data: technology and monitoring can compound data exchange, technology could play a role by encouraging more data exchange.
- Scope of agreements are mainly on allocation and quantity issues: there is a need for broadening of scope to include quality, environment, and other issues.
- Financial limitation to cooperation, who pays? There is no clear financial support for developing cooperation and for maintaining.

Question 2: How can transboundary water cooperation in Asia be improved? What solutions can you think of? What has worked according to your own experience (e.g. good practices)?

- Proactive involvement of riparian states: Initiate Track II dialogue and setting up a cooperation mechanism and data exchange.
- Single-issue cooperation on water pollution, environmental degradation and Disaster Risk Reduction (DRR) etc. within the Framework of Sendai Process[1]. Some activities would be building stakeholder capacity, hold regular meetings and involve scientists, experts, grass-root level, international and local communities.
- Technological/scientific cooperation (e.g. knowledge transfer on state-of-the art of hydraulic engineering, environmental flows, pollution control, urbanisation, groundwater recharge)

[1] The Sendai Framework for Disaster Risk Reduction 2015-2030 was adopted by UN Member States on 18 March 2015 at the WCDRR. The Sendai Framework is the first major agreement of the Post-2015 development agenda, with seven targets and four priorities for action.

- Preliminary multi-stakeholder consultation with all riparian states on planned infrastructure.

- Sharing benefits of river development projects (e.g. power distribution or revenue sharing with local communities or neighbours)

Question 3: How can global, regional or basin transboundary agreements help to overcome difficulties in your experience? What International Water Law (IWL) principles and/or procedures can you think of in particular?

- IWL provides a framework for negotiations based on customary law. It is suggested that countries from South Asia become parties to the UNWC, which is based on customary law. Even though if a State is not party to UNWC, customary law is still applicable.
- There are freshwater agreements in place at the regional/basin level. However, States parties to these agreements are not working accordingly (i.e. India and Pakistan or India and Bangladesh). Therefore, lack of implementation of regional/basin agreements is significant in the region. Even the states do not share data between the countries. Therefore, GWP can think about a practical solution implementation of these water agreements.
- It is needed to have a financial support for the implementation of freshwater agreements. Hence, funding mechanisms could be established in the framework of agreements.
- Freshwater agreements can be built from non-contentious issues such as public health and livelihoods. The needs of people should be linked to socio-economic development of States. In this way, States might be interested in developing/implementing freshwater agreements.
- It is important to go beyond bilateral freshwater agreements in South Asia and moving on to regional cooperation on transboundary water resources because; the impact on water resources is at the regional level not only at the bilateral level.
- It is necessary to involve of local communities and other relevant stakeholders in negotiations on freshwater agreements.
- Bangladesh was able to bring issue of Ganges at the UN General Assembly. After resolution was passed, India has taken the negotiations between India and Bangladesh seriously.
- "Soft" power and "hard" powers needs to be combined to implement IWL principles. A country could comply with IWL because its reputation is at stake.

Question 4: What are the dispute settlement procedures/principles, which you have used or know of and find useful?

- Direct negotiations between disputing parties are the best way forward though limitations must be acknowledged such as the need for political will or power asymmetries between the parties.
- Personal relationships are important in the context of dispute avoidance and resolution.
- Outside pressure is sometimes necessary to get parties to negotiate.

- Using existing mechanisms that are part of a particular cultural environment are very effective within the given environment as everyone follows them.
- Consensus based approach to conflict avoidance can be very effective.
- Different mechanisms have advantages and disadvantages and it is for the parties to determine which is more relevant to them.

Table 5: How can we identify values and interests over positions? and how would this help in reframing challenges into possible solutions? How can you better build trust?

- Build a platform for exchange without taking decisions
- Find commonalities
- Validated mechanisms for data exchange
- Consider the entire basin rather than just the specific part of the basin when analysing a given situation
- Demonstrate willingness by proposing small sets where the other country can take
- Find out what the 'headache' of the others is so you can assess how and where to help
- Establish how water should be valued
- Give something that you know and can be shared so the other party will appreciate and find things of which you can build trust

Day 2 – Wednesday, 24 May 2017

Session 4: Transboundary water cooperation in the context of the SDGs

Moderator: Mr Lal Induruwage

Transboundary water cooperation and the SDGs, an Overview

Ms Angela Klauschen, GWPO

The 2030 Agenda officially adopted by United Nations General Assembly, in New York on 25 September 2015. There are 17 Goals including Water, Energy, Food, Ecosystems, Cities, Peace, Partnerships, etc. The process on indicators and monitoring is now led by the Inter-Agency and Expert Group on SDG Indicators (IAEG-SDGs) overall, and UN-Water for Goal #6. In this process, GWP is providing support to national stakeholders in the implementation of SDGs, especially SDG 6.5 - on IWRM. Several pilot countries were selected "for proof of concept" including Uganda, Bangladesh, Netherlands etc. to conduct SDG preparedness facility programmes.

SDG Goal 6 namely "Ensure availability and sustainable management of water and sanitation for all" has six main targets and two means of implementation.

6.1 By 2030, achieve universal and equitable access to safe and affordable drinking water for all

6.2 By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation, paying special attention to the needs of women and girls and those in vulnerable situations

6.3 By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally

6.4 By 2030, substantially increase water use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity

6.5 By 2030, implement integrated water resources management at all levels, including through transboundary cooperation as appropriate

6.6 By 2020, protect and restore water related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes

6.a By 2030, expand international cooperation and capacity building support to developing countries in water and sanitation related activities and programmes, including water harvesting, desalination, water efficiency, wastewater treatment, recycling and reuse technologies

6.b Support and strengthen the participation of local communities in improving water and sanitation management

Overall, there are inter linkages between the 17 goals, some are inter depending, enforcing and some impose conditions.

