Training Report

Pan-Asia Capacity Development Training Workshop on Water Governance: International Water Law and Multi-Stakeholder Processes

13-15 December 2018,
Yunnan University,
Kunming, China

List of Acronyms

AIRC	Asian International Rivers Center
EU	European Union
GIDMAPS	Global Integrated Drought Management and Protection System
GWP	Global Water Partnership
ICJ	International Court of Justice
IFAS	International Fund for Saving the Aral
IWL	International Water Law
IWRM	Integrated Water Resources Management
LMC	Lancang-Mekong Cooperation Mechanism
LMEC	Lancang-Mekong Environmental Cooperation Center
LMWRC	Lancang-Mekong Water Resources Cooperation Center
MRC	Mekong River Commission
NARBO	Network of Asian River Basin Organisations
NGO	Non-Governmental Organisation
PNPCA	Procedures for Notification, Prior Consultation and Agreement
RBO	River Basin Organisation
SDG	Sustainable Development Goal
UNECE	United Nations Economic Commission for Europe
UNESCO	United Nations Economic, Social and Cultural Organization
UNWC	United Nations Convention on the Non-navigational uses of International Watercourses (1997)

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Acknowledgements

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[1] Please refer to GWP finance report for list of GWP core donors.

1. Introduction

Across Asia, there has been recognition that regional cooperation in the management and development of water is needed to support economic and social development, as well as regional political stability and peace. As water scarcity intensifies, so does the reliance of countries on transboundary water resources which increase interdependences between or among riparian states. Geographically, transboundary water resources management in Asia can be grouped according to 4 sub-regions: South Asia, Central Asia and Southeast Asia, with China located in the center of all three regions. Sharing 110 international rivers and lakes, and being home to most of Asia's great rivers that flow into 18 downstream countries, China is considered the water tower of the region.

Effective and coordinated management of transboundary water resources and effective cooperation across borders are among the major challenges that organizations, national governments, and regional bodies face. It is therefore essential to provide tools that will enable transboundary water resources to be managed efficiently, sustainably and equitably. This entails an understanding of the shared benefits resulting from sound water management and the establishment of collaborative governance mechanisms between and among concerned countries; as well as an enhanced understanding of different modalities of multi-stakeholders engagement in management of transboundary waters.

In order to facilitate cooperation through south-south/peer-peer learning and exchange of experiences among transboundary water practitioners, Global Water Partnership (GWP), as a neutral stakeholder, facilitates capacity development and collaboration to build synergy among stakeholders in integrated approaches to better water management. After successfully completing such training in Central & South America and Africa, GWP, together with the Asian International Rivers Centre (AIRC), the International and Institute of International Rivers and Eco-Security at Yunnan University as well as the Network of Asian River Basin Organizations (NARBO) organized the *Pan-Asia Capacity Development Training Workshop on Water Governance: International Water Law and Multi-Stakeholders Processes* at Yunnan University, in Kunming, China. The training was hosted by AIRC from Thursday, December 13 to Saturday, December 15th, 2018. The facilities provided by AIRC ensured that the training was effective for participants. Prior to the training, participants were asked to complete a 5 module, massive open online course on international water law created by the University of Geneva and offered on Coursera.

2. Opening Remarks

In her opening remarks, Dr. Yumiko Yasuda, Senior Network Officer at GWP, welcomed the participants, who come from countries across Asia, to the workshop. She thanked the contributors, particularly Prof. Daming He, Director of the AIRC, and Prof. Wenling Wang, also of the AIRC, for hosting the workshop. She also thanked various partner institutions including the World Bank, United Nations Economic Commission for Europe, the facilitators and rapporteur. After explaining the impact of transboundary watercourses on states and people around the

Picture 1 Opening remarks by Yumiko Yasuda

world, she went on to discuss the role of GWP. As an international organization, GWP works around the world to provide assistance, support dialogue, conduct capacity building and assist in knowledge management. This training, as a capacity building exercise, first began at the Centre for Water Law and Policy under the auspices of UNESCO at the University of Dundee, Scotland. However, participants in those early workshops expressed a desire for regional workshops, with the first such regional workshop being held in Latin America. Through these workshops, GWP has established a network of practitioners in the region, bringing those who work directly with transboundary waters together to discuss their joint management. China, as a hydrologically central state in the region, was a natural choice to host this workshop with representation from all regions.

In his brief remarks, Prof. Daming He welcomed participants to Kunming and to Yunnan University. Yunnan University was established in 1922 as Donglu University, a private institution, later to become Yunnan University, a national university recognised as one of the top 42 universities in China. The AIRC was established in 2000 as a not-for-profit academic institution with a focus on international rivers. Referred to as the Asian Water Tower, China is a centrally located riparian state for large portions of Asia, and development on its transboundary waters is increasing. Yunnan is situated on several rivers shared with the Southeast Asian States.

Dr. Barbara Janusz-Pawletta, GWP Technical Committee Member and UNESCO Chair in Water Management in Central Asia at the German-Kazakh University, concluded the opening session by once again welcoming the participants and reviewing the structure of the workshop. Divided into 6 sessions spread over 3 days, the workshop was designed to provide participants with a firm foundation in the law of international watercourses and the ways in which multiple stakeholders can be represented in water governance processes. Each session will comprise of lectures on one aspect of the law of international watercourses, followed by case studies presented by participants concerning that theme in their home country. Each session will also include exercises where participants work in groups to discuss the implementation of these principles at multiple levels. *See Appendix 5 for more information on these group exercises*. After a brief overview of the programme, Dr. Janusz-Pawletta facilitated the participants as they introduced themselves, where they are from and their connection to transboundary water resources.

3. Day 1, Thursday, December 13th

a. Session 1 - Introduction

Introduction to International Water Law & Quiz

Presentation by Dinara Ziganshina, Interstate Commission for Water Coordination in Central Asia & Quiz facilitated by Dr. Barbara Janusz-Pawletta, German-Kazakh University and GWP

In this session, Dr. Ziganshina introduced participants to the general concept and goal of the law of international watercourses. She first introduced participants to international law, and then to the various elements of international water law, highlighting the similarities and differences between national and international legal systems. All participants are familiar with the basic elements of domestic legal systems, including vertical structures of legislative, judicial and executive branches. International law, however, is a horizontal system created, implemented and enforced by sovereign states. This system of principles and rules has various sources, including a) international agreements, treaties, etc., b) international custom, c) general principles, d) judicial and arbitral decisions, and e) doctrines of international law. With these sources and structure, international law provides both an operative system and a normative system for international relations in the sense that it provides for the structure and processes of state relations, but also the aspirations and values to which states should aim. In doing so, however, international law must find a balance between a variety of concerns (stability/predictability v. change/flexibility; generality v. specificity; common values v. self interest; states v. other actors). It is in this context that IWL provides the systematic and normative framework for the joint management of transboundary water resources, assisting in identifying the rights and obligations regarding development and management.

IWL has developed via four primary sovereignty claims: absolute territorial sovereignty, absolute territorial integrity, limited territorial sovereignty and the community of interests. As both absolute territorial sovereignty and absolute territorial integrity lead to a self-interested claims that do not take into consideration the rights of others, IWL has formed around the notion of limited territorial sovereignty, which provides all states with the equal right to utilize. Five basic components of legal regimes to be addressed for each particular case include: scope, substantive norms, procedural norms, institutional mechanisms and dispute prevention and settlement. Even if there are no agreements in place, states are still obligated by the applicable customary rules, such as equitable and reasonable use, no-significant harm, minimum flow, and more. These customary rules are in many ways embodied in the two global conventions, the 1997

United Nations Convention on the Law of Non-Navigational Uses of International Watercourses (UNWC)[2] and the 1992 UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes (UNECE Water Convention), [3] both of which are in force and open globally for accession. Both Conventions have limited parties around the world, but the number is growing.[4]

Picture 2 Participants complete a quiz on IWL.

Following the presentation, Dr. Barbara Janusz-Pawletta led the participants in a quiz to test their knowledge of international water law from the online component of the workshop. Participants were split into pairs and given 15 minutes to complete the quiz together. After it was complete, Dr. Janusz-Pawletta led the workshop in a review of each question, with a prize for the pair with the highest score.

Why are Stakeholders Important? Multi-Track Water Diplomacy

Presentation by Dr. Yumiko Yasuda, GWP

In her presentation, Dr. Yumiko Yasuda elaborated on stakeholders in transboundary water management and the role that they can play. With the various uses of transboundary waters there are a variety of stakeholders across various jurisdictions – both domestic and national. These stakeholders may include, but are not limited to, media, governments, academics, the private sector, the international community, Non-Government Organisations (NGOs)/Civil Society Organisations and riparian communities. The level of engagement that these stakeholders have varies, depending on their ability to participate in decision making, formulate or react to options, and the level of information available. Using Arnstein's Ladder,[5] Dr. Yasuda

[2] UNWC, United Nations Convention on the Law of Non-Navigational Uses of International Watercourses (UNGA 51/229) (1997). Available at: http://legal.un.org/ilc/texts/instruments/english/conventions/8_3_1997.pdf

[3] UNECE, Convention on the Protection and Use of Transboundary Watercourses and International Lakes (1992). Available at:

[4] The UNWC came into force with the accession of Vietnam. It currently has 36 parties. See: https://treaties.un.org/Pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-12&chapter=27&lang=en The UNECE Water Convention currently has 43 parties and is open globally for accession. See: https://treaties.un.org/pages/ViewDetails.aspx?src=TREATY&mtdsg_no=XXVII-5&chapter=27&clang=_en

[5] Developed by Sherry Arnstein, the ladder is a method to conceptualize and compare various levels of participation based on the amounts of power held by citizens. It involves 8 kinds of participation (manipulation, therapy, informing,

highlighted the varying degrees of participation with low levels of participation to high levels of citizen control.

Regarding transboundary waters this is evident in the emerging concept of Water Diplomacy,[6] a dynamic process of diplomacy involving state and non-state actors that assumes that cooperation concerning water will create a mutually beneficial situation for all involved. This kind of diplomacy emerges through a variety of mechanisms and measures, ranging from agreements and joint institutions to training, capacity building and benefit sharing. These mechanisms occur across various tracks of diplomacy, including track I (government to government), track II (unofficial dialogue to build relationships), and track III (people-to-people diplomacy), but also in hybrid forms such as Track 1.5 (official and non-official actors working to resolve conflict), and multi-track diplomacy (working across multiple tracks). This is evident in both the Brahmaputra River and the Lower Jordan River, where multiple stakeholders are working across scales and tracks to jointly manage the shared water resources. Dr. Yasuda, however, acknowledges that there are certain common denominators that are needed for effective multi-stakeholder diplomacy, including effective river basin organizations (RBOs), a mutual gains approach rather than a zero-sum approach, and the stabilization of regional territorial issues.

b. Session 2 - Substantive Norms: Implementing Equitable and Reasonable Utilisation & No-Harm Principle in Practice: Best Practices from Asia

Introduction to Substantive Norms and Equitable and Reasonable Utilization

Presentation by Huiping Chen, School of Law, Xiamen University

In her presentation, Professor Huiping Chen introduced the substantive principle of equitable and reasonable use in the law of international watercourses. Professor Chen first reviewed the sources of international law and their relation to IWL. IWL is comprised of both substantive and procedural norms, but she will focus on the substantive rule of equitable and reasonable use. As previously discussed, IWL evolved via four primary sovereignty claims: absolute territorial sovereignty, absolute territorial integrity, limited territorial sovereignty and the community of interests. Equitable and reasonable use, which is based on the equality of right of limited territorial sovereignty, is found in Article 5 of the UNWC. It states that states "shall in their respective territories utilize an international watercourse in an equitable and reasonable manner," and that development of the shared water resources should be done "with a view to

consultation, placation, partnership, delegated power and citizen control) divided into three categories (non-participation, degrees of tokenism and degrees of citizen power).

[6] P. Huntjens, et al., The Multi-track Water Diplomacy Framework: A Legal and Political Economy Analysis for Advancing Cooperation over Shared Waters. (2016). Available at: http://internationalwatercooperation.org/wp-content/uploads/2017/08/THIGJ_The-Multi-track-Water-Diplomacy-Framework_Webversion-1.pdf

attaining optimal and sustainable utilisation" of the shared water resources. [7] As such, Prof. Chen explained that the principle aims to reconcile various interests concerning transboundary watercourses, and acts as the fundamental doctrine of water sharing. This does not imply that each state will get an equal share of water, but that they are entitled to an equitable share – one that achieves a fair and just balance of the interests of all states. Determining what is "equitable and reasonable" however, requires consideration of a variety of factors outlined in UNWC Article 6, including geographic considerations, social and economic needs, population, effects of the use, existing and potential uses, environmental considerations, the availability of alternatives, however special regard must be given to vital human needs.

An Obligation Not to Cause Significant Harm

> *Presentation by Dinara Ziganshina, Interstate Commission for Water Coordination in Central Asia*

In her second presentation, Dr. Ziganshina discussed the second of the substantive rules, the due diligence obligation not to cause significant harm. In international law it is commonly accepted that states cannot use their own territory in ways that harm others. This doctrine has typically been favoured by downstream states even though harm can flow upstream as well. Harm, however, is discussed in terms of the threshold "significant". Represented in Article 7 of the UNWC, the obligation not to cause significant harm requires states to "take all appropriate measures to prevent the causing of significant harm to other watercourse States." Furthermore, in the event that States do cause harm, they shall "take all appropriate measures, having due regard for the provisions of Articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation."[8] As an obligation of conduct, this requires states to take all appropriate measures, requiring flexibility on behalf of states to balance the risks associated with their activities within the context of their own capacities. All appropriate measures can include a variety of actions illustrated in Article 2 of the UNECE Water Convention which sets out various principles and practices that would be required of States,[9] but ultimately the responsibility to prove that "all appropriate measures" has been taken falls onto the State taking those measures. These measures under the obligation not to cause significant harm, however, fall under the principle of equitable and reasonable use as harm is one factor that is to be taken into consideration when determining what is equitable and

[7] UNWC, Art. 5.
[8] UNWC, Art. 7(2).
[9] UNECE Water Convention, Art. 2.

reasonable. This process can be illustrated in the Aral Sea Basin, as well as the *Pulp Mills Case*[10] and *Indus Water Kishenganga Case*.[11]

Case Study - Impact of Climate Change and Indus Water Treaty on Downstream Catchments

Presentation by Akif Rahim, Punjab Irrigation

In his presentation, Mr. Akif Rahim illustrated the importance of these principles to the Indus River Basin from the perspective of Pakistan. The Indus Water Treaty divides the waters of the Indus between Pakistan and India, where Pakistan is given exclusive access to the three western rivers, and India given exclusive access to the three eastern rivers. In spite of many challenges in their relationship, the Indus Treaty has been implemented throughout. It provides the two countries with the exclusive rights to sets of rivers and establishes the Permanent Indus Commission as a channel of communication between the two. In spite of its successes, the Indus faces significant challenges due to climate change. For example, 50-70% of the river flow comes from snow melt, and rising temperatures means that the flow is slowly decreasing over time. Upstream development, such as the Kishenganga dam, will also have adverse impacts on downstream Pakistan.