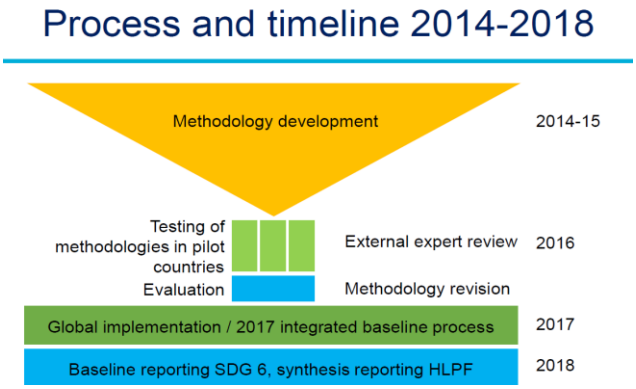
Ms Klauschen discussed how Transboundary Water Cooperation reflected in the SDGs?

SDG 6.5: provides a direct and clear reference to "transboundary cooperation" as a means to implement IWRM. However, there is a challenge, as targets under SDGs will be measured at national level, whereas transboundary water cooperation takes place at inter-national level. Both SDG 6.a and 6.b highlights expanding international cooperation, capacity building of developing countries and strengthening the participation of local communities is supportive to transboundary cooperation.

There are another two Goals SDG 16 and 17 that are relevant to IWRM. SDG 16 in particular, references to SDG 16.3 rule of law and access to justice in target, 16.6 development of accountable and transparent institutions in target and 16.7 participatory and representative decision-making in target. Further, the SDG 17 to "Strengthen the means of implementation and revitalise the global partnership for Sustainable Development" is relevant to IWRM, and organisations like GWP who enhance the Global Partnership for Sustainable Development, complemented by multi-stakeholder partnerships for knowledge, expertise, technology and financial resources.

Some countries i.e. China developed specific action plans containing water and non-water targets directed towards achieving the SDGs by 2030. There are custodian agencies assigned by the UN to monitor each goal. UN-Water nominated agencies for the water goal and given specific targets for monitoring purpose. An illustration on SDG process and timeline is given below.

Figure 8: Process and timeline for monitoring



Human Right to Water and SDGs

Dr Mara Tignino, Geneva Water Hub / University of Geneva

The UN adopted the Millennium Development Goals (MDGs) in 2000 and still in 2015; it was observed that there are a proportion of people without access to safe drinking water and basic sanitation. Almost 750 million people lack access to an improved source of drinking water and almost one billion people are still without access to basic sanitation.

The SDGs provided a dedicated goal for water and sanitation which is "Goal 6: Ensure availability and

sustainable management of water and sanitation for all". In addition, the goal is related to Principles of Human Rights Law that highlights progressive elimination of inequalities in access to water. Water must be free from contamination and price for water and sanitation services must not present a barrier to accessing water.

The definition of right to water can be found in the General Comment No. 15 on the Right to Water adopted by the UN Committee on Economic, Social and Cultural Rights in 2002. According to the General Comment No. 15: "The human right to water entitles everyone to sufficient, safe, acceptable, physically accessible and affordable water for personal and domestic use". The different aspects discussed at the General Comment includes availability (sufficient and continuous water), quality (safe water), accessibility (it includes economic accessibility based on the principle of non-discrimination) and affordability). After adoption of the General Comment, two other important documents have been adopted, the UN General Assembly 64/292 entitled the Human Right to Water and Sanitation (July 2010) reads as follows: "Recognizes the right to safe and clean drinking water and sanitation as a human right that is essential for the full enjoyment of life and all human rights". The resolution of water received 122 votes in favour, zero against and 41 abstentions (including 25 EU countries because of a procedural issue within the EU coordination).

The Resolution adopted by the Human Rights Council 15/9 entitled "Human rights and access to safe drinking water and sanitation" in October 2010. This Resolution affirms, "The human right to safe drinking water and sanitation is derived from the right to an adequate standard of living and inextricably related to the right to the highest attainable standard of physical and mental health, as well as the right to life and human dignity". This resolution was adopted without a voting and all the states had a common position over it.

There are implications of the right to water and sanitation. Some obligations are with immediate effect and the others are being gradually implementing.

- Obligations with immediate effect: States must ensure that actors both public and private comply with the requirements of the human right to water and sanitation.
- Obligations implying gradual implementation of the right to water and sanitation i.e. development of national laws depending on the means and capacities available.

Transboundary cooperation on water and (other) environmental issues

Ms Lesha Witmer, WWF

The principles for the countries to achieve the SDGs are mentioned in the Agenda 2030. The first step was taken in Rio 1992 where the governments agreed on the principles on environmental conservation. There the Rio Convention was developed and it was observed that high number of principles reflected in the SDGs are emerged from the Rio convention. There are four official conventions including the UN Watercourse Convention developed based on the Rio Convention 1992. The MDGs (2000) contains agreements and principles on environment but having ample amount of limitations. During the World Summit on Sustainable Development (WSSD) 2002 held in Johannesburg, some development and environment actors have started getting closer to each other and these connections were used to reach development goals in agenda 2002 on environment impact and measures. Again in Rio in 2012 (Rio +20) the 1st step in the direction of SDGs was taken resulted in agenda 2030: Combine development and environment; dedicate and interlink; reinforce and complement, encompassing a lot of the thinking that have been discussed over a

period of two decades. Ms Witmer highlighted that SDGs are really a developed agenda focus on sustainable development.

There are interlinkages in SDGs but when it comes to the water agenda these given links will be more important than others:

First three of these are official Rio Conventions:
Convention on Biological Diversity (CBD) (1992 – 196 parties;
https://www.cbd.int/information/parties.shtml
United Nations Convention to Combat Desertification (UNCCD) (1994 – 194 parties;
http://www.unccd.int
United Nations Framework Convention on Climate Change (UNFCCC) (1992 – 196 parties;
http://unfccc.int/

The other conventions complement each other and the watercourses convention:
Convention on Wetlands (Ramsar Convention). (Ramsar 1971 – 169 parties).

Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters (Aarhus convention) (1998 – in force 2001 – 47 parties;
http://ec.europa.eu/environment/aarhus/
(UNECE) Convention on Environmental Impact Assessment in a Transboundary Context (ESPOO) (1991 – 45 parties; global since 2014).

The present development projects facilitate the stakeholders to meet with allies who are not directly from the water sector but also working on these aspects. Therefore, it is expected that these guidelines will assists in looking for new allies with look and consider environmental aspects in water management. The Agenda 2030 reaffirms the Rio principles (1992) e.g. the aspects like polluter pays and precautionary principle. It recognises the outcome in Paris Agreement on climate change up-front to avoid duplication.

In working on Deltas the stakeholders also have to look at Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development. The Goal 15: “Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss” was developed based on the existing policy documents and as a results the targets set up for 2020 in line with the existing agreements. These goals directly brings the environmental concerns to the water management.

Another two standard protocols were also looked at from the angle of energy, the Hydropower Sustainability Assessment Protocol and Water Stewardship Standard(s) inform about water uses and utilities to companies in the way they use/manage water.

Q&A

Prof Chen Huiping asked about the interlinkages between Human Right to Water especially the drinking water, the SDGs and the three UN Conventions especially in terms of human needs and wanted to know whether these mutually promote each other. Dr Tignino answering the question said, there are linkages between the instruments of transboundary water conventions, human rights whereas the UNEC Water Convention is having a separate protocol which provides an explicate reference which encapsulate the concept of right to water.

Dr Khondaker A. Haq had a question about SDG 6 on how to ensure safe sanitation. Ms Witmer said that the safe sanitation is clearly explained in the targets of SDGs as safe sanitation has to be hygienic, dignified, affordable and should not have diverse environmental impacts. Regarding the question of so many number of interlinkages in the SDGs and would that spoil the whole purpose, Ms Witmer brought the example of SDG 15. This goal tries to combine the existing materials without initiating those from the scratch. Furthermore, the goal on transboundary waters helps in bringing the fresh water conventions

to the fore. Therefore SDGs are guiding the countries to brake silos and to work together to achieve the commonly identified goals.




Dr Veena Khanduri had a clarification about the Water Stewardship in SDGs where the goal connects the industries and private sector. However there is a huge gap between these stakeholders and especially there is a trust issue. Ms Witmer answering the question taking the eg of SDG 16 said, the goal discuss about the partnerships and stakeholder involvement. These gaps can be concentrated by having more debates and developing capacities. The organizations i.e. GWP can reach out to these companies and can initiate the discussions, also they can identify the departments of the companies who are already working with the communities to spread the idea.

Interactive session with break out groups in "World Café" format

Moderators: Ms Angela Klauschen, Ms Lesha Witmer, Ms Melissa McCracken, Ms Zaki Shubber

The groups had discussion based on the two given questions.

- In your experience, how local communities are involved in transboundary water management?
- Do you think that local communities may increase water cooperation and prevent the risks of Conflicts? If yes, how?

It has been discussed that once the civil society being sensitised they can be mobilised as advocators of transboundary cooperation. Civil society, as a group can impose pressure over the decision makers and politicians. Involving the communities at the national and local level is important especially in the water management. eg. The stakeholder were not involved in developing the IWT, which is currently malfunctioning. The communication between the farmers in Pakistan and India can be enhanced through information sharing which will develop trust between the two states.

The group moderated by Ms Witmer discussed on the need of education in terms of awareness raising at professional level and targeting local communities. They also have discussed about the importance of having policies in place to imply and implement the projects accordingly. Having gender equity in establishing projects was recommended by the group and mentioned that it should be non-negotiable. This can be started with a quota system

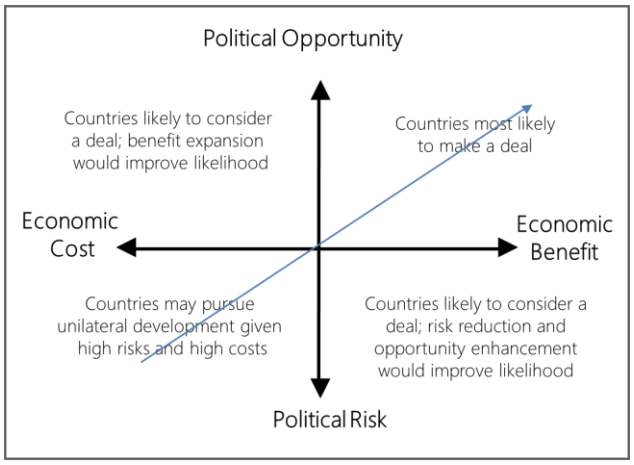
to overcome the hesitation for participation. The learning process can be started at the local level and can be moved forward to larger issues like basin issues. Dr Shaheen Akthar highlighted using group communication as an information dissemination method with the development of new technology.

Keynote: Transboundary cooperation and SDG 6.5.2. – including presentation of latest GWP TEC Background Paper

Ms Melissa McCracken, Researcher, Oregon State University

All the transboundary water, both ground water and surface water, link with cooperation. The countries should be willing to move upward by cooperating through the politics and governance. Many countries have undergone and have formalized the cooperation over transboundary waters. However, the likelihood and intensity of dispute rises as the rate of change within a basin exceeds the institutional capacity to absorb that change. Ms Melissa McCracken presented the diagram extracted from Subramanian, Ashok, Bridget Brown, and Aaron T. Wolf. (2014) "Understanding and Overcoming Risks to Cooperation along Transboundary Rivers." Water Policy 16(5): 824 to explain the situation.

Figure 9: Overcoming risk to cooperation along Transboundary Rivers



Earlier it has been discussed in the Agenda 2030, Target 6.5: By 2030, implement IWRM at all levels, including through transboundary cooperation as

appropriate and specifically focusing on Indicator 6.5.2: "Proportion of transboundary basin area with an operational arrangement for water cooperation". In order to evaluate the methodology for 6.5.2, Oregon University looked at the actual implementation of the current indicator, managed by UNESCO-IHP and UNECE WC secretariat and looked at different possibilities to strengthen the indicator. There are two different components of basin areas, Basin Country Unit (BCU) and Aquifer Country Unit (ACU). Therefore, the transboundary basin area is the sum of all the basin country units and aquifer country units in a country. For an arrangement to be operational, these should be in place: a Joint body, joint mechanism or commission, regular formal communication, joint or coordinated water management plan or joint objectives and regular exchange of data and information. . If any one of those do not match, the arrangement is classified as not operational. With the current criteria, the flexibility in operational cooperation cannot be measured.