Group Exercise - Equitable and Reasonable Use in the Pandal Basin

Led by Yu Su and Huiping Chen, Xiamen University

Participants were provided with a fictional scenario of the Pandal Basin with both an upstream and a downstream state. In this scenario, the upstream state, Ordon, wished to develop hydropower on its portion of the river. *For the full details of this scenario, see Appendix 5.* Participants were divided into 6 groups of 5-6 members, three groups representing Ordon and three groups representing Gandor. Internally, each group member was assigned a role of a stakeholder in that country and then, provided with the relevant provisions of the UNWC, groups were to discuss and determine their position on what would be an equitable and reasonable solution to the hydropower development. Groups were then paired with a group from their riparian neighbour for a mock RBO meeting to discuss what is considered equitable and reasonable in that situation. This was followed by a reflection period to discuss what the participants had learned and realized regarding the principles discussed in this session, with a focus on how IWL framed the conversations that were had in their groups.

[10] In this ICJ case between Argentina and Uruguay, Uruguay constructed a pulp mill on the Uruguay River. Argentina argued that Uruguay violated the Uruguay River Statute as it did not notify Argentina of the construction project. The court found that Uruguay failed to notify Argentina, however did not order the closure of the pulp mill as it did not pollute the river.

[11] Pakistan submitted this case to the Permanent Court of Arbitration, as it believed that India's construction of the upstream Kishenganga Dam would effect the flow of the Neelum River. The Court found that India could divert the water, but was obligated to leave a minimum amount as environmental flows.

a. Session 3 - Procedural Norms: Implementing Legal Mechanisms : Best Practices From Asia

Introduction to the Procedural Norms

Presentation by Huiping Chen, Xiamen University

In her second presentation, Prof. Chen provided an introduction to the procedural rules of IWL, focussing on prior notification, information sharing, and consultation.[12] Under the UNWC, states are obligated to notify other states of their planned measures when it is possible that such planned measures will cause significant harm. Such notification must be timely, prompt and early on the side of the state planning measures, however this also requires a timely response on behalf of the notified state. Throughout this notification process, the planned measures state cannot proceed. States are also obligated to regularly share readily available information with riparian neighbours concerning the conditions, emissions, permits and regulations, measures, among other things. Finally, upon notification States are required to enter into consultations with the affected State concerning their planned measures with the aim of coming to a mutually agreed upon decision.

Case Study - PNPCA of the 1995 Mekong Agreement and its Implementation

Presentation by Saranpat Piriyaprasit, Mekong River Commission Secretariat

After providing an overview of the dynamics of the Mekong River Basin, Ms Saranpat Piriyaprasit provides us with insight on the Mekong River Commission (MRC) and its inner workings in relation to Procedures for Notification, Prior Consultation and Agreement (PNPCA). The MRC has four member countries (Cambodia, Lao PDR, Thailand and Vietnam) and two dialogue partners (China and Myanmar). Institutionally, the MRC consists of a Council, Joint Committee and Secretariat as well as National Mekong Committees and a Donor Consultative Group. The MRC works to facilitate the implementation of the

Picture 3 Participants discuss the substantive rules in groups as part of a group exercise.

[12] Prior Notification, UNWC, Art. 12; Consultation, UNWC, Art.17; Information Exchange, UNWC, Art. 9.

1995 Mekong River Agreement which obligates parties to cooperate "in all fields of sustainable development, utilisation, management and conservation of the water and related resources of the Basin."[13] In order to reach this goal, the Mekong Agreement includes both the substantive and procedural rules found in the global Conventions. It also includes a suite of procedural rules, including those for information exchange, water use monitoring, water quality, maintenance of flows on the mainstream and PNPCA. These procedures have been utilized on 49 projects that have been submitted to the MRC by member states, with 4 projects (Xayaburi, Don Sahong, Pak Beng and Pak Lay dams) currently in the PNPCA process.

Case Study - Transboundary Water Management in the Rhine River

Presentation by Damian Shea, North Carolina State University & Yunnan University

With a focus on scientific perspectives, Dr. Damian Shea provided an overview of a success story of cooperation, the Rhine River basin. The Rhine is divided unevenly over 9 countries: Germany, Switzerland, France, the Netherlands, Italy, Austria, Liechtenstein, Luxemburg and Belgium. These countries jointly manage the Rhine via the International Commission for the Protection of the Rhine. This RBO consists of a plenary assembly, coordinating committee and strategy groups. It also includes various working groups on floods, water quality/emissions, ecology and a project group on micro-pollutants. Cooperation on the Rhine has a long history, but quickly developed in response to a fire at an agrochemical warehouse in Basel, Switzerland in 1986 which released 30 tons of agricultural chemicals into the river, destroying aquatic life and closing the river as a source of drinking water for 20 days. This spurred action, resulting in the 1987 Rhine Action Program which provided robust procedural rules, including prior notification, information sharing and consultation. This cooperation later led to the European Water Framework Directive (2000), the European Directive on Assessment and Management of Floods (2007) and other water policy initiatives by the EU.

Case Study - Regionalization of the Global Integrated Drought Monitoring and Prediction System (GIDMAPS) for Afghanistan

Presentation by Khadiha Jawadi, Environmental Conservation Specialist Organization of Afghanistan

In her presentation, Dr. Jawadi provides us with an overview of the GIDMAPS system in Afghanistan. Over the past several decades Afghanistsan has experienced a series of droughts, impacting the economic, political, and agricultural sectors, among others. Climate models predict that Afghanistan will experience major changes in regards to the amount and distribution of precipitation, directly impacting the availability of water resources. With the development of the

[13] Cambodia-Laos-Thailand-Vietnam, Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin (Mekong River Commission 1995), Art. 1.

GIDMAPS research, the objective is to implement a drought monitoring system in Afghanistan's river basins, 4/5 of which are transboundary.

Group Exercise - The Procedural Rules

Led by Damian Shea, North Carolina State University & Yunnan University

Utilizing the bilateral example of the Pandal Basin from Session 2, Dr. Shea led the participants in a group exercise regarding the procedural rules. Participants were grouped in the same groups and roles as the previous exercise, but this time were asked to consider what kinds of procedural mechanisms they would want in place so as to support the determination of what is equitable and reasonable for two new projects in the Pandal Basin, a mining operation and large scale agricultural development. After a brief presentation regarding the flow of pollutants in river systems, participants began the exercise. *For instructions on this exercise, see Appendix 5.*

Picture 4 Professor Lingjie Kong discusses dispute settlement in the UNWC.

4. Day 2: Friday, December 14th

The second day began with a recap led by Dr. Yumiko Yasuda. Students were divided into two groups based on their favourite session from the previous day. One group preferred the session on substantive rules, whereas the other preferred the afternoon session on procedural rules. In her role, Dr. Yasuda asked the students what they had learned on the previous day, refreshing their memory and preparing them for Day 2.

a. Session 4 - Dispute Settlement Mechanisms: Negotiations, Mediation, Good Offices, Conciliation, Arbitration, Court – Best Practices from Asia

Settlement of Transboundary Water Disputes Under International Law

Presentation by Lingjie Kong, Wuhan University

Professor Lingjie Kong provided an overview of the dispute settlement mechanisms available to states regarding the law of international watercourses. Dispute settlement is based upon the basic principles of international law, including sovereign equality, peaceful settlement of disputes, non-threat/use of force, consent/consensus and agreement, and the notion that international obligations shall be fulfilled in good faith. Found in Article 33 of the UNWC, when a dispute arises "concerning the interpretation or application" of the Convention, and "in the absence of an applicable agreement between them, seek a settlement of the dispute by peaceful means." It goes on to state that parties "may jointly seek" good offices, mediation or conciliation by third party, make use of joint institutions, or submit the dispute to arbitration or the International Court of Justice (ICJ). However, if no solution has been found within 6 months, parties shall submit the dispute to impartial fact-finding, unless they agree otherwise. This is compulsory, but the result of such fact-finding is not binding. When resolved legally through the ICJ, the dispute goes through a long process first to determine if a dispute exists, and then to determine the subject matter, nature and scope of the dispute. Once these issues have been decided upon, the ICJ will need to decide how international conventions, custom, and general principles apply to the case.

Treaties in Theory and Practice: What Happens in the Room

Presentation by Aaron T. Wolf, Oregon State University & Yunnan University

After learning the basic rules and principles of IWL, Professor Aaron T. Wolf shared his experience on what happens in negotiating rooms. While law is a good place to start and end the discussion, the middle requires significant negotiation and policy discussion. Throughout this part, there must be a focus on process – asking for consent from those involved, not taking it. These kinds of solutions where negotiations "bring a room full of people to the room full of people solution" are enduring. At Oregon State University, Professor Wolf and his team have established the Transboundary Freshwater Dispute Database, collecting references to 3600 water-related treaties. Many of these treaties have aspects of the global conventions which provide an umbrella for their establishment, but in order to define the legal terms their must be negotiation.

There are three primary aspects of water allocation – quantity, quality and timing. In spite of their importance, not every treaty reflects these important aspects. The global conventions provide the most basic of rules, acting as a framework for other agreements. These treaties, the highest

Picture 5 Professor Aaron Wolf discusses negotiation strategies.

source in international law, illustrate an agreement on process, however disputes regarding data persist. It is often the case that engineers negotiate agreements, inviting lawyers at the end of the process to make these agreements more legal. For example, during the negotiations of the Johnston Agreement (Israel, Jordan, Lebanon and Syria), the borders were removed, scientific data was utilized to establish the basis of agreement (the flow of water due to gravity), and then boundaries were placed back on the map. Disagreement on the science, however, persisted.

When discussing state positions and the process which they follow, they can be grouped into initial positions, interim positions, agreement and implementation. Furthermore, when allocating scarce resources, we need to take into consideration personal and spiritual needs, subsistence agriculture, subsistence industry, critical ecosystems, industrial agriculture and commercial industry. This requires institutional capacity with the ability to share benefits, for example, via water sharing, payments for water or benefits, purchase agreements, finance or ownership agreements or via bundling these together.

Case Study - The Mahakali Treaty: An Experience of Negotiation

> *Presentation by Surya Nath Upadahyay, Former Secretary to the Ministry of Water Resources & Nepal Water Partnership*

Negotiation is one of the key pathways for dispute settlement and is often found acceptable to the disputing parties. In this presentation, Mr. Surya Nath Upadahyay provides a case study of the Mahakali Treaty and the role that negotiation has played in joint management of the river. Cooperation is often motivated by benefit sharing, the minimization of risks and the promotion of good relationships. The Mahakali River is shared between China, Nepal and India. After the construction of the Tanakpur Barrage without consultation or notification, Nepal and India sought to establish better relations, ultimately establishing the Mahakali Treaty. In order to do so, Nepal and India entered into negotiations, however this was complicated by domestic developments in Nepal. For example, the new constitution of Nepal required two thirds approval in government for it to accept the treaty, and therefore negotiations needed to be conducted in a way that would satisfy the people of Nepal. This highlights that negotiations are not only between states, but must also be approved at home. Furthermore, they must minimise negative

impacts, while also establishing mutual gains for both parties. As a framework treaty, however, Mr. Upadahyay expressed that a framework agreement was not the best solution, and that more precise water allocations would have made the treaty more successful.

Case Study - Geopolitical Perspectives on the Kosi River Treaty: India and Nepal

Presentation by Muraree Lal Meena, Indian Institute of Technology

In this case study, Dr. Muraree Lal Meena discussed the Kosi River Treaty and its process of development. The Kosi Basin is shared between India and Nepal and is the 3rd largest tributary of the Ganga. Relations between India and Nepal over the river have gone through 4 phases: relations with British India (until 1947), the period of the Kosi and Gandak Treaty (1950-1966), proposal and counter proposals (1966-1990) and the re-emergence of mega projects (1990 – present). The Kosi Agreement was signed in an effort by both riparians to tame the river for flood control, electricity generation and irrigation. The Treaty provides for the prior approval of the Nepalese government, guarantees Nepalese sovereignty over its territory, royalties for power generation, and the opening of the Hanuman Nagar bridge to public use. It also provided significant benefits for Nepal, including fishing rights of the river to Nepal, provided that preference shall be given to Nepalese labour, and navigation rights. In spite of its success, there are ongoing concerns regarding control and operation of the Kosi barrage, a lack of mutual trust and a lack of proper implementation of the treaty regime.

Case Study - Dispute Resolution and Negotiation Using International Water Law: The Case of the Helmand River

Presentation by Mohammad Najim Nasimi, Kabul Polytechnic University & Afghanistan Water and Environmental Research Centre

In this presentation, Mr. Mohammad Najim Nasimi discusses dispute resolution in the Helmand River Basin. Afghanistan has five river basins, four of which are transboundary and shared with six countries. As an endorheic basin, one that does not go to the sea but to a central basin, these shared rivers are susceptible to decline and have experienced an 80% water loss globally. In these basins cultural concerns also need to be taken into consideration as the Baluchi people live across three countries (Afghanistan, Pakistan and Iran), however, each country is developing their waters on their own point of view without coordination and support from this ethnic group. Furthermore, there is significant water related projects going on in the region, including large scale artificial precipitation and tracking projects supported by China, and analysis to determine available groundwater resources. Of all of the transboundary basins only one is covered by a treaty, the Helmand River Treaty (1973). This treaty, spurred by drought conditions in the early 70s, faces significant difficulties due to a lack of trust, the continued building of reservoirs, vague wording of the treaty which has led to disagreement, and little development coordination between neighbouring states. Mr. Nasimi recommends the establishment of an expert group on endorheic basins to bridge engineering and legislation and for the localization of the interests of ethnic groups to involve them in project development.