The alternative methods, which allow the flexibility in operational cooperation, can be measured through level of cooperation or the typology of cooperation.

The GWP TEC Paper No 21: "Promoting effective water management cooperation among riparian nations" is based on effective cooperation that produces measurable benefits, such as increased water security, and is the basis for the development of Method 3 the typology of cooperation. Whereas the recently published GWP TEC Paper No. 23: "Measuring transboundary water cooperation: options for Sustainable Development Goal Target

6.5,"describes the comparison of the three methods, explains the strengths and weaknesses, and provides recommendations for users of SDG 6.5.2.

Session 5: "Making transboundary water cooperation more inclusive"

Moderator: Ms Angela Klauschen

Transboundary water cooperation, public participation and civil society

Dr Mara Tignino, Geneva Water Hub / University of Geneva

Public participation includes access to information, consultation with concerned communities and access to justice. The right to participation, its advantages and the avenues are being discussed in different declarations and agreements.

Principle 10 of the 1992 Rio Declaration on environment and sustainable development reads as follows: "Environmental issues are best handled with participation of all concerned citizens, at the relevant level. […] States shall facilitate and encourage public awareness and participation by making information widely available. Effective access to judicial and administrative proceedings, including redress and remedy, shall be provided"

The 1991 UNECE Convention on Environmental Impact Assessment in a Transboundary Context (Espoo Convention) states that: "The Party of origin shall provide […] an opportunity to the public in the areas likely to be affected to participate in relevant environmental impact assessment procedures regarding proposed activities and shall ensure that the opportunity provided to the public of the affected Party is equivalent to that provided to the public of the Party of origin"

The 1998 UNECE Convention on Access to Information, Public Participation and Access to Justice (Aarhus Convention) provides that: "In order to contribute to the protection of the right of every person of present and future generations to live in an environment adequate to his or her health and well-being, each Party shall guarantee the rights of access to information, public participation in decision-making, and access to justice in environmental matters"

The UNECE Water Convention provides that the: "The Riparian Parties shall ensure that information on the conditions of transboundary waters, measures taken or planned to be taken to prevent, control and reduce transboundary impact, and the effectiveness of those measures, is made available to the public"
Dr Tignino brought the example of Pulp Mills on the Uruguay River case. The ICJ stated that, "The Court is of the view that no legal obligation to consult the affected populations arises for the Parties from the instruments invoked by Argentina". Whereas the ICJ noted, "both before and after the granting of the initial environmental authorization, Uruguay did undertake activities aimed at consulting the affected populations, both on the Argentine and the Uruguayan sides of the river"

Transboundary water cooperation and gender equity

Ms Lesha Witmer, Expert, Women for Water Partnership

Ms Witmer explained gender as a social status based on convincing performance of femininity or masculinity - can be women or girls, boys or men, or transgender. There are socially ascribed roles, responsibilities and opportunities associated with (wo)men, including hidden power structures that govern relationships between the different groups. That also can be emphasised as sex inequality, not caused by the anatomic and physiological differences, but by unequal and inequitable treatment. These alludes to the cultural, social, economic, religious, political conditions as basis of certain standards, values and behavioral patterns.

Equity is equal footing; fairness of treatment for women and men, rich and poor, according to their

respective needs not the same as equality, which is a legal concept.

Mainstreaming is a process (not a goal) bringing what marginal into the core business and mainly the decision is making process of an organization (UNESCO). Gender mainstreaming is a question of but not only of social justice and human rights and necessary for ensuring equitable and sustainable human development by effective and efficient means.

Ms Witmer discussed the Gender Mainstreaming Approach by not isolating women but assessing situation of women and men as actors in the development process and as beneficiaries. Therefore, there are few aspects needs to be considered in mainstreaming gender.

- Who is actually managing water?
- Is there a difference in usages? Is there a priority for water allocation?
- Why do people e.g. say they are not interested in this business? May be the interests of these groups have not considered, make sure about the inclusiveness
- What happened to all the women that studied hydrology? Many are not working in the water sector anymore; research especially in Asia showed that the main reason is the working conditions, e.g. no sanitation/privacy/suitable outfits/protective gear designed for men only
- Numbers count; but what role do (wo)men play? Have to consider what they say is being adopted and considered
- Why are forestry, soil improvement etc. by women are not seen as contributions to IWRM? It is ignoring an enormous level of labour in the society

Women's role in water management traditionally is broad but with the introduction of technology, it suddenly becomes a men's role. So women's role in water sector in these days is limited only to carry water. More and more women have professional education in the field but rarely have gone upto decision-making positions. However, it is women who mostly control water and can influence water use as most women work as caretakers in the health sector, facility managers, educators, farmers, etc. The majority of water users are women. They use water at domestic sector, food processing, smaller business, (health) care and agriculture (controls 70 percent), however, mainly unpaid - only 17 percent paid for technical and managerial jobs conducted by women. These main users influence the quality and regulations (tap or bottle), but do not have enough control over family income to pay for water. In many parts of the world women's time lost to collect water and wait for water as the infrastructure tap or pipe is not the main issue. Women see and focus on the impact on livelihoods as a priority whereas men are interested on technology, women tend to see the "merit" and men the "market", the financial values. Women tend to integrate/ look for "horizontal" coordination/ cohesion; Men tend to focus on the "silo".

The Dublin Principles of 1992 agreed that "Women play a central role in the supply, management and safeguarding of water". Therefore, it has been agreed that women play a key role in water management and should have a place at the decision-making table.

In contrast there are power of stereotypes, stigmas, taboos and gender assigned roles is such that persons sometimes do not claim their legal rights due to fear or pressure on them to conform to societal expectations. These deeply entrenched societal issues call for approaches that go beyond formal protection in (national) laws. Gender Mainstreaming, Human Rights approach(es) and equitable (between gender groups and countries) and reasonable use - fresh water treaties are complement each other. These chapters advocate for implementation of the Principles of the Rio Declaration of (Principles 10 and 20) and CEDAW/ Beijing 1992 (chapter K), however, only been discussed once since 1992.

In concluding the presentation Ms Witmer said, it is advisable to start collecting sex-disaggregated data

and acknowledge contribution of women groups. These can be done especially at the planning stage, which allows allocating quota/division of roles and providing guidance on equality and equitability. See e.g. report of the special rapporteur on HRWS: https://documents-dds-ny.un.org/doc/UNDOC/GEN/G16/166/97/PDF/G1616697.pdf?OpenElement

The recommendations on enhancing gender mainstreaming made by the breakout groups as follows.

- Setting quota is useful and necessary to take the "first hurdle". It needs to be accompanied by training/ awareness raising on project managers, recruiting officers etc. to change their focus and working modes.
- Measures have to be taken to make the water sector more attractive for (young) women; and to adjust working conditions (safety issues, safety equipment and function descriptions etc.) and enhance acceptance of the male colleagues; make it acceptable for husbands/ fathers for them to work in this environment
- Methodologies and indicators such as the UNESCO-WWAP sex-disaggregated data toolkit need to be freely accessible to be used by programme/project managers and train on how to use the toolkit.
- Ingrain the principle of gender equity in all organisation policies; identify main constraints for fulfilling that policy and address those with targeted measures
- Be smart and creative to find solutions (eg. Women provided with motor cycles to travel to work which reduced the resistance of husbands for their wives to engage on jobs)
- Learn from others in the same basin: other areas or countries may not have the same issues or already have come up with solutions
- Connect gender issues to economic empowerment for women and communities
- Make it a "point" for every chair, facilitator etc. to acknowledge contributions of women and give them a voice.

Youth Involvement in Water Management
Mr Kenge Gunya, KM Officer, GWPO

GWP conducted Water Governance and International Water Law Trainings in Africa and Latin America. These trainings involved and encouraged youth as an active group in transboundary water management. So Mr Gunya asked two questions from the participants, what can youth bring to transboundary water management? and How have you involved and or intend to involve youth in transboundary water management?

Involving youth in transboundary cooperation and IWRM
Ms Mukta Akter, Youth Focal Point, GWP South Asia

Youth play a vital role during emergencies by volunteering for assisting people and they are talented on raising awareness through campaigning. There are different ways that the decision makers can involve youth in transboundary cooperation. The capacity of youth has to be enhances and they should be promoted to participate in high-level discussions and should involve in negotiations and debates.

Q&A

Ms Klauschen commenting on Ms Akter's suggestion on capacity building of youth said GWP SAS can work with GWPO and develop a training programme together to enhance the knowledge of youth on transboundary and international water law.

Dr Veena Khanduri contributing to the discussion said that India Water Partnership has developed a concept note on community-based organizations and their participation in transboundary water management. In India, there are certain organisations working on different aspects of transboundary water cooperation. Lawyers and civil society with the perspective of water law prepared this concept note, which can be shared among the participants as an initiative for the discussion of transboundary cooperation in Asia.

Ms Angela Klauschen further discussing the issue stated that, there is a gap that could not be filled in organising this workshop was getting the involvement of local government and community who are working on transboundary cooperation. Though there were discussions on civil society, public private partnership, youth and gender involvement, the involvement of local government was lacking. Therefore, this gap needs to be filled in future activities related to transboundary cooperation.

Conclusion

Concluding Remarks by Dr Lam Dorji, Chair GWP SAS: Dr Dorji thanked Ms Klauschen and GWPO for facilitating and GWP SAS Secretariat and GWP Nepal for organising the workshop. He appreciate all the hard work been done to make the participants comfortable during travelling, lodging and attending the workshop. He thanked the Presenters having different backgrounds, academics and practitioners who shared a lot of information within the two days who tried their best to give the participants a common understanding on transboundary cooperation, international water law, SDGs with special focus on women, youth and civil society's role on water management. Dr Dorji acknowledged the interregional participation for the workshop and mentioned that this needs to be strengthened and replicated and should bring more and more coordinated activities/projects that provides cross learning. Further, he recommended continuing with the same platform and linking the experts and academia who are constantly developing and bringing new ideas with GWP through training and development. Dr Dorji concluded his remarks mentioning that in his perspective the overall workshop was a success.

Prof Surya Nath Upadhay in his thanking speech said it is inspiring to discuss this burning issue - transboundary waters as South Asia and as Asia Region as a whole since transboundary waters are very relevant to most of the countries in the region. "In Asia, we have a long way to go. Thus it is advisable to continue with the discussions by bringing the success stories and lessons learnt of the other part of the world". He further said the challenge is how are we going to advocate the cooperation? In addition, how these discussions to be translated to actions by involving the governments.

GWP having a strong network has the opportunity to support and galvanise the communities and thereby to pressurise the governments in order to move the Transboundary Cooperation forward. Simultaneously, the climate change, which is adversely affecting the region, is compelling us to collectively face the challenge.

Dr Watt Botkosal joined Dr Dorji for thanking the organisers and the presenters for providing the opportunity to gather knowledge on transboundary cooperation in the context of SDGs. He mentioned the workshop is just a beginning of new partnership and GWP South East Asia is looking forward to work closely with the other Asian Regional Water Partnerships on transboundary cooperation.

Prof Jiang Yunzhong from GWP China thanked the organisers for providing the opportunity to share knowledge and experience between the regions and for bringing new knowledge to the Asia region. "We all have to remember that water is a limited resource," he said. There are a several transboundary rivers flowing through Asia, especially flowing across the boundaries of China. Though China is mostly holding the upstream position, China is willing to cooperate and willing to improve the existing cooperation between the countries on transboundary waters. By thanking the organisers again for bringing all the participants to this comfortable location, he welcomed the Asian Regional Representatives to hold the next meeting in China.