Group Exercise – Negotiation: Sharing Values, Interpersonal Skills

Presentation by Aaron T. Wolf, Oregon State University & Yunnan University

In this group exercise, Professor Wolf led the participants in an interactive session on negotiation. Participants first identified what kinds of skills are required, including facilitation, negotiation, personal skills, etc. In terms of water resources, those in the field often see the basin as a unifying unit that is connected, however as a society we draw lines over them in the form of borders. Prof Wolf then led the participants in an exercise. Participants were paired with the person next to them, and put into an arm wrestling position. They were instructed that every time their hands touch the table they get a point and that the goal is to get as many points as possible. Surprisingly, nearly all of the participants took it as a competition, stopping their partner from forcing their hand to touch the table. Participants automatically went into an adversarial position, highlighting the difference between interest and positions. For example, a farmer wants water for irrigation to make money, to farm as a way of life, etc. Paying them to stop farming only works for those who farm for money, not for those who farm as a way of life. There are a variety of water users including industry, environment, agriculture, navigation, domestic, etc. Each of these is portrayed as if they are competing, but Professor Wolf highlights that they are not. These conflicts are brought on by competing interests, not necessarily a shortage of water. Negotiation need to navigate through these factors, separating the people from the problem, focussing on interests, inventing options and insisting on objective criteria.

Picture 6 Participants take part in a cooperative game led by Prof. Aaron Wolf.

Prof. Wolf then led the participants in a second exercise. Participants individually wrote down three things that bother them. In pairs, each was assigned a role as a listener, or a speaker. Speakers chose one of the three things that bothered the listener, and listeners were to listen as the speaker argued that one of the things that bothered them was actually a positive thing. Even though the speaker does not necessarily believe in what they are saying, the listener feels anxious and has a physical response to the conversation. Prof. Wolf recommends using these signals as a warning sign to stop negotiations, and to decide how best to move forward. In doing so, negotiations can move from emotional to mental, and from mental to spiritual. Comparing this

to Maslow's Hierarchy of Needs,[14] Prof. Wolf concludes with an analysis of examples including the Jordan Basin, and Nile Basin.

b. Session 5 - Multi-Stakeholder Processes: Stakeholders Engagement/Contribution in Transboundary Water Cooperation: Best Practices from Asia

Introduction - Multi-Stakeholder Engagement Over Transboundary Water

Presentation by Aaron T. Wolf, Oregon State University & Yunnan University

To begin this session, Prof. Aaron Wolf introduced participants to alternative forms of multi-stakeholder processes. He begins by reminding participants that every map has a view point, followed by an overview of some of the roles of various stakeholders. Those of us who engage with stakeholders often forget that water can be celebrated as a joyous thing. This is exemplified through river festivals, which are held around the world as a celebration of rivers and the benefits they bring us. Water also has various champions that lend their status to water causes, including Leonardo DiCaprio and Matt Damon, among others. Corporations also play a large role as they have a presence around the world and have the resources and capacity to assist. Faith communities can also play a large part especially among those with shared faith as they can assist with reconciliation and have moral authority within the community. Prof. Wolf then went on to describe how these kinds of negotiations have played out in various river basins. Israel and Palestine, for example, had different interests (Israel wanted to problem-solve while Palestine wanted recognition of its history) but both valued respect and sovereignty. A solution was found through the concept of "rightful allocations", meeting the values and interests of both.

Case Study - The ICPDR: A Danube Basin-wide Approach to Stakeholder Engagement

Video Presentation by Ms. Hélène Masliah-Gilkarov, ICPDR Permanent Secretariat

Ms. Hélène Masliah-Gilkarov, ICPDR Permanent Secretariat, was unable to join the workshop, but prepared a presentation with pre-recorded audio for participants. In her presentation, Ms. Masliah-Gilkarov focussed on the International Commission for the Protection of the Danube River (ICPDR) and its role in stakeholder engagement. The Danube is shared by 9 EU states and 5 non-EU states. Each of these states are members of the commission, which discusses a broad range of issues. The ICPDR has a legal mandate provided by the Danube River Protection Convention and implements public participation in line with Article 14 of the Water Framework

[14] Developed by Abraham Maslow, Maslow's Hierarchy of Needs is a pyramid shaped diagram of human needs with the more basic needs at the bottom, moving up to higher-level needs. From the bottom moving up, this includes: physiological, safety, love/belonging, esteem & self-actualization. It illustrates how our needs impact our behaviours and motivations.

Directive. [15] This participation concerns the direct collection of comments, stakeholder consultation workshops, social media campaigns and online questionnaires. The ICPDR also undertakes other initiatives for stakeholder engagement, including Danube Day, the largest river festival in the world, as well as the publication of Danube watch Magazine as a tool for creating interest and reminding stakeholders of the role of the ICPDR. These activities fall into the various instruments the ICPDR uses for public participation, including a public participation expert group, outreach activities, public information, social media and inter-sectorial dialogue. There are also 23 observer organizations who can participate in plenary groups. The ICPDR acts at all levels (community, national and regional) on its 3 pillars of action – cleaner water, healthier home for aquatic animals and plants and a safer environment for people.

Case Study - Transnational Policy Dialogue for Improved Water Governance of Yarlung Brahmaputra Jamuna River

Presentation by Arundhati Deka, Indian Institute of Technology & Xiawei Liao, World Bank

There is significant mistrust between riparian neighbours in the Brahmaputra River basin, with negotiations often held bilaterally and confidentially, with token public involvement, with cooperation based on a state-centric view. In order to build trust at all levels, the Brahmaputra Dialogue was formed. Originally a bilateral, track 3 dialogue between India and Bangladesh, it has evolved to involve Bangladesh, Bhutan, China and India across Tracks 1.5, 2 and 3. The Brahmaputra Dialogue collaborates with a variety of institutes, knowledge partners and government representatives to achieve its goal of bringing together the four riparians for dialogue on co-management. Thus far this has included significant work on knowledge sharing across a wide spectrum of river basins, as well as capacity building to break down myths and enable a level playing field. They have also identified a series of entry points to cooperation such as joint research, institutional basin mapping, and inland water navigation. China has played a large role in the Dialogue, and various institutions will host workshops in China in the near future. The Dialogue has also identified and established relations with various allies in China which can assist in collaborative dialogue for trust-building.

Case Study - Stakeholder Engagement from the Mekong: The Mekong River Commission

Presentation by Ms. Hai Nhu Duong, Mekong River Commission Secretariat

[15] Article 14 of the Water Framework Directive indicates that parties "shall encourage the active involvement of all interested parties in the implementation of this Directive, in particular in the production, review and updating of the river basin management plans." It goes on to list a variety of information and documents that should be widely available, and others that should be available upon request.

After a brief overview of the Mekong River, Ms. Hai Nhu Duong, Mekong River Commission Secretariat, provided an overview of the methods the MRC uses to engage stakeholders. The MRC has 4 member states (Cambodia, Lao PDR, Thailand and Vietnam) and two dialogue partners (China and Myanmar). It is comprised of a council, a joint committee and a secretariat. Based on the Mekong Agreement, the MRC has 5 core functions: 1) data acquisition, exchange and monitoring, 2) analysis, modelling and assessment, 3) basin planning, 4) implementation of the MRC procedures, and 5) forecasting and warning. It has also established a basin-wide development plan, and guidelines to enhance various national projects. The MRC conducts routine monitoring through the basin, with information sent to its central servers, much of which is available online in the MRC Data and Information Sharing System. Stakeholders are primarily engaged via organized meetings to discuss concerns, educational activities and inviting them to share their views. There are plans to increase public participation, however, as indicated in the Strategic Plan.

Picture 7 Zaw Lwin Tun discusses the IWRM approach.

Case Study - Multi-Stakeholder Platform for the Lancang Mekong River

Presentation by Zaw Lwin Tun, Irrigation and Water Utilization Management Department, Myanmar Water Partnership & NARBO

The facilitation and implementation of IWRM is not an easy task, and requires compromise. It becomes increasingly complicated in transboundary settings, requiring a shared vision as a starting point for cooperation. This shared vision of the IWRM approach, however, requires negotiation. The Lancang-Mekong Water Resources Cooperation Center (LMWRC) was established in Beijing in March, 2017. GWP supports the LMWRC via its partnerships with GWP China, GWP Southeast Asia and China's Ministry of Water Resources. GWP and the LMWRC have agreed to provide an intergovernmental platform for decision making, which would allow for the establishment of a shared vision. The Lancang-Mekong Cooperation Mechanism (LMC), established under the theme "shared river, shared future", works in areas including human well-being, economic activities and development, and water related hazards. Through the establishment of a multi-stakeholder platform, it is hoped that GWP can connect stakeholders across levels and across regions.

Case Study - Multi-Stakeholder Participation in Transboundary Water Management: Case of the Lake Baikal Basin

Presentation by Eugene Simonov, Rivers Without Boundaries

In this case study Dr. Eugene Simonov provides an overview of the role of multi-stakeholder participation in the Lake Baikal Basin. The Lake Baikal Basin is shared between Mongolia and Russia with 70% of the basin in Mongolia. The region is a sacred place for Mongolian tribes, but is under threat due to a prolonged drought leading to quantity and quality problems in Mongolia and Russia. Mongolia has plans for 3 hydropower dams, two supported by the World Bank and one by Asian Development Bank. Of the 3, the most concerning is the Shuren Reservoir on the Selenge River, one of the primary sources of Lake Baikal, as it would significantly alter the flow of the river and thus, Lake Baikal. There are a variety of stakeholders in the region, including international national and local governments, corporations from both Russia and China, regional communities, and international institutions and NGOs, among others. However, due to the work of NGOs, Mongolia has paused hydropower construction and has instead invested in wind and solar energy, a stance that has been adopted as national policy to explore energy alternatives. Utilizing the high standards of the World Bank, NGOs submitted a complaint which led to a consultation process. Although the issue is not yet resolved, this highlights the various mechanisms for stakeholder engagement available in the Baikal Basin.

Group Exercise: Stakeholder Engagement at the National Level

Led by Professor Aaron Wolf, Oregon State University & Yunnan University

Prior to introducing the group exercise, Professor Aaron Wolf led the participants in a brief discussion on strategies and tips for successful negotiations. He lists five elements that are necessary for successful negotiations. These include: 1) the importance of listening instead of waiting to speak, 2) reframing things in simple words as a way of clarifying, 3) letting go of ownership of an idea and instead just putting it out there, 4) thinking in “and” not “or” – we can have both, and 5) the difference between consent and consensus. However, when an issue does occur within negotiations, it often helps to either make things larger or make them smaller and more nuanced. For example, the Nile Basin is often discussed in terms of the benefits that could be produced from cooperation, however Egypt’s only concern is its historic rights. However, if you think broader and consider both the White and Blue Nile, then a situation could be established that meets Egypt’s concerns. In the Okavango, the downstream was concerned about the impacts of upstream development. Collaborative modelling, however, illustrated that the downstream actually will not be impacted by said development.

The participants then used the last hour of the session to determine their state positions which would then be utilized in negotiations the following day. In groups of 5-6, participants returned to the Pandal Basin. This time, however, there were five states in the basin which were coming together to establish a plan for the sustainable development of the basin. Participants

were divided into five groups of 5-6 members, one for each state. Each group member was assigned a role of one stakeholder society. In their groups with various stakeholder roles, participants were to establish their states a) opening position, b) fallback position, c) red line issues and d) their best alternative to a negotiated agreement (BATNA or Plan B). The participants then used the last hour of the session to determine their state positions which would then be utilized in negotiations the following day.

5. Day 3: Saturday, December 15th

The third day began with a brief recap led by Dr. David J Devlaeminck. Students were divided into two groups based on their favourite session from the previous day. One group preferred the session on dispute settlement, whereas the other preferred the afternoon session on conflict resolution and negotiation. In his role, Dr. Devlaeminck asked the students what they had learned about on the previous day, refreshing their memory and preparing them for day ahead.

Online Partners Platform for Capacity Building on Transboundary Water Governance

Presentation by Yumiko Yasuda, GWP

In her remarks, Dr. Yasuda discussed the evolution of this training workshop and the proposed Online Partners Platform. This training course exists among 4 others, in Africa, Asia and Latin America. These training workshops had traditionally focussed on IWL, however they have since began to expand and incorporate wider transboundary water governance issues, in this case multi-stakeholder governance. In conducting these training workshops, however, several gaps have been identified, including: the importance of case studies, the replication of training, the importance of connecting facilitators with participants, and the possibility of an informal network. To close the gap, GWP has proposed the Online Partnership Platform for Capacity Building on Transboundary Water Governance, comprised of an online facilitator training guide and a network of partners and experts. GWP has a network of regional contributors that could be utilized for these purposes, however this also requires participation from regional practitioners and facilitators. In this session, participants expressed interest, further reflected in participant feedback – *see Section 6*.

The Sustainable Development Goals and Transboundary Water Cooperation Strengthening the SDG 6.5 Monitoring Process: Best Practices from Asia in Implementation of the SDG's

Joint Presentation by Yumiko Yasuda, GWP, & Dinara Ziganshina, Interstate Commission for Water Coordination in Central Asia

In their joint presentation, Dr. Yasuda and Dr. Ziganshina discussed the progress towards achieving SDG 6.5 and its two indicators 6.5.1 and 6.5.2. SDG 6.5 indicates that IWRM should be

implemented at all levels, including through transboundary cooperation, by 2030.[16] Beginning with Indicator 6.5.1, Dr. Yasuda discussed the recent reporting results from the questionnaire submitted to the UN. This questionnaire, which is a qualitative form of self-reporting, covered 4 areas: 1) an enabling environment, 2) institutions and participation, 3) management instruments and 4) financing. The results led to 3 key findings: First, implementation of IWRM principles in transboundary basins is generally in line with the implementation of those same elements at the national level. Second, financing these initiatives was a significant hurdle for all levels, including transboundary basins. Finally, there are major gaps in how IWRM is operationalized in practice.

Indicator 6.5.1 and 6.52 are mutually supportive as they address the two man aspects of the target of SDG 6.5 – IWRM and transboundary waters. Following up, Dr. Ziganshina presented the results from the indicator 6.5.2 questionnaires as prepared by the UNECE team. These questionnaires asked states if they have joint arrangements, and if those joint arrangements have various characteristics, including the surface area of a transboundary basin and the coverage by cooperative agreements, whether those agreements are operational (do they have a joint body, do they have regular communications, the existence of coordinated water management plans/objectives, regular exchange of information/data), and the area of the transboundary basin that is covered by operational arrangements. 107 countries responded, with an average of 59% of transboundary basins covered by operational arrangements in 2017/2018, and only 17 countries with all of their transboundary basins covered. The process of collecting this information highlighted necessary improvements, including: 1) the need for a clearer methodology with step-by-step instructions, 2) simplified questions, 3) a possible Guide for the questionnaire, 4) potential orientation and capacity building to address information gaps and facilitate responses, and 5) encourage countries to bring other stakeholders into the process so as to improve the quality of information. The next reporting cycle begins in June, 2018 with results released in early 2021.

Group Exercise - Stakeholder Engagement at the National Level (Continued)

Led by Aaron Wolf, Oregon State University & Yunnan University, & Yumiko Yasuda, GWP

In the second part of this exercise, Prof. Wolf led the participants in a mock negotiation regarding the sustainable development plan of the Pandal Basin. Tables were placed in an "L" shape, with state parties sitting on the outside and Prof. Wolf facilitating from inside the "L" shape. Only the foreign minister and one other group member from each team participated in the exercise. He began by asking each of the foreign ministers a simple question: Twenty years from now after our successful negotiations you are driving through the countryside, what do you see? Participants listed only positive things, including a strong economy, security and prosperity, clean rivers with safe water, peace and friendship, healthy people with opportunities available to them, etc. He then asked the opposite question: Twenty years from now after unsuccessful negotiations you are driving through the countryside, what do you see? Participants only saw negative impacts,

[16] SDG 6 provides that "to "ensure availability and sustainable management of water and sanitation for all".

including pollution, poverty, necessities not being met, deforestation, flooding and drought, famine and more. Throughout this process Professor Wolf registers and processes these words on a chart, highlighting how all delegations wanted those positive outcomes of a successful negotiation. The second step was to ask all of the delegations to propose one project that their country can contribute to the basin that can put us into that direction. Delegates then explained their proposed projects and Professor Wolf marked them on the map. Participants listed a broad array of ideas, including hydropower development in the upper basin, management programmes to save water resources and preserve fisheries, seawater wells to control intrusion, and more.

Prof. Wolf then took a brief pause from negotiations to brief the participants on the kinds of facilitation techniques that were used. These included: 1) finding common ground and common vision – instead of opening statements which often place blame, need to consider what we have in common and can contribute; 2) data sharing via proposed projects; 3) visualization of both positive and negative outcomes; 4) keeping people on topic: a) not allowing foreign minister's advisors to speak as then others would want similar treatment, b) listening – asked, wrote it down, confirmed, c) if something was repeated it was checked off; 5) seating arrangement – all at the same level in an L shape. Sitting across from other scan be confrontational so Prof. Wolf placed those with the most difficult relations next to each other as it is difficult to be mad when you are seated next to each other; 6) If anger arises, need to listen and identify what is the vulnerability behind that anger.

In the second part of negotiations, Professor Wolf asked each of the delegations to propose one project that can benefit their own country and only their own country. Participants proposed a variety of projects, but Professor Wolf highlighted how each of these projects are incompatible with each other, and that in the end everyone is worse off if we all act unilaterally. He then asked participants to visualize the map without boundaries. In this scenario it is easier to see how the basin can be developed as a whole, with upstream multipurpose hydropower, small hydropower for irrigation downstream, pulp mills, high water level for navigation and even ecotourism. This technique can assist when participants are willing to role play, but the borders must be put back on eventually.

In the last part of negotiations, Dr. Yasuda took over, taking the groups from this conceptual shared vision to a more details basin development plan, asking participants what steps are required to get to the vision participants had at the beginning of the negotiations. Each state then proposed an objective, ranging from comprehensive basin management for the benefit of all, institutional arrangements and joint finance, and joint planning and decision making, among other things. Dr. Yasuda then went on to achieve consensus by identifying overlaps in state positions that can help them with their master plan, including a focus on 1) sustainability, 2) the inclusion of a multi-purpose dam, and 3) strategic environmental impact assessments.

a. Session 6: Institutional Cooperation

Institutional Aspects in IWL and Implementation: Introduction

Presentation by Yu Su, Xiamen University

In this presentation, Dr. Su introduced participants to elements of institutional cooperation. There is worldwide recognition that cooperation is required for the management of joint water resources, but international law does not dictate the form of this cooperation. Cooperation comes in a variety of forms, ranging from unilateral action, coordination and collaboration to joint action. In IWL, institutional cooperation often comes in the form of a RBO which are "institutionalized forms of cooperation that are based on binding agreements covering the geographically defined area […] characterized by principles, norms, rules and governance mechanisms."[17] RBOs often bring benefits, providing facilitation for communication, increasing the cost of non-cooperation and enhancing public participation. This increases the effectiveness of the implementation of water treaties. Although there is no general principle or customary rule which requires states to resort to institutional cooperation, they are recommended by the UNWC (Art. 8), and obligatory in the UNECE Water Convention (Art. 9(1-2)). RBOs come in a variety of different shapes and sizes, but often involve councils or commissions, committees and secretariats. They also have a variety of functions, ranging from management and planning, flood management, water allocation to dispute avoidance and settlement.

Introduction to the Implementation Committee Under the UNECE Water Convention

Presentation by Dinara Ziganshina, Interstate Commission for Water Coordination in Central Asia

In this presentation, Dr. Ziganshina, who is also a member of the Implementation Committee under the UNECE Water Convention, explains its establishment, role and function. The Implementation Committee was established after requests were made by the parties for a mechanism to assist with the implementation of the Convention. It was officially established in 2012 at the Meeting of the Parties to the UNECE Water Convention via Decision VI/1. With its goal of facilitating, promoting and safeguarding the implementation of the Convention, the Implementation Committee is a non-confrontational, non-adversarial, and cooperative mechanism. It is comprised of members with legal and/or scientific and technical backgrounds who serve in their personal capacity, each of which is nominated by the parties. Meetings are held twice per year, and are held in public unless otherwise decided by the Committee. It has three main functions: 1) to consider requests for advice, 2) consider self-submission or party-to-party submission, and 3) consider undertaking committee initiatives. Taking into account relevant information made available to it including from the parties and the public, the

[17] Susanne Schmeier & Zaki Shubber, *Anchoring Water Diplomacy - The Legal Nature of International River Basin Organizations*, 567 JOURNAL OF HYDROLOGY 114 (2018).

Committee, whose decisions are not legally binding, will provide advice and facilitate assistance, request and assist parties in establishing an action plan, invite the parties to submit progress reports, and recommend measures to the Meeting of the Parties.

Case Study - The Role of International Fund for Saving the Aral (IFAS) in Regional Water Cooperation

Presentation by Ilmyrat Bashimov, International Fund for Saving the Aral Sea

In this presentation, Mr. Bashimov provided an overview of the role that the IFAS has had in regional cooperation in Central Asia. IFAS was founded by Kazakhstan, Kyrgyzstan, Tajikistan, Turkmenistan and Uzbekistan in 1993 after the significant decrease in water levels of the Aral Sea. The reduction of water levels of the Aral Sea which has now been divided into the Big Aral and Small Aral, has caused significant increase in salinity and biodiversity loss, among other impacts. The IFAS is comprised of two bodies: First, the Interstate Commission for Water Coordination as a regional body to deal with issues of joint management and to implement those agreed upon programs. The second body, the Interstate Commission on Sustainable Development, coordinates and administers regional cooperation on environment and sustainable development in the region. IFAS has thus far established 3 Action Programs for Assistance to the Aral Sea Basin Countries, with a 4th in development, and holds regular meetings.

Case Study - Strengthening Cooperation on Hydrology and Environment between Tajikistan and Afghanistan in the Upper Amu Darya Basin

Presentation by Tahmina Jumabaeva, Organization for Security and Cooperation in Europe

In this presentation, Ms. Jumabaeva discusses the project Strengthening Cooperation on Hydrology and Environment between Tajikistan and Afghanistan in the Upper Amu Darya River Basin, run by the UNECE. The Amu Darya is the longest river in Central Asia, shared between Afghanistan, Kyrgyzstan, Tajikistan, Uzbekistan and Turkmenistan. The Amu Darya basin is not experiencing water shortages but instead has an abundance of water primarily used for irrigation, hydropower, and domestic uses. Climate change, however, will have a significant impact on the region bringing uncertainty and increased risk for drought, floods, recession of glaciers and deforestation. This project, which aims to establish and support long term cooperation between Afghanistan and Tajikistan, seeks primarily to increase access to information regarding the upper Amu Darya to relevant stakeholders in the basin. The project undertakes monitoring and projections, knowledge exchange on climate change, as well as conducting workshops and training courses. The project has been successful and has carried out several joint expeditions on hydrology in the upper basin, among other initiatives. Afghanistan and Tajikistan have also held four high-level bilateral meetings resulting in joint bilateral programme of activities (2014-2020) and the signing of two Memorandum of Understanding on hydrological information sharing and

environmental cooperation, which were in line with the principles of the UNECE Water Convention.

Case Study - Development of Cooperation over the Mekong: Rule-Based Regime and Interest-Based Game

Presentation by Kullawat Kaewkao, Department of Water Resources, Ministry of Natural Resources and Environment, Thailand

In this presentation, Mr. Kaewkao provided an overview of the institutional mechanisms in the Lancang-Mekong River. After a brief overview of the dynamics of the river, Mr. Kaewkao highlighted the structure of the MRC. Established as a result of the 1995 Agreement on the Cooperation for the Sustainable Development of the Mekong River Basin, with the lower riparians (Cambodia, Laos, Thailand and Vietnam) as members, and China and Myanmar as observer states. As its goal, the MRC aims to jointly manage the water resources of the river for sustainable development, facilitating such cooperation so that all states can benefit. It is comprised of a council that can make decisions, a joint committee, secretariat (located in Vientiane), and national committees in each member state. The legal foundations of the MRC are similar to that of the UNWC, including the substantive and procedural rules. It is unclear, however, how the MRC will co-exist and cooperate with the newly formed LMC. The LMC, established in 2014, involves all Lancang-Mekong countries in a partnership for regional integration and connectivity. Both mechanisms have commonalities, one of which is the sharing of information. Via the Mekong Hydrological Cycle Observing System Projects (Mekong-HYCOS) all riparians share information from stations throughout the Lancang-Mekong.

Case Study - Lancang-Mekong Cooperation: Water and Environment

Joint Session by Yanfei Dong, Lancang-Mekong Water Resources Cooperation Center, & Zhaohui Qian, Lancang-Mekong Environmental Cooperation Center

To conclude the session, two representatives from the LMC presented on the role their institution plays in the Mechanism. First, Dr. Dong Yanfei discussed the Lancang-Mekong Water Resource Cooperation Center. Opened in June, 2017, the Center is located in Beijing, China. It is not an RBO, but it is a cooperation platform meant to strengthen cooperation in technical exchange, capacity building, drought and flood management, data and information sharing and joint research. It is comprised of a secretary general, deputy secretary generals, and four sections: general affairs, external relations, cooperation programs and training and information. As its goal, the Center aims to enhance and promote the sustainable economic and social development and well-being of those in the member countries through sustainable utilization of water resources. In order to achieve this goal it seeks to deepen international exchange and cooperation, build capacity, promote water infrastructure and advance water conservancy. Working across a variety of issues areas, the Center seeks to establish policy dialogues, joint studies, capacity building and joint projects. It does so with a variety of partner organizations, including civil society and water-related organizations in all member countries, the MRC, and other international organizations such as the World Water Council.

Picture 8 Mr. Zhaohui Qian discusses the strategy of the Lancang-Mekong Environmental Cooperation Center.

The second presentation was given by Mr. Zhaohui Qian from the Lancang-Mekong Environmental Cooperation Center (LMEC). Established in Beijing in November, 2017, the LMEC is tasked with promoting environmental cooperation between the Lancang-Mekong countries. It has six tasks: 1) promote sustainable development, 2) promote cooperation on issues of the environment and preservation, 3) provide a dialogue platform for such cooperation, 4) promote regional environmental management capacity, and 5) promote regional cooperation between environmentally friendly industries. In order to fulfill these tasks, LMEC is currently developing its strategy which is currently under review by the riparian member states. The strategy, however, focusses on seven priority areas: mainstreaming environmental policies, capacity building, ecosystem management and conservation, climate change adaptation and mitigation, urban and rural environmental governance, and environmentally friendly technology and products. The flagship programme of their strategy, however, is the Green Lancang-Mekong Plan, setting out a series of capacity building exercises as well as joint research.

Group Exercise - Institutional Mechanisms

Led by Yumiko Yasuda, GWP

In this group exercise, participants remained in the same groups as the previous exercise but this time they were asked to establish their conceptions of a joint mechanisms for the region. In order to do so, participant first worked in their groups to establish state positions on the necessary components of an RBO, including its mandate, structure, and functions. As states expressed their views on these three aspects, a note taker typed out their opinions and made note of the commonalities on a laptop connected to a projector. This allowed all participants to keep track of the opinions of other parties. After states have expressed their views, Dr. Yasuda identified and discussed the common positions, seeking consensus among the parties.

b. Closing Remarks

To close the workshop, Dr. Yasuda and Dr. Janusz-Pawletta thanked all of the participants, the facilitators the hosts and support from GWP-China and NARBO. Participants also provided feedback on the workshop, one-by-one giving verbal feedback on what they had learned and found useful in the workshop.

6. Participant Feedback & Recommendations for Future Training Courses

The participants of the workshop provided feedback in two ways. First, verbal feedback was provided by the participants during the closing remarks and second, a survey was conducted using Survey Monkey. The microphone was passed around among participants and facilitators who each commented on their experience over the three day workshop. Overall the participants were very happy with the organization, facilitation and presentation of the workshop. Many expressed that they had little or no experience with IWL prior to this workshop, and found it very useful to their work and that they will apply it in the future. Many came out of the workshop with a new perspective on the difficulty of establishing cooperative transboundary water management, however that IWL can provide guidance in a variety of contexts. The establishment of these mechanisms requires negotiation, and participants expressed that those negotiation skills were particularly helpful. Realized that IWL provides a framework and guidance, and that this framework is meant to fit in a variety of contexts with different interests.