Ms Angela Klauschen in her remarks informed that it was an inspiration for her to do the workshop in Asia. This was a teamwork successfully concluded with the collaboration of GWP SAS. As the focal point for transboundary cooperation, she had a goal to initiate the discussion in Asia, although it is well known that the negotiations are extremely difficult. After mobilising the South-South Cooperation, Ms Klauschen felt strong about promoting the cooperation by organising the next workshop in South Asia with a larger investment. The initial step was to have a similar meeting in China, which was held in 2016, and she was happy that not only the GWP SAS but also the other three regions in Asia were sitting together for the workshop. Similar workshops have also been held in Latin America and West Africa organised by GWP.

She said, "I hope the workshop facilitated in getting to know each other well, including the practitioners and expertise. This will be the first step to Asia and this partnership needs to be strengthen and grown".

Finally, Ms Klauschen officially informed the Asia region that she will be leaving GWP in June 2017 and she was honored work for GWP and with all the colleagues in GWP Asia.

Annexures:

Annexure I: Agenda

Regional Workshop on Transboundary Water Cooperation in the context of the SDGs in South Asia and beyond

Pokhara, Nepal – 23-24 May 2017

Agenda

Day 1 – Tuesday, 23rd May 2017

09.00 – 10.00: Opening & Introduction

Moderator: Ms Lesha Witmer

- *Welcome speech by host* – **Dr. Vijaya Shrestha**, Chair, GWP Nepal (5 min)
- *Opening speech* – **Dr. Lam Dorji**, Chair, GWP South Asia (5 min)
- *Remarks by* – **Dr. Watt Botkosal**, Chair, SEA (5 min)
- *Remarks by* – **Prof. Jiang Yunzhong**, SG, GWP China (5 min)
- **Tour de table & introduction of participants** (30 min)
- *Introduction to the workshop agenda* – **Ms Angela Klauschen**, Senior Network Officer, GWPO (5 min)

10.00 – 11.30: Session 1 – Setting the scene

Moderator: Dr. Lam Dorji

- *Key note: Status of current international agreements on transboundary waters (1997 UNWC, 1992 UNECE, Draft Article on TB Aquifers, HRW)* – **Prof. Mara Tignino**, Geneva Water Hub/University of Geneva (30 min)
- *Questions & Answers* – all participants (10 min)
- *Overview of transboundary cooperation in South Asia* – **Prof. Surya Nath Upadhyay**, GWP Nepal (15 min)
- *Status of transboundary cooperation between China and its neighbours* – **Prof. Chen Hui Ping,** University of Xiamen (15 min)

11.30 – 11.45: Coffee/Tea break

11.45 – 13.00: Session 2 – Insights from cooperation in major Asian river basins

Moderator: Mr. Tauhidul Anwar Khan (tbc)

- *Transboundary water cooperation in Mekong countries, key issues, challenges and interventions to address* – **Dr. Watt Botkosal**, Chair GWP SEA (15 min)
- *Cooperation in the Indus Basin* – **Dr. Shaheen Akhtar**, Associate Prof / Head of Department, National Defense University in Islamabad (15 min)
- *Regional Cooperation on Water: Opportunities for South Asia* – **Dr. K. A. Haq,** President, BWP (15 min)
- *Transboundary floods and how regional flood information systems as well as community based flood early warning can help* – **Mr. Aditi Mukherjee**, Theme Leader Water, ICIMOD (15 min)
- *Contributions and interventions from other participants* – all participants (15 min)

13.00 – 14.00: Lunch + Group Picture + Post-lunch "Wake up" exercise

14.00 – 15.30: Session 3 – Overcoming challenges to transboundary cooperation in Asia

Moderator: Dr. Khondaker Haq

- *Key note: Conflict avoidance and dispute settlement mechanisms* – **Ms. Zaki Shubber**, IHE Delft (30 min)
- *Case #1: Facilitating Transboundary Water Cooperation in South Asia – A Case Study for Kabul River Basin* – **Dr. Bilal Khalid,** Water Programme, Lead Pakistan (15 min)

- *Case #2: Indus Waters-Kishenganga Arbitration case (Pakistan/India)* – **Dr. Mara Tignino**, Geneva Water Hub / University of Geneva (15 min)
- *Case #3: Cooperation in the Aral Sea* – **Ms Elena Tsay**, Regional Expert, GWP CACENA (15 min)
- *Case #4: Cooperation in the Management of common rivers in South Asia* – **Mr. Tahidul Anwar Khan,** Bangladesh

- *Questions & Answers* – all participants (15 min)

15.30 – 15.45: Coffee/Tea break

15.45 – 17.00: Session 3: Overcoming challenges to transboundary cooperation in Asia (cont'd)

- Interactive session on challenges and solutions in break-out groups – Moderators: Angela, Lesha, Mara, Melissa

19.00 – 22.00: Dinner together at the Hotel

Day 2 – Wednesday, 24th May 2017

08.30 – 08.45: Quick recap of Day 1
Presenter/rapporteur: Ms. Zaki Shubber

08.45 – 10.15: Session 4: Transboundary water cooperation in the context of the SDGs
Moderator: Mr. Lal Induruwage

- Transboundary water cooperation and the SDGs, an Overview – Ms Angela Klauschen, GWPO (15 min)
- Human Right to Water and SDGs – Dr. Mara Tignino, Geneva Water Hub / University of Geneva (15 min)
- Taking into account ecosystems in transboundary cooperation under the SDGs – Ms Lesha Witmer, WWF

- *Interactive session with break out groups in "World Café" format* - **Moderators:** Angela, Lesha, Melissa, Zaki

10.15 – 10.30: Coffee/Tea break

10.30– 12.00: Session 4: Transboundary water cooperation in the context of the SDGs (cont'd)

- *Keynote: Transboundary cooperation and SDG 6.5.2. – incl. presentation of latest GWP TEC Background Paper* – **Ms Melissa McCracken***,* Researcher, Oregon State University (30 min)
- *Interactive session and exercise* on SDG 6.5.2. – **Moderator:** Ms Melissa McCracken

12.00 – 13.00: Lunch

13.00 – 14.00: Session 5: "Making transboundary water cooperation more inclusive"
Moderator: Ms Angela Klauschen