The facilitators praised GWP, the AIRC and Yunnan University for their excellent organization of the workshop as well as the participants for their engagement and motivation, this certainly assisted with the success of the workshop. All facilitators expressed a desire to continue this kind of work and engagement with those from the workshop. It must also be noted, that this workshop utilized a different method of participant selection and some facilitators noted that this method was successful in attracting high-level participants from across the region.

These results were reinforced by the online survey, where 96% of participants agreed that the training was interesting (75% strongly agreed, 19% agreed), with 80% of participants and

resource persons indicating that the training was the right length. In the survey participants were also requested to indicate the future direction of the trainings and interaction with GWP in two ways, the Online Partners Platform and future training workshops. All respondents indicated that such a network would be useful, and that they would be interested (50% indicating they are very interested) in participating in this kind of platform. The survey asked participants and resource persons what kind of activities they would want to participate in, including: training alumni network, reading case studies, writing and submitting case studies, writing and submitting course content, community discussions, pool of experts, teaching methods and facilitators. Participants were most interested in using this platform to read case studies (76%), as a network of alumni from these training workshops (65%) and to learn teaching methods for future training (65%).[18] All resources persons indicated that they would like to contribute to the Online Partnership Platform, but would be most interested in being included in a pool of experts (80%), in reading case studies (60%) and by writing and contributing case studies (50%).[19]

Via the survey, participants also provided various suggestions for future workshops and workshop content. In regards to the content of this IWL workshop, participants indicated that they wished to learn more about how to engage with states who are not party to conventions, global or regional. Given that very few Asian states are members to the global conventions, this discussion could be particularly helpful to the region. Second, participants indicated they wished to learn more about RBOs and institutional arrangements. In regards to future workshops, participants had a variety of suggestions, but two common themes emerged. First, participants suggested future workshops on environmental protection, climate change and water. Second, participants suggested future workshops on conflict resolution, negotiation, diplomacy and hydropolitics. Grouping these together, two workshops emerge with the first focussing on environmental aspects of water management and the close connections between water and climate. The second, which may be a logical next step given GWP's history with workshops focussed on IWL, would train participants in hydropolitics and hydrodiplomacy, with a focus on negotiation and conflict resolution.

[18] Participants: training alumni network (65%), reading case studies (77%), writing/submitting case studies (42%), reading course content (42%), writing/submitting course content (23%), community discussions (38%), pool of experts (46%), and teaching methods/tools for future workshops (65%).

[19] Resource Persons: training alumni network (20%), reading case studies (60%), writing/submitting case studies (50%), reading course content (30%), writing/submitting course content (40%), community discussions (30%), pool of experts (80%), and teaching methods/tools for future workshops (20%).

7. Appendix 1: The Workshop in Photos

8. Appendix 2: List of Participants

Surname	Given Name	Prefix/ Title	Gender	Country	University/ Institution
Afaq	Mahbobullah	Mr.	M	Afghanistan	Ministry of Energy and Water
Atiq	Mohsin	Mr.	M	Pakistan	Flood Risk Assessment Unit, Punjab Irrigation Department
Bashimov	Ilmyrat	Mr.	M	Turkmenistan	EC IFAS
Bhatti	Muhammad	Dr.	M	Pakistan	Ministry of Water Resources, Government of Pakistan
Cao	Zhong	Dr.	M	China	Changjiang Scientific Research Institute of Changjiang Water Resources Commission (CSRI)
Chanthapaseuth	Thip	Ms.	F	Lao	Australian Embassy in Vientiane, Lao
Deka	Arundhati	Ms.	F	India	Indian Institute of Technology, Guwahati, India
Dong	Yangfei	Mr.	M	China	Department of International Cooperation, Science and Technology, Ministry of Water Resources, China
Duong	Hai Nhu	Ms.	F	Vietnam	MRCS
GC	Tejendra Bahadur	Mr.	M	Nepal	GWP Nepal; Jalsrot Vikas Sasntha (JVS)
Jawadi	Khadija	Dr.	F	Afghanistan	Environmental Conservation Specialist Organization of Afghanistan (ECSOA)
Jumabaeva	Tahmina	Ms.	F	Tajikistan	OSCE
Kaewkao	Kullawat	Mr.	M	Thailand	Dept. Of Water Resources, Ministry of Natural Resources and Environment, Thailand
Liao	Xiawei	Mr.	M	China	World Bank & Oxford University
Mahmudov	Sharif	Mr.	M	Tajikistan	Agency for Land Reclamation and Irrigation, Government of the Republic of Tajikistan
Mak	Solieng	Ms.	F	Cambodia	Cambodia Water Partnership
Meena	Muraree Lal	Dr.	M	India	Banaras Hindu University
Myint	Aye	Mr.	M	Myanmar	Mr Cho Cho, NEPS Co

Nasimi	Mohammad Najim	Mr.	M	Afghanistan	Kabul Polytechnic University; Afghanistan National Water & Environmental Research Centre
Nguyen	Thanh Ngoc	Mr.	M	Vietnam	Directorate of Water Resources, Ministry of Agriculture and Rural Development (MARD), Vietnam
Nwe	Hla Oo	Mrs.	F	Myanmar	Myanmar Water Partnership
Piriyaprasit	Saranpat	Ms.	F	Thailand	MRCS
Qian	Zhaohui	Mr.	M	China	Lancang-Mekong Environmental Cooperation Centre (LMEC)
Rahim	Akif	Mr.	M	Pakistan	Punjab Irrigation
Simonov	Eugene	Dr.	M	Russia	Rivers Without Boundaries
Sukhonthasindhu	Panpilai	Ms.	F	Thailand	Thai Water Partnership
Tun	Zaw Lwin	Dr.	M	Myanmar	Irrigation and Water Utilization Management Department; Myanmar Water Partnership; NARBO
Wang	Wenjia	Ms.	F	China	Lancang-Mekong Water Resources Cooperation Center
Xayavong	Sengphasouk	Ms.	F	Lao	Department of Water Resources, Lao
Zhao	Ping	Dr.	F	China	Changjiang Scientific Research Institute of Changjiang Water Resources Commission (CSRI)

9. Appendix 3: List of Facilitators, Hosts and Rapporteur

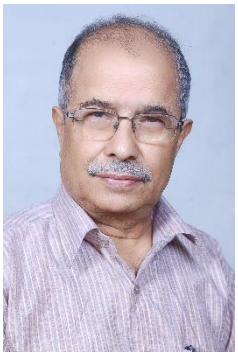
Facilitators

Dr. iur. Barbara Janusz-Pawletta is a member of GWP's Technical Committee, as well as: UNESCO Chair Holder in Water Management in Central Asia, German-Kazakh University (GKU), Almaty, Kazakhstan (Water Governance); Head of regional MA Program on Integrated Water Resource Management in Central Asia; Lecturer and long-term fellow of German Academic Exchange Service (DAAD) at GKU; Co-Editor-in-Chief of the Central Asian Journal for Water Research.

Dr. Chen Huiping is professor of international law at Xiamen University School of Law. She received her Ph.D degree in international law from Xiamen University in 1999. She teaches international investment law, public international law and international human rights law. She was visiting scholar at Leiden University (2000-2001), Fulbright Researcher at Georgetown University (2006-2007) and Freeman Fellow at the University of Illinois (2012-2013). She is Secretary-General of the Administrative Council of Xiamen Academy of International Law and deputy Secretary-General of the Chinese Society of International Economic Law.

Dr. Lingjie Kong obtained his doctoral degrees in law from Wuhan University and University of Paris. He is a professor of public international law and associate dean for research and international cooperation at Wuhan University China Institute of Boundary and Ocean Studies. He was academic visitor to University of Oxford, Utrecht University and some other interesting places. His research interest lies in peaceful settlement of territorial and boundary disputes, the law of the sea and the law of international watercourses. His has published several books and his articles appear on *European Journal of International Law*, *Chinese Journal of International Law* and some other law journals. He may be reached by email: konglingjie@whu.edu.cn.

Dr. Yu SU is assistant professor of international law at Xiamen University School of Law. He received his Ph.D degree in international law from Xiamen University in 2015. He teaches public international law and international economic law. His research interests are legal framework governing Chinese transboundary waters, and communicative framework of international law. He visited Centre for Water Law, Policy and Science, University of Dundee (2012-2013) on a CSC (China Scholarship Council)-funded joint PhD programme. He is a founding member of the Chinese International Water Law research group.



Mr. Surya Nath Upadhyay is a retired civil servant of the government of Nepal. He was secretary to the Ministry of water resources. He is a lawyer by training and specializes on water resources law. During his career as a civil servant, he remained involved in water resources issues as an advisor, negotiator and decision maker. Presently Mr. Upadhyay is associated with the Global Water Partnership (GWP) Nepal. He has authored a book entitled "International water courses law and a perspective on Nepal-India cooperation."

Dr. Yumiko Yasuda is a senior network officer at Global Water Partnership. She is a theme focal point on transboundary waters within GWP network, and also oversees its network in Asia region. Her area of expertise lies in analysis of water and environmental governance, particularly on political economy analysis as well as on non-state actors' engagement in natural resources management in the context of transboundary rivers. Her prior experiences are on the Mekong River, The Brahmaputra River and the Jordan River. Yumiko's work and research benefits from her prior experiences in working with water and environmental management globally while she worked for organizations including WWF, UNDP, Ericsson, and Mlup Baitong (local Cambodian NGO). Dr. Yasuda is a PhD graduate from the Centre for Water Law, Policy and Science at the University of Dundee (under the auspices of UNESCO).

Dr. Dinara Ziganshina is Deputy Director at the Scientific Information Centre of Interstate Commission for Water Coordination in Central Asia based in Tashkent, Uzbekistan. She holds a PhD in International Water Law from the IHP-HELP Centre for Water Law, Policy and Science under the auspice of UNESCO, University of Dundee (UK). She served as Alternate Governor of the World Water Council and currently is a member of the Implementation Committee under the UNECE Convention on the Protection and Use of Transboundary Watercourses and International Lakes.

Hosts

Professor Daming He a distinguished professor and director of Asian International Rivers Center at Yunnan University. His multi-disciplinary research and teaching background includes hydrology, water resources, physical geography, and environmental security. Since 1988, his major research has been focusing on utilization, allocation, and management of water resources, EIA of cascade dams, ecosystem change and eco-security in international rivers. He has finished over 50 projects supported by the National Key Basic Research Programme, the National Advanced Technologies R&D Program, NSFC Key Programme, National Key Technology Research and Development Program of China, NSFC-ICIMOD etc. Based on these researches, he has jointly published over 200 articles and 16 books; submitted over 40 academic reports which have been widely used; and received over 10 major prizes from central government, Yunnan Provincial governments, and the state associations in China. Since 2001,

he has greatly facilitated the development of capacity building, education, and academic innovative group of international rivers and trans-boundary eco-security as a leading scientist.

Professor Aaron T. Wolf is a Foreign Expert at Yunnan University and a Professor of Geography in the College of Earth, Ocean, and Atmospheric Sciences at Oregon State University. His research and teaching focus is on the interaction between water science and water policy, particularly as related to conflict prevention and resolution. He has acted as a consultant to the World Bank and several international government agencies on various aspects of transboundary water resources and dispute resolution. Wolf is a trained mediator/facilitator, and directs the Program in Water Conflict Management and Transformation, through which he has offered workshops, facilitations, and mediation in basins throughout the world. He coordinates the Transboundary Freshwater Dispute Database, and is a co-director of the Universities Partnership on Transboundary Waters. He has been an author/editor for seven books, as well as almost 50 journal articles, book chapters, and professional reports on various aspects of transboundary waters.

Professor Damian Shea is a Foreign Expert at Yunnan University and a professor of environmental chemistry and toxicology at North Carolina State University. Dr. Shea has been studying the detection, sources, fate, and effects of chemicals in the environment for over 30 years. He combines knowledge and experience in chemistry, toxicology, risk assessment, and social sciences with the ultimate goal of improving our ability to assess, communicate, and mitigate the risks of chemicals to human and ecological health. While at NC State, in addition to his research and teaching, he served as Head of the Departments of Toxicology and Biology (2001-2011), was the Founding University Director of the U.S. Department of the Interior Southeast Climate Science Center (2010-2015) and the Program Director for the Howard Hughes Medical Institute Undergraduate Science Education Program (2007-2014). He has served on numerous advisory and peer review committees for US federal agencies, UN, WHO, and the US National Academy of Sciences.

Dr. Feng Yan is at Yunnan University since 2006.She has experience in water governance and policy, International water law, International water resources allocation, environmental services payments, and natural resource development and management more than 20 years. She is the lead investigator on several national research projects, and has participated in several studies on reasonable utilization and integrated ecologic assessment on water resource systems and integrated allocation on transboundary water resources, funded by World Bank, the Ministry of Environmental Protection of China, and Yunnan Provincial Natural Scientific Foundation. She also served as a Chinese Consultant on International Water Law, Policies and Strategies for the Asian Development Bank from 1999 to 2000.

Dr. Wenling Wang is an Assistant Professor at Yunnan University. She was a postdoctoral scholar at North Carolina State University in 2013-14. Her research and teaching are in the fields of water governance, transboundary water issues, and how environmental and social policies affect water resources, especially at the water-energy-food nexus. Recent work also has included how policies affect water quality with a focus on exposure to chemicals. She is currently PI /co-PI on four projects funded by the National Natural Science Foundation China or Ministry of Water Resources China, with a focus on South Asian and Southeast Asian international rivers. Dr. Wang has 15 peer-reviewed publications and has given dozens of invited presentations at international conferences.

Rapporteur

After completing his PhD at Xiamen University, **David J. Devlaeminck** moved to Chongqing, China where he is currently Lecturer at the School of Law, Chongqing University. David focusses primarily on the law of international watercourses and China's transboundary waters, but he is also broadly interested in international environmental law, water security and interdisciplinary water research. He has published in a variety of international journals, including *Water Policy, Journal of Water Law,* and most recently in the *Chinese Journal of Environmental Law.* For more information see his website: www.davidjdevlaeminck.com.

10. Appendix 4: Workshop Programme

Day 1, Thursday, 13th December		
8:30 – 9:00	Registration	
9:00 – 9:30	**Welcome and Introductions** Welcome, GWP and Yunnan University Aims and objectives of the workshop Tour de table	**Dr. Yumiko Yasuda,** **Dr. Barbara Janusz-Pawletta,** **Prof. Daming He**
9:30 – 10:40	**Session 1: Introduction** **Why is international water law important?** **IWL Quiz** **IWL ABC** *Key learning objective from this session:* This session 'tests' participants' basic understandings of international water law they gained from online course, and provides an introduction to international water law	**Dr. Barbara Janusz-Pawletta** **Dr. Dinara Ziganshina**
10:40 – 11:00	**Why is stakeholder engagement on transboundary water cooperation so important?** Multi track water diplomacy	**Dr. Yumiko Yasuda**
11:00 – 11:15	Coffee Break	
11:15 – 12:00	**Session 2: Substantive Norms**. Implementing equitable and reasonable utilisation & no-harm principle in practice – Best practices from Asia *Key learning objective from this session:* This session introduces key principles of substantive norms of international water law highlighting how it is used in a real case. **Introduction to Substantive norms and Equitable and reasonable utilization** **No Significant Harm** **Substantive Norms: Case study** Impact of climate change and Indus water treaty of Indo-Pak on downstream catchments	**Prof. Chen Huiping** **Dr. Dinara Ziganshina** **Mr. Akif Rahim**

12:00 – 13:00	Lunch	
13:00 – 14:30	Group exercise 1: Equitable and Reasonable Use	**Prof. Chen Huiping** **Prof. Su Yu**
14:30 – 15:30	**Session 3: Procedural norms:** Implementing legal mechanisms. Best practices from Asia *Key learning objective from this session:* This session introduces key procedural norms of international water law highlighting how they are implemented in real cases. **Procedural norms: Introduction** **Procedural norms: Case studies** PNPCA of the 1995 Mekong Agreement and its implementation Environmental Impact Assessment Monitoring over Kabul River	 **Prof. Chen Huiping** **Ms. Saranpat Piriyaprasit** **Prof. Damian Shea** **Dr. Khadija Jawadi**
15:30 – 15:50	Coffee Break	
15:50 – 17:30	Group exercise 2: Environmental Protection	**Prof. Damian Shea**
Day 2, Friday, 14th December		
9:00 – 9:15	Recap from Day 1	
9:15 – 10:30	**Session 4: Dispute settlement mechanisms** (Negotiations, Mediation, Good offices, Conciliation, Arbitration, Court) - Best practices from Asia *Key leaning objectives from this session*: Participants will learn both legal and non-legal theoretical and practical aspects of dispute settlement mechanism and negotiation. **Introduction to dispute settlement mechanism** **Overview of treaty practice** **Dispute settlement mechanism: case studies** Mahakali Treaty: An experience of Negotiation Kosi River Treaty and Geopolitical aspects	 **Prof. Lingjie Kong** **Prof. Aaron Wolf** **Mr. Surya Upadahyay** **Dr. Muraree Lal Meena**

	Dispute resolution and negotiation using International water law: Case of Helmand River	**Mr. Mohammad Najim Nasimi**
10:30 – 10:45	Coffee Break	
10:45 – 12:30	Group exercise 3: Negotiation – Sharing values. Inter-personal skills	**Prof. Aaron Wolf**
12:30 – 13:30	Lunch break	
13:30 – 14:45	**Session 5: Multi-stakeholder processes** Stakeholders engagement/contribution into transboundary water cooperation (grassroots communities, NGOs, science, basin councils, national government, local government) – Best practices from Asia *Key learning objectives from this session:* Participants will learn different ways for stakeholder engagements in transboundary waters, allowing them to explore suitable mechanisms for stakeholder participation. **Introduction: Multi-stakeholder engagement over transboundary water** **Case studies: Multi-stakeholder processes** Multi-stakeholder engagement in the Danube River (Video) Multi-stakeholder Platform for the Lancang-Mekong River Transnational Policy Dialogue for Improved Water Governance of Brahmaputra River Stakeholder Engagement from the Mekong: MRC Multi-stakeholder participation in transboundary water management - Case of Lake Baikal Basin	**Prof. Aaron Wolf** **Ms. Helene Masliah Gilkarov** **Dr. Zaw Lwin Tun** **Ms. Arundhati Deka and Mr. Liao Xiawei** **Ms. Hai Nhu Duong** **Dr. Eugene Simonov**
14:45 – 15:00	Coffee Break	
15:00 – 17:00	Group exercise 4: Stakeholder Engagement at the National Level	**Prof. Aaron Wolf**
Day 3, Saturday, 15th December		
9:00 – 9:15	Recap from Day 2	

9:15 – 11:00	Group exercise 5: Stakeholder Engagement and Negotiation at the Basin Level	**Prof. Aaron Wolf**
11:00 – 11:15	Coffee Break	
11:15 – 12:30	**Session 6: Institutional Cooperation** *Key learning objectives from this session*: The participants are expected to form their own understanding of the following aspects of institutional cooperation (mainly in the form of river basin organizations): What is a river basin organization (RBO)? Factual and legal foundations of RBOs Functions of RBOs Some key challenges and possible ways forward **Institutional aspects in IWL and Implementation: Introduction** **Institutional aspects: case studies** Introduction to the Implementation Committee under the UNECE Water Convention The role of IFAS in regional water cooperation Strengthening cooperation on hydrology and environment between Tajikistan and Afghanistan in the upper Amu Darya River Basin Evolution of cooperation over the Mekong: Rule-based regime and interest-based regime Lancang-Mekong Cooperation: Water and Environment	**Prof. Su Yu** **Dr. Dinara Ziganshina** **Mr. Ilmyrat Bashimov** **Ms. Tahmina Jumabaeva** **Mr. Kullawat Kaewkao** **Mr. Yanfei Dong and Mr. Zhaohui Qian**
12:30 – 13:30	Lunch	
13:30 – 15:10	Group exercise 6: Institutional Cooperation	**Dr. Yumiko Yasuda**
15:10 – 15:30	Coffee Break	
15:30 – 16:00	**Online Partners Platform for Capacity Building on Transboundary Water Governance**	**Dr. Yumiko Yasuda**
16:00 – 16:30	**The Sustainable Development Goals and Transboundary Water Cooperation Strengthening the SDG6.5 monitoring process. Best practices from Asia in implementation of SDG's.**	**Dr. Dinara Ziganshina and Dr. Yumiko Yasuda**

16:30 – 17:00	Survey	
17:00 – 17:30	**Workshop closing** - Summary - Feedback - Final remarks	**GWP China**

11. Appendix 5: The Pandal Basin Group Exercises

These exercises have been modified from the Pandal Basin Scenario (See Exercise C). The Pandal Basin Scenario, Exercise C, was developed by Julie Watson and colleagues at the Program for Water Conflict Management and Transformation at Oregon State University, USA.

A) Equitable and Reasonable Use

Equitable and Reasonable Use in the Pandal Basin

GWP Pan-Asia Workshop on Water Governance, Day 1

The Pandal River Basin

The Pandal River Basin (PRB) is divided between two countries – Ordon and Gandor. The headwaters of the Pandal River start high in the peaks of Ordon's central mountain range. From Ordon, the river flows directly south into Gandor. Here, the river meets with two major tributaries, the Nortesund and Suresund, which are dammed to form the Gand Reservoir in Gandor. Finally, the river flows south to its mouth. Along the way, the river supports a multitude of uses: transport of logs; irrigation for rice cultivation and floodplain subsistence gardens; fisheries; a large mangrove forest; and drinking water.

State Profiles

Ordon

Ordon is a poor country, with an economy based on subsistence agriculture, primarily rice and timber, which it has traditionally exported without much regulation by the government. Logging activities have led to the construction of a number of roads leading to the Pandal River, which timber companies use to transport logs downstream. Ordon's objective is economic growth. Its upstream geographic conditions have endowed it with significant hydropower potential along the Pandal River, a potential that has been as yet unrealized due to the reluctance of private groups to invest under its instable political conditions. However, with its first democratically-elected government now in office, Ordon has been seeking to develop hydropower to meet growing domestic demand and for export to its neighbor countries. Its population is composed of several different ethnic groups, who have occasionally clashed over access to the country's timber resources. All of Ordon's ethnic groups depend on the Pandal River's water for subsistence agriculture and drinking water. One group, the Suwa, also conducts traditional religious rites along a stretch of the Pandal River, south of Ordon Lake. Recently, the country's ethnic groups have united in opposition to foreign investors who keep disproportionate profits from the Ordon's timber industry. Five years ago, a brief civil uprising broke out, threatening to "Occupy Ordon" and overthrow the central government before being resolved with help from the larger regional community.

Additional Ordon Challenges:

- Deforestation is leading to increasing frequency of landslides that threaten Ordon's roads and other infrastructure. On one occasion in 2010, a landslide into the Pandal led to high sedimentation of public drinking water supplies.
- While the Occupy movement in Ordon has quieted, the underlying tensions between the indigenous population and foreign timber corporations remain.

Gandor

To the south of the Ordon sits Gandor, a small country situated mostly within the Pandal Basin. Gandor is an economically poor country rich in natural resources, including lush agricultural land, valuable minerals, and a large native fishery. Through its resource reserves, Gandor is making modest economic gains, moving from raw exports to the construction of factories that produce electronic products. As Gandor has developed, its electricity needs have increased. Gandor has traditionally met its power needs through domestic hydropower production at Gand Reservoir, just downstream of the confluence of the Nortesund and Suresund tributaries, but the combination of growing electricity needs and exhaustion of its domestic hydropower supply has made it eager to import electricity from its neighbors. Gandor's population consists of two predominate ethnic groups, the larger of which, the Tulsi, dominate the government and industry in Gandor's burgeoning cities. The minority, the Hrang, reside near Gandor's northern border with Ordon, where they live along the riverbed. There is also a small Hrang population on Ordon's side of the border. The Hrang rely on rice cultivation, seasonal floodplain gardening, and traditional fisheries to meet their subsistence needs. They are also characterized by a higher level of poverty than in the rest of the country as well as political marginalization- which came to light in the 1990s, when the international community intervened in Gandor to stop violence against the Hrang. The impoverished conditions that emerged during the 1990s in Gandor's northern region have created political opposition to the governing democratic regime, which the majority party is eager to contain.

Additional Gandor Challenges:

- The ethnic minority, the Hrang, are threatened by the effects of climate change. Larger floods and longer dry seasons threaten their subsistence agriculture.
- Conversely, large hydropower projects proposed upstream in Ordon may flatten the hydrograph that supports seasonal floodplain farming and the large and diverse native fishery. These native fish species, used both as an economic export and as subsistence for the Hrang, are unlikely to thrive without historic wet and dry season conditions.

The Current Situation

Both of these states are parties to the 1997 United Nations Watercourses Convention, and are therefore bound by the substantive rules of equitable and reasonable use and the due diligence obligation not to cause significant harm. Recently, Ordon has secured substantial investment for the development of a hydropower project on the upper reaches of the Pandal River as marked on the map. With the financial and technical assistance of its investors the dam will a) be built according to international standards in

terms of its environmental impact and b) will be placed at the most efficient location in terms of energy production. It is expected to provide Ordon with c) significant hydropower, enough to meet domestic demand and allow Ordon to export to neighbouring countries, d) control of river flow during dry and wet seasons, and e) water storage, among other benefits. After significant investigation, however, an international NGO has determined that the dam will pose significant threats to the migratory patterns of various fish species who migrate annually to Ordon Lake, and will displace local residents. Furthermore, the dam will take many years to completely fill, resulting in lower than usual flows during that time.

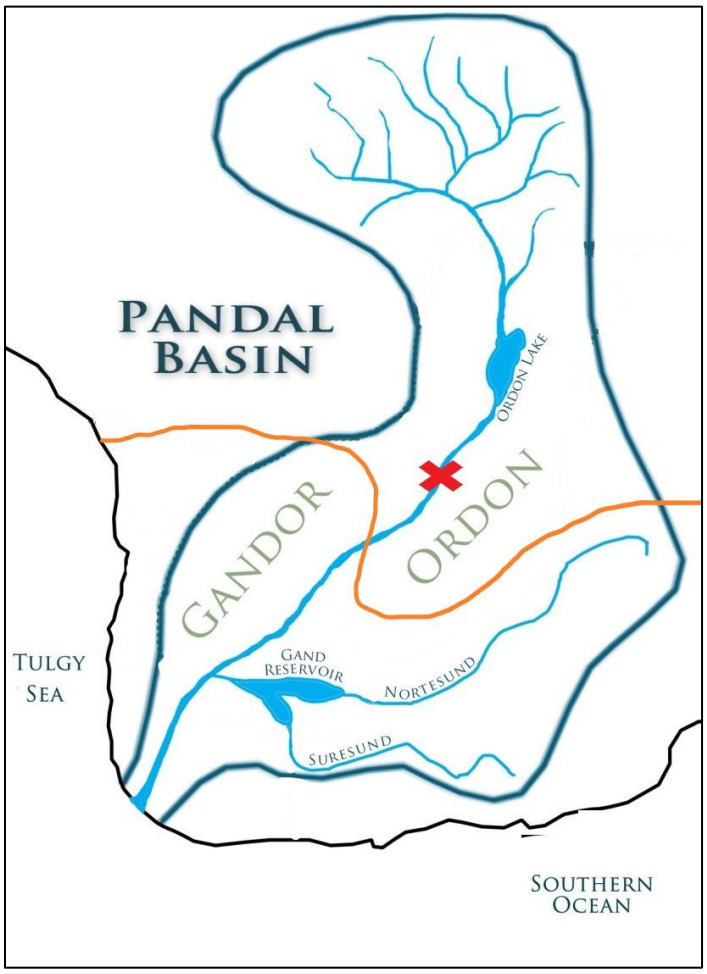


Figure 1 *Orange: State Border; Light Blue: Rivers and Lakes of the basin; Dark Blue: River Basin boundary; Red X: Site of Hydropower Construction*

Instructions

Participants should be divided into 6 groups with 5-6 members each. Three of these groups will represent Ordon and three groups will represent Gandor. Group members will each be assigned a role from various aspects of society, including: grassroots communities, the scientific community, environmental NGOs, national government, local government and the business community. If necessary, a group member can be assigned more than one role.