- *Transboundary water cooperation, public participation and civil society* – **Dr. Mara Tignino**, Geneva Water Hub / University of Geneva (20 min)
- *Transboundary water cooperation and gender equity* – **Ms Lesha Witmer**, Expert, Women for Water Partnership (15 min)
- *Involving youth in transboundary cooperation and IWRM* – **Mr Kenge Gunya**, KM Officer, GWPO, and **Ms Mukta Akter**, Youth Focal Point, GWP South Asia (15 min)

- Questions & Answers – all participants (10 min)

14.00 – 15.00: Session 5: "Making transboundary water cooperation more inclusive" (cont'd)
Interactive session on Inclusiveness in transboundary cooperation, in "Fishbowl" format – **Moderators:** Lesha, Melissa

15.00 – 15.15: Conclusion/Wrap up – End of Workshop

Concluding Remarks by:

- Dr Lam Dorji, Chair GWP SAS
- Dr Watt Botkosal, Chair, GWP SEA
- Prof. Jiang Yunzhong, Chair, GWP China
- Ms Angela Klauschen, SNO, GWPO

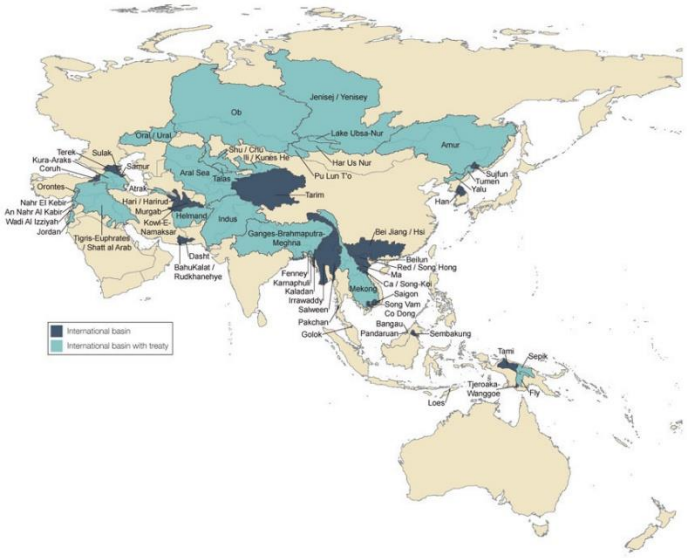
Vote of Thanks – Prof. Surya Nath Upadhay

Annexure II: Concept note

1. Background:

Transboundary cooperation is necessary in Asia, and particularly in the Greater Himalayas, since most of the rivers in this region are shared across borders, which creates strong inter-dependencies. Bangladesh, Bhutan, India, Nepal and Pakistan, for example, share twenty major rivers. The largest three transboundary basins in the region – in terms of area, population, water resources, irrigation and hydropower potential – are the Indus, Ganges and Brahmaputra. There has been recognition for the need for regional cooperation in the management and development of water as means to support economic and social development, regional political stability and peace. The riparian countries have tried to navigate the transboundary water flows through a series of treaties and ongoing negotiations. However, amid geopolitical challenges, the implementation of these legally binding bilateral agreements is often being hampered. New dam and hydropower developments constantly bring newer dimensions to the debate. Moreover, the onset of climate change has started to affect hydro-meteorological conditions in the area, triggering glacier melting, worsening floods, droughts, and other extreme weather events.

In this context, mutual trust and incentives to share benefits should be further promoted between the riparian countries of this region. Universal and basin-specific agreements are tools to build dialogue between States. The principle of equitable and reasonable utilization, the obligation not to cause a significant damage, the requirements of notification, consultation and negotiations as well as prevention and settlement of disputes are provided under these instruments. However, together with the implementation of the principles and rules, participatory approaches should also be promoted involving stakeholders from all sectors, from NGOs to associations of water users, incl. youth, women and vulnerable groups.



At the same time, with the adoption by the UN General Assembly in 2015 of the "2030 Agenda" aiming at achieving 17 different Sustainable Development Goals (SDGs) by 2030, a new global milestone has been reached. Several of these SDGs and related targets are relevant to transboundary cooperation. This is particularly the case of SDG 6.5., which aims at *"By 2030, implement(ing) integrated water resources management at all levels, including through transboundary cooperation as appropriate"* but also of SDG 16 to *"Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels"* as well as SDG 17 to *"Strengthen the means of implementation and revitalize the global partnership for sustainable development"* and several others. This creates new opportunities for collaboration at all levels, which can bring forward solid transboundary water governance, security and peace.

Taking into account the global agenda as well as the specificities of the region is key for the implementation of IWRM and transboundary water cooperation. Context specific solutions, regional and local partnerships should of course be preferred to one-size-fits-all approaches while building on important global milestones and opportunities. In this regard, the workshop is a follow up to several discussions between representatives of the four Asian RWPs (Caucasus-Central Asia, China, South Asia, South-East Asia) held since 2014 on how to work more closely together in areas of common interest to the region on transboundary matters.

2. .Purpose of the workshop:

This workshop aims at promoting the exchange of experiences, knowledge sharing, capacity building, and other forms of cooperation on the common issue of transboundary cooperation, with a view to foster mutual trust and enhanced collaboration and build on the recently adopted 2030 Agenda on Sustainable Development.
More precisely, with the support of selected international and regional experts, the workshop intends to:
- Bring together international and regional experts and practitioners active in the field of international water law and transboundary cooperation to share knowledge, experiences and expertise on key issues in their area of expertise

- Build trust and develop negotiation skills through relevant role plays/working group activities

- Develop inclusive approaches, which leave no one behind, notably involving civil society, women and youth

- Explore possible joint activities, context-specific solutions and way forward on knowledge exchange in international water law and transboundary cooperation

3. Target audience:

The workshop is targeted at:
- Water practitioners from across Asia active in transboundary cooperation;
- Regional and country coordinators of GWP across Asia;
- Members of women, youth and civil society organizations active in regional transboundary cooperation.

4. Key topics*:*

- Current status of key international water law instruments and case law (incl. the 1997 UN Watercourses Convention, the 1992 UNECE Water Convention, and the International Law Commission's Draft Articles on Transboundary Aquifers);
- Transboundary cooperation in the SDG context;
- Status of regional cooperation, incl. several case studies, in particular on key rivers (Ganga-Meghna-Brahmaputra, Indus, Salween, Irrawady, Mekong, etc.);
- Public participation and stakeholder involvement in transboundary governance.

5. Expected outcomes:

- Participants are updated on the latest developments regarding transboundary water cooperation and international water law in the context of the 2030 Agenda;
- Participants are able to identify interlinkages between transboundary cooperation and the SDGs;
- Participants have exchanged knowledge and experience on the status and challenges of transboundary water cooperation in the region, and gained insight from experts and fellow participants;
- Participants have developed together a draft roadmap for further learning, knowledge exchange and identified further capacity building needs in the context of GWP's Transboundary Thematic Programme.

Annexure III: List of participants

No.	Country	Name of the Nominee	Sex	Designation	Institute & Address	Tel/Fax/Mobile
1	Bangladesh	Mr Tauhidul Anwar Khan	M	Former Member of Joint River Commission- Bangladesh	3/601 Eastern Panthagreen, 73 Green Road Dhaka–1205 Bangladesh	tauhidulakhan@gmail.com bwp@dhaka.net +880 1715015953
2	Bangladesh	Dr Khondaker A. Haq	M	President	BWP	kahaq@dhaka.net +8801819212996
3	Bangladesh	Ms Mukta Akter	F	Youth Focal Point, Executive Secretary, BWP	GWP SAS	bwp@dhaka.net +8801760606121
4	Bhutan	Dr Lam Dorji	M	Chair	GWP SAS	ldorjie@gmail.com
5	Bhutan	Mr Kinga Wandi	M	Coordinator	BhWP	kwangdi@rspnbhutan.org
6	Cambodia	Dr Watt Botkosal	M	Regional Chair	GWP SEA	chair-watt@gwpsea.org +855 17366696
7	China	Prof Chen Huiping	F	Professor	Xiamen University, China	daichen@xmu.edu.cn +86-189-5928-6197
8	China	Mr Rugang Zheng	M	Senior Advisor/Coordinator	GWP China	rugang_zheng@163.com +0086-13910009622
9	China	Prof Jinjun You	M	Senior Engineer and Professor	Water Resources Department China Institute of Water Resources and Hydropower Research (IWHR) China	youjj@iwhr.com +86-136-9338-0855 +86-186-1297-0361
10	China	Prof Jiang Yunzhong	M	Secretary General	GWP China	larkking@sina.com +0086 13911900329
11	India	Dr Veena Khanduri	F	Coordinator	IWP	iwpneer@gmail.com + 91 9891195806
12	Indonesia	Mr Fany Wedahudutama	M	Regional Coordinator	GWP SEA	fanyweda@gmail.com +6281808279066
13	Italy/Switzerland	Dr Mara Tignino	F	Senior Lecturer	University of Geneva, Italy/Switzerland	Mara.Tignino@unige.ch + 41 76 40 90 141
14	Nepal	Mr Surya Nath Upadhyay	M	SC Member. Senior Advisor	GWP Nepal	suryanathupadhyay@gmail.com
15	Nepal	Ms Aditi Mukherji	F	Theme leader	ICIMOD	aditi.mukherji@icimod.org
16	Nepal	Dr Ms Vijaya Shrestha	F	Chair	JVS/GWP Nepal, Ullas Marg, House No. 102, Baluwatar-4, Kathmandu Metropolitan	vjyshs@gmail.com +977-984 129 8777

					City, Post Box No. 20694, Kathmandu, Nepal	
17	Nepal	Mr Tejendra Bahadur G.C.	M	Country Coordinator	GWP Nepal	mail@jvs.org.np
18	Netherlands	Ms Boleslawa M. Witmer	F	Senior Advisor	WWF/WfWP, Netherlands	wima@witmer.info +31 653391309
19	Pakistan	Dr Shaheen Akthar	F	Associate Professor	Department of International Relations, Faculty of Contemporary Studies, National Defense University, E-9, Islamabad Pakistan	shaheenakhtar.2020@gmail.com +0321-5208475
20	Pakistan	Mr Bilal Khalid	M	Focal Person in the Water Programme	LEAD Pakistan, LEAD House, F-7 Markaz Islamabad Pakistan	bkhalid@lead.org.pk
21	Pakistan	Mr Muhammad Akhtar Bhatti	M	Coordinator	PWP	muhammadabhatti@hotmail.com +92 334 994 6353
22	Sri Lanka	Mr Lal Induruwage	M	Regional Coordinator	GWP SAS	l.induruwage@cgiar.org +94714923328
23	Sri Lanka	Mr Ranjith Ratnayake	M	Coordinator	SLWP	R.RATNAYAKE@CGIAR.ORG +94721212270
24	Sri Lanka	Ms Diluka Piyasena	F	Communication Coordinator	GWP SAS	D.Piyasena@cgiar.org +94773178244
25	Sweden	Ms Angela Klauschen	F	Senior Network Officer	GWPO	angela.klauschen@gwp.org
26	Sweden	Mr Kenge Gunya	M	KM Officer	GWPO	kenge.james.gunya@gwp.org
27	Switzerland	Ms Zaki Shubber, LLM	F	Lecturer in Law and Water Diplomacy	IHE Delft Institute for Water Education www.un-ihe.org	z.shubber@un-ihe.org +31 15 215 2360
28	USA	Ms Melissa McCracken	F	PhD Canada, Researcher	Ohio State University (OSU), USA	mccrackm@oregonstate.edu +1 (858) 354-1539
29	Uzbekistan	Ms Elena Tsay	F	Programme Assistant on Water Education	UNESCO Tashkent Office 9, Ergashev street Tashkent city, 100084, Republic of Uzbekistan GWP CACENA	elen.tsay@gmail.com +998 90 3260257