The entire exercise is expected to take approximately 1 hour, divided into three parts. During that time, groups should:

A. **Establish State Positions:** Reflecting on the criteria of equitable and reasonable use (UNWC Article 6) groups should brainstorm the primary concerns of each sector of society. After a brief brainstorming period, groups should synthesize their State's position of what would be considered "equitable and reasonable" in this situation from their perspective (25 Minutes).

B. **RBO Meeting:** Each group will then be paired with a group representing their riparian neighbor to conduct a mock RBO meeting. At this meeting, 1-2 members of each state will present their arguments for the modification of the project so as to establish an equitable and reasonable use of their shared waters (15 Minutes).

C. **Reflection:** Participants will return to their seats and as a class we will reflect on the challenges and insights gained from this exercise – how does the law of international watercourses,

particularly the principle of equitable and reasonable use, frame the conversations had by each state?

The Role of Facilitators: Each group will be assigned a facilitator who will act as a technical advisor to the groups. It is expected that these advisors will provide guidance to the group, and facilitate their brainstorming session and mock RBO meeting.

Convention on the Law of the Non-navigational Uses of International Watercourses (1997)

Article 5
Equitable and reasonable utilization and participation

1. Watercourse States shall in their respective territories utilize 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 utilization thereof and benefits therefrom, taking into account the interests of the watercourse States concerned, consistent with adequate protection of the watercourse.

2. Watercourse States shall participate in the use, development and protection of an international watercourse in an equitable and reasonable manner. Such participation includes both the right to utilize the watercourse and the duty to cooperate in the protection and development thereof, as provided in the present Convention.

Article 6
Factors relevant to equitable and reasonable utilization

1. Utilization of an international watercourse in an equitable and reasonable manner within the meaning of article 5 requires taking into account all relevant factors and circumstances, including:

(*a*) Geographic, hydrographic, hydrological, climatic, ecological and other factors of a natural character; (*b*) The social and economic needs of the watercourse States concerned;

(*c*) The population dependent on the watercourse in each watercourse State;

(*d*) The effects of the use or uses of the watercourses in one watercourse State on other watercourse States;

(*e*) Existing and potential uses of the watercourse;

(*f*) Conservation, protection, development and economy of use of the water resources of the watercourse and the costs of measures taken to that effect;

(*g*) The availability of alternatives, of comparable value, to a particular planned or existing use.

2. In the application of article 5 or paragraph 1 of this article, watercourse States concerned shall, when the need arises, enter into consultations in a spirit of cooperation.

3. The weight to be given to each factor is to be determined by its importance in comparison with that of other relevant factors. In determining what is a reasonable and equitable use, all relevant factors are to be considered together and a conclusion reached on the basis of the whole.

Article 7
Obligation not to cause significant harm

1. 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.

2. Where significant harm nevertheless is caused to another watercourse State, the States whose use causes such harm shall, in the absence of agreement to such use, take all appropriate measures, having due regard for the provisions of articles 5 and 6, in consultation with the affected State, to eliminate or mitigate such harm and, where appropriate, to discuss the question of compensation

B) Procedural Rule: Amendment to Previous Exercise

Environmental Protection in the Pandal Basin - Addendum

GWP Pan-Asia Workshop on Water Governance, Day 1

This exercise will follow the example from earlier today on the **Equitable and Reasonable Use (ERU) in the Pandal Basin.** In addition to the proposed **hydropower dam**, there also are **two planned land use changes in Ordon** that would be located downstream of the new dam and close to the border with Gandor: 1) the development of **mining operations** and 2) development of larger-scale **agricultural operations** (see map in Figure 1). The planned mining operations in Ordon could add to the existing mining waste pollution in Gandor. Also, the planned larger-scale agricultural activity could increase the amount of fertilizer (N: nitrogen and P: phosphorus), pesticides and sediment in the river. The proposed new mining and agricultural operations in Ordon could be of great benefit to the Ordon economy, but might cause deterioration of water quality downstream in Gandor.

Summary of Key Issues and/or Interests by State	
Ordon	**Gandor**
Priority is economic growth	Growing electricity needs
Forestry	Mining
New mining and larger-scale agriculture near Gandor*	Agricultural land
Hydropower potential	Growing number of factories
Safe drinking water/sedimentation	Safe drinking water/sedimentation
Indigenous spiritual use of the river	Indigenous riverine interests
Civil uprising	Subsistence agriculture
Landslides, erosion	Native fishery (w/ aquaculture)

*red text denotes changes to previous ERU exercise

You should assume that the mining activity and agricultural development are **planned** and that Ordon has **notified** Gandor of these planned activities. This provide the basis for discussing the **procedural requirements** for both states. In addition, both of these states are parties to the 1997 United Nations Watercourses Convention, and are therefore bound by the **procedural rules** including **prior notification, information sharing and consultation**.

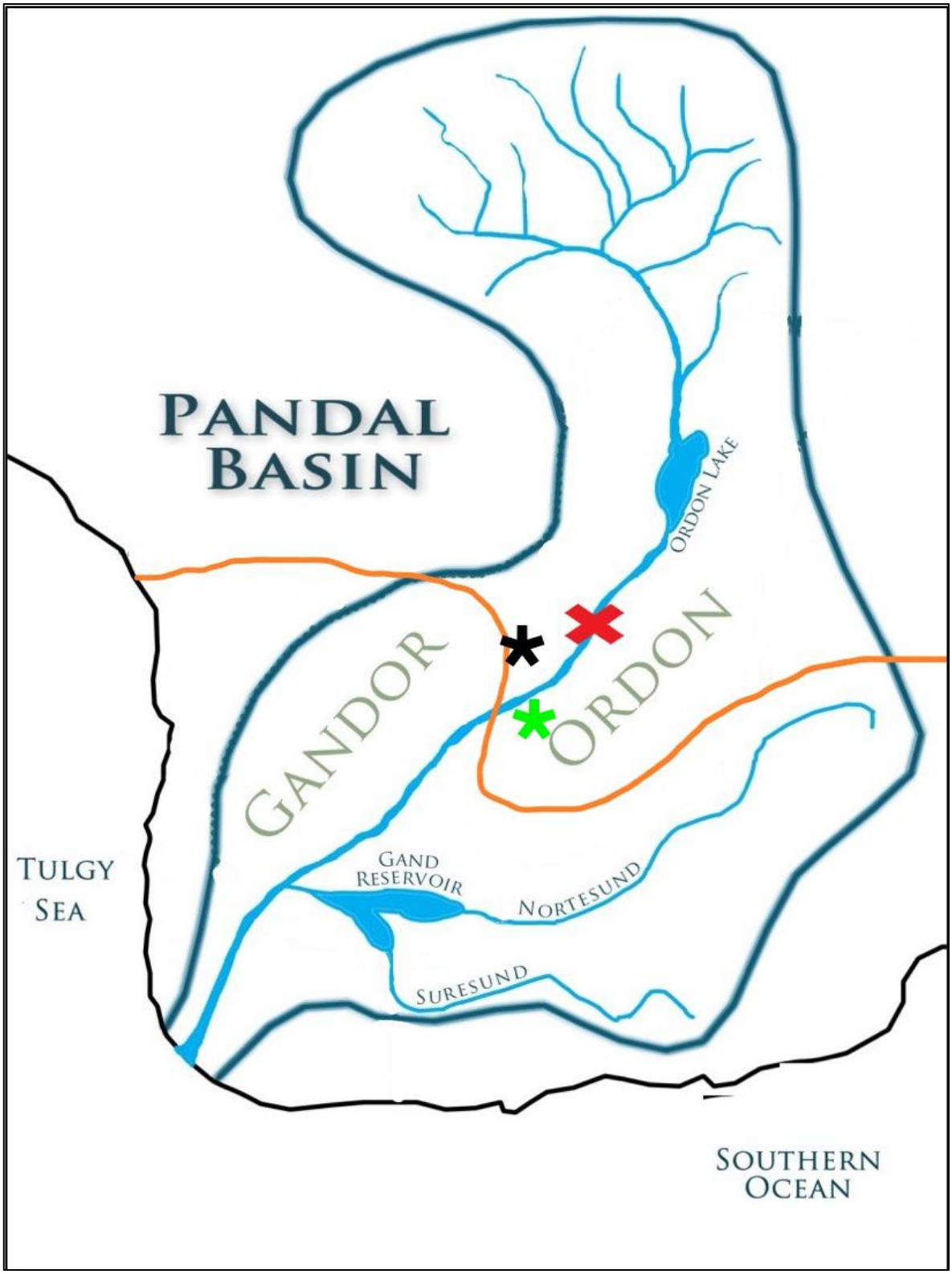


***Figure 2 Orange**: State Border; **Light Blue**: Rivers and Lakes of the Watercourses; **Dark Blue**: River Basin; **Red X**: Site of Hydropower Construction; **Black star** is proposed new mining operations and **green star** is proposed new large-scale agricultural production.*

Instructions

This exercise will proceed in the same way as the ERU exercise earlier today. Participants should be divided into 6 groups with 5-6 members each. Three of these groups will represent Ordon and three groups will represent Gandor. Group members will each be assigned a role from various aspects of society, including: grassroots communities, the scientific community, environmental NGOs, national government, local government and business community. If necessary, a group member can be assigned more than one role.

The exercise will take approximately 75 minutes, divided into four parts. During that time, groups should:

D. Review Scientific Issues: As a class, we will review the scientific issues of how land use can influence water quality and the pathways for people and ecosystem components to be exposed to chemicals. This will be done in the context of the Pandal Basin example (10 Minutes).

E. **Establish State Positions:** Reflecting on the procedural rules (see attached) groups should brainstorm the primary concerns of each sector of society. Your discussion surrounding the procedural rules could include:

   a. What kind of information is necessary so as to determine the best course of action regarding these projects? Who will provide this information and how should it be collected?
   b. What changes should be made to these projects to best reflect the interests of both states?
   c. What process should states follow in regards to notification, information sharing, consultation and EIA?

   After a brief brainstorming period, groups should synthesize their State's position of how "procedural rules" could be implemented in this situation from their perspective (25 Minutes).

F. **RBO Meeting:** Each group will then be paired with a group representing their riparian neighbor to conduct a mock RBO meeting. At this meeting, 1-2 members of each state will present their arguments for procedural rule implementation and how the planned projects could be modified to best reflect the interest of both parties (15 minutes)

G. **Reflection:** Participants will return to their seats and as a class we will reflect on the challenges and insights gained from this exercise – how do the scientific and economic issues assessed in this exercise and the law of international watercourses, particularly the "procedural rules", help frame the conversations had by each state? (25 Minutes)

The Role of Facilitators: Each group will be assigned a facilitator who will act as a technical advisor to the groups. It is expected that these advisors will provide guidance to the group, and facilitate their brainstorming session and mock RBO meeting.

Convention on the Law of the Non-Navigational Uses of International Watercourses (1997)

Article 9
Regular exchange of data and information
1.Pursuant to article 8, watercourse States shall on a regular basis exchange readily available data and information on the condition of the watercourse, in particular that of a hydrological, meteorological, hydrogeological and ecological nature and related to the water quality as well as related forecasts.

2. If a watercourse State is requested by another watercourse State to provide data or information that is not readily available, it shall employ its best efforts to comply with the request but may condition its compliance upon payment by the requesting State of the reasonable costs of collecting and, where appropriate, processing such data or information.

3. Watercourse States shall employ their best efforts to collect and, where appropriate, to process data and information in a manner which facilitates its utilization by the other watercourse States to which it is communicated.

Article 11
Information concerning planned measures
Watercourse States shall exchange information and consult each other and, if necessary, negotiate on the possible effects of planned measures on the condition of an international watercourse.

Article 12
Notification concerning planned measures with possible adverse effects
Before a watercourse State implements or permits the implementation of planned measures which may have a significant adverse effect upon other watercourse States, it shall provide those States with timely notification thereof. Such notification shall be accompanied by available technical data and information, including the results of any environmental impact assessment, in order to enable the notified States to evaluate the possible effects of the planned measures.

Article 13
Period for reply to notification
Unless otherwise agreed:

(a) A watercourse State providing a notification under article 12 shall allow the notified States a period of six months within which to study and evaluate the possible effects of the planned measures and to communicate the findings to it;

(b) This period shall, at the request of a notified State for which the evaluation of the planned measures poses special difficulty, be extended for a period of six months.

Article 14
Obligations of the notifying State during the period for reply
During the period referred to in article 13, the notifying State:

(a) Shall cooperate with the notified States by providing them, on request, with any additional data and information that is available and necessary for an accurate evaluation; and

(b) Shall not implement or permit the implementation of the planned measures without the consent of the notified States.

Article 15
Reply to notification
The notified States shall communicate their findings to the notifying State as early as possible within the period applicable pursuant to article 13. If a notified State finds that implementation of the planned measures would be

inconsistent with the provisions of articles 5 or 7, it shall attach to its finding a documented explanation setting forth the reasons for the finding.

Article 16
Absence of reply to notification
1. If, within the period applicable pursuant to article 13, the notifying State receives no communication under article 15, it may, subject to its obligations under articles 5 and 7, proceed with 8 the implementation of the planned measures, in accordance with the notification and any other data and information provided to the notified States.

2. Any claim to compensation by a notified State which has failed to reply within the period applicable pursuant to article 13 may be offset by the costs incurred by the notifying State for action undertaken after the expiration of the time for a reply which would not have been undertaken if the notified State had objected within that period.

Article 17
Consultations and negotiations concerning planned measures
1. If a communication is made under article 15 that implementation of the planned measures would be inconsistent with the provisions of article 5 or 7, the notifying State and the State making the communication shall enter into consultations and, if necessary, negotiations with a view to arriving at an equitable resolution of the situation.

2. The consultations and negotiations shall be conducted on the basis that each State must in good faith pay reasonable regard to the rights and legitimate interests of the other State.

3. During the course of the consultations and negotiations, the notifying State shall, if so requested by the notified State at the time it makes the communication, refrain from implementing or permitting the implementation of the planned measures for a period of six months unless otherwise agreed.

Article 18
Procedures in the absence of notification
1. If a watercourse State has reasonable grounds to believe that another watercourse State is planning measures that may have a significant adverse effect upon it, the former State may request the latter to apply the provisions of article 12. The request shall be accompanied by a documented explanation setting forth its grounds.

2. In the event that the State planning the measures nevertheless finds that it is not under an obligation to provide a notification under article 12, it shall so inform the other State, providing a documented explanation setting forth the reasons for such finding. If this finding does not satisfy the other State, the two States shall, at the request of that other State, promptly enter into consultations and negotiations in the manner indicated in paragraphs 1 and 2 of article 17.

3. During the course of the consultations and negotiations, the State planning the measures shall, if so requested by the other State at the time it requests the initiation of consultations and negotiations, refrain from implementing or permitting the implementation of those measures for a period of six months unless otherwise agreed.

C) The Pandal Basin as a Multilateral Basin (Developed by OSU)

Pandal Basin Overview

The Pandal River Basin (PRB) is five riparian countries, Dalik, Ordon, Gandor, Esund, and Panam. The headwaters of the Pandal River start high in the peaks of Ordon's central mountain range. From Dalik, the river flows directly south into Ordon and then southwest into Gandor. Here, the river meets with two major tributaries, the Nortesund and Suresund, which are dammed to form the Gand Reservoir in Gandor. Finally, the river flows south from Gandor to its mouth in Panam. Along the way, the river supports a multitude of uses: transport of logs; irrigation for rice cultivation and floodplain subsistence gardens; fisheries; a large mangrove forest; and drinking water.

Ordon

Ordon is a poor country, with an economy based on subsistence agriculture, primarily rice and timber, which it has traditionally exported without much regulation by the government. Logging activities have led to the construction of a number of roads leading to the Pandal River, which timber companies use to transport logs downstream. Ordon's objective is economic growth. Its geographic conditions have endowed it with significant hydropower potential along the Pandal River, a potential that has been as yet unrealized due to the reluctance of private groups to invest under its instable political conditions. However, with its first democratically-elected government now in office, Ordon has been seeking to develop hydropower to export to its neighbor countries. Its population is composed of several different ethnic groups, who have occasionally clashed over access to the country's timber resources. All of Ordon's ethnic groups depend on the Pandal River's water for subsistence agriculture and drinking water. One group, the Suwa, also conducts traditional religious rites along a stretch of the Pandal River. Recently, the country's ethnic groups have united in opposition to foreign investors who keep disproportionate profits from the Ordon's timber industry. Five years ago, a brief civil uprising broke out, threatening to "Occupy Ordon" and overthrow the central government before being resolved with help from the larger regional community.

Additional Ordon Challenges:

- Deforestation is leading to increasing frequency of landslides that threaten Ordon's roads and other infrastructure. On one occasion in 2010, a landslide into the Pandal led to high sedimentation of public drinking water supplies.
- While the Occupy movement in Ordon has quieted, the underlying tensions between the indigenous population and foreign timber corporations remain.

Gandor

To the south of the Ordon sits Gandor, a small, landlocked country situated entirely within the Pandal Basin. Gandor is an economically poor country rich in natural resources, including lush agricultural land, valuable minerals, and a large native fishery,. Through its resource reserves, Gandor is making modest economic gains, moving from raw exports to the construction of factories that produce electronic

products. As Gandor has developed, its electricity needs have increased. Gandor has traditionally met its power needs through domestic hydropower production at Gand Reservoir, just downstream of the confluence of the Nortesund and Suresund tributaries, but the combination of growing electricity needs and exhaustion of its domestic hydropower supply has made it eager to import electricity from its neighbors. Gandor's population consists of two predominate ethic groups, the larger of which, the Tulsi, dominate the government and industry in Gandor's burgeoning cities. The minority, the Hrang, reside near Gandor's northern border with Ordon, where they live along the riverbed. There is also a small Hrang population on Ordon's side of the border. The Hrang rely on rice cultivation, seasonal floodplain gardening, and traditional fisheries to meet their subsistence needs. They are also characterized by a higher level of poverty than in the rest of the country as well as political marginalization- which came to light in the 1990s, when the international community intervened in Gandor to stop violence against the Hrang. The impoverished conditions that emerged during the 1990s in Gandor's northern region have created political opposition to the governing democratic regime, which the majority party is eager to contain.

Additional Gandor Challenges:

- The ethnic minority, the Hrang, are threatened by the effects of climate change. Larger floods and longer dry seasons threaten their subsistence agriculture.
- Conversely, large hydropower projects proposed upstream in Ordon and Dalik may flatten the hydrograph that supports seasonal floodplain farming and the large and diverse native fishery. These native fish species, used both as an economic export and as subsistence for the Hrang, are unlikely to thrive without historic wet and dry season conditions.

Panam

Southeast of Gandor sits Panam, a coastal country at the mouth of the Pandal River. Most of the country lies along the Tulgy Sea outside of the basin, divided from Gandor by the Panam Mountains. Previously isolated and economically stunted by civil war, Panam has exhibited surprising economic growth since the resolution of the conflict in 1992. Panam's economy is driven by a combination of subsistence agriculture (primarily rice cultivation), clothing production and exports, and coastal fisheries both at the mouth of the Pandal River and in the Tulgy Sea. To the south of the country, where the Pandal River approaches the ocean, sit a large mangrove forest and fishery, recently expanded as an income-generating project for local women by a large international NGO. To spur economic development, Panam has been seeking to draw ecotourists to the exceptional biodiversity in its northern region, including several species of rare and endangered birds that nest along the Pandal River. As the country farthest downstream in the Pandal River Basin, Panam is very concerned about maintaining a reliable water supply for its fisheries. Flash floods from dams constructed in Gandor have on occasion inundated its fisheries, destroying fish stocks and fishing equipment. Panam has enjoyed a relatively stable democratic government for the last twenty years, and is primarily inhabited by the Klee ethnic group.

Additional Panam Challenges:

- Panam's groundwater is at risk for saltwater intrusion, leaving the Panam government with limited options for drinking water.

- Panam's government is growing increasingly concerned about sea level rise. While there is some high ground along the Gandor border, most of the country lies near sea level. With a sea level rise of +1 meter, most of the habitable land in Panam would be inundated.

Esund

To the south of Gandor and Ordon, neighboring Panam, lies Esund, a relatively wealthy country that contains two significant tributaries, the Nortesund and Suresund, that feed into the Pandal River. Esund's capital lies outside of the Pandal basin, and its economy is centered in large cities with industry, tourism, and service sectors. Esund has a long coastline and a long-established fishery in the Southern Ocean. So far, it has not imposed significant demands on the water resources of the Pandal tributaries. However, the central government has been exploring plans to construct a series of dams on the Esund River in order to generate power for its large coastal cities and to boost industrial agriculture in its western region. The country is diverse, drawing international commerce and tourists. However, a number of ethnic groups who rely primarily on subsistence agriculture inhabit Esund's countryside, and these groups are wary that their traditional practices may be lost in the country's push for industrial agriculture for export.

Additional Esund Challenges:

- Esund, like Panam, relies on groundwater for its coastal urban water supply. Esund's groundwater supply is threatened by industrial pollution and by salt water intrusion related to unsustainable withdrawals.
- Esund's globalized capital draws tourists, many of whom venture inland to see the rainforests surrounding the Nortesund tributary of the Pandal. Esund's governing officials are worried about how to meet their energy demands needed to maintain economic growth without losing their burgeoning tourism industry.

Dalik

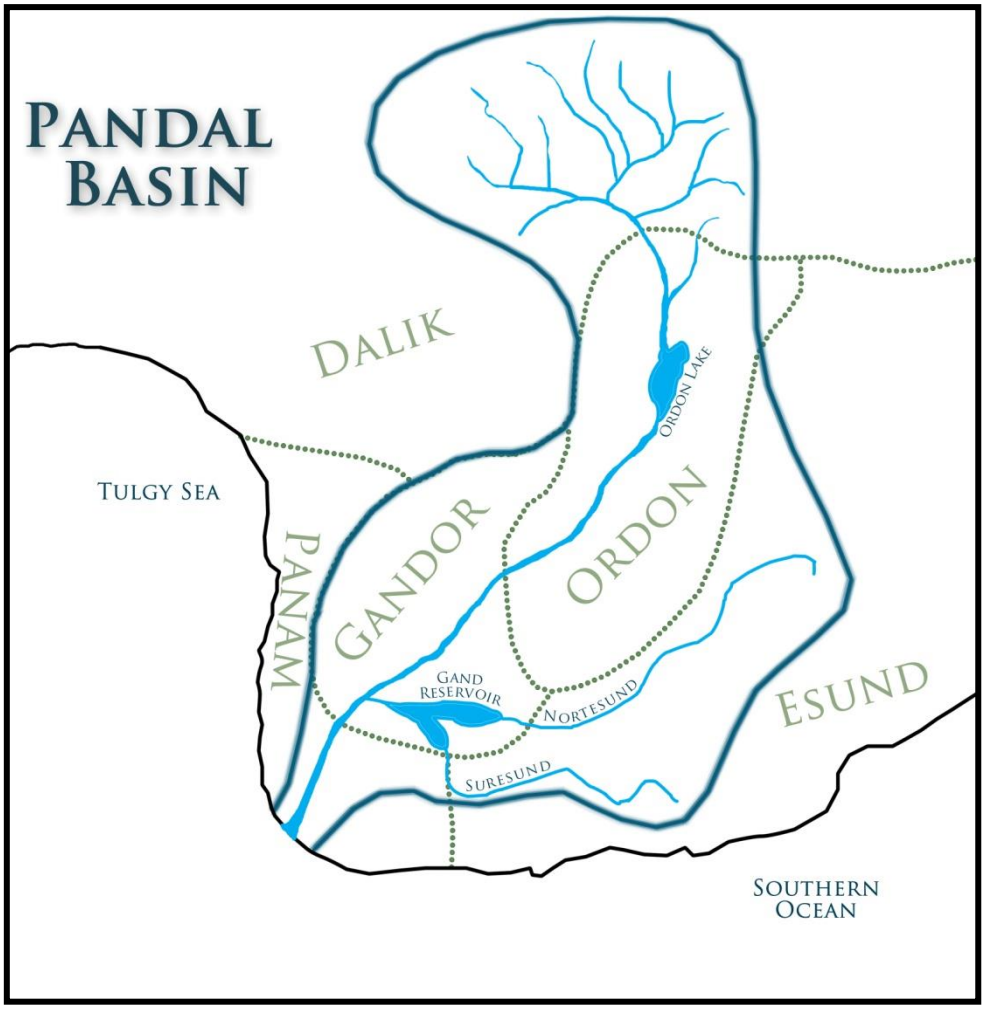
In the northernmost headwaters of the Pandal basin, Dalik borders all four of its much smaller neighbors. Dalik is a large, wealthy country still exhibiting rapid economic development. Most of Dalik's population lives in large cities along the Tulgy and in the north of the country, where large industrial fisheries, agriculture, mining, and large-scale manufacturing and industry have sustained a diverse economy. Politically, Dalik has used its economic and military power to achieve its goals in the region, backing a civil war in Panam and supplying weapons to the Tulsi in Gandor in the 1990s in order to procure raw goods and to distract the international community from its massive deforestation and mining operations, which involved relocating many minority ethnic populations. Today, Dalik suffers from high levels of pollution, and it hopes to green up its image by switching from its oil reserves to hydroelectric power. It has already two dams in the Pandal headwaters, and plans to build several larger dams within the next few years. Dalik has not joined any regional agreements or otherwise participated in river basin planning.

Additional Dalik Challenges:

- Dalik is worried that the international community will oppose unilateral construction of dams in the Pandal headwaters. If hydropower production is delayed, the Dalik

government is investigating new developments in hydrofracturing, which will make natural gas deposits in the east economically viable.

- Dalik's municipal water supplies in its large cities are contaminated to unsafe levels by mining and agricultural runoff. One political party in Dalik has proposed diverting water from the Pandal River to meet drinking water needs.



Summary of Key Issues and/or Interests by State				
Ordon	**Gandor**	**Panam**	**Esund**	**Dalik**
Priority is economic growth	Growing electricity needs	Subsistence agriculture (rice)	Industry & service sectors	Large population
Forestry	Mining	Coastal fisheries	Tourism	Wealthy
Hydropower potential	Agricultural land	Clothing production	Agriculture & irrigation needs	Rapid industrialization
Safe drinking water/sedimentation	Growing number of factories	Mangrove forest with endangered birds	Considering hydropower development	Agriculture, mining, large-scale manufacturing
Indigenous spiritual use of the river	Indigenous riverine interests	Flash floods from upstream dams	Indigenous subsistence agriculture	Pollution and drinking water contamination
Civil uprising	Subsistence agriculture	Salt water contamination of groundwater	Salt water contamination of groundwater	Interested in cleaner energy: hydro or natural gas
Landslides, erosion	Native fishery	Sea level rise	Potential eco-tourism	Two dams in headwaters, more planned

D) Institutional Mechanisms: Addendum to Previous Exercise

Group exercise: Institutional Mechanisms

Instructions

The 5 countries of the Pandal basin have now decided to formulate a River Basin Organisation (RBO) and a Basin Council (BC) to strengthen their cooperation. You are about to enter into a negotiation to discuss institutional set up for these institutions, which will be part of an overall Pandal basin cooperation agreement.

1) Country group discussion (30 minutes):

In your group, discuss the following issues, keeping in mind particular consideration to position of your country within the basin:

- **Mandate** of RBO and BC (incl. 1. overall objectives/ goals, for instance improving water quality; 2. Geographical scope of RBO/BC authority, for instance surface and/ or groundwater)
- **Structure** of RBO and BC (incl. 1. Conference of Parties, 2. Implementing Secretariat, 3. Technical Committees/ Working Bodies) and membership (incl. different stakeholders' groups), as well as frequency of work/meetings
- **Function** (incl. 1.legislative authority, 2. Executive authority, and/ or 3. Dispute settlement related authority)

2) Negotiations among basin countries (30 min)

Now, you will negotiate with all riparian countries on what would be the key aspects of RBO and BC. Each group appoints one or two representatives to sit at the negotiation table, while others from the country team will be 'backstopping' sitting behind negotiators.

3) Inauguration ceremony of the RBO and BC then reflection of this exercise (15 minutes)

What have you learnt, what works, what is difficult, what is missing from discussion?