

# **Report of**

## **ILEC International Colloquium**

**“Mainstreaming Lakes and Other Lentic Waters in the Global Water Agenda”**

*WLC17 Side Event, 14<sup>th</sup> October 2018  
Tsukuba International Center, Tsukuba, Ibaraki, Japan*

# Summary Report

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#### **Background and Objective**

The Colloquium was organized by the International Lake Environment Committee Foundation (ILEC) as a side event at the 17<sup>th</sup> World Lake Conference (WLC17) in Tsukuba City, Ibaraki Prefecture, Japan on 14<sup>th</sup> October 2018. The Colloquium was designed as an initial international effort in a longer-term series of activities focusing on how best to recognize and mainstream lakes into the global water arena, including relevant discussions and agreements at all levels of government.

The realities are that water is an essential requirement for all life, as well as being the most encompassing global-scale integrator connecting aquatic and terrestrial ecosystems and the atmosphere in a continuing cycle of use and replenishment. Humans use freshwater systems for a wide range of human health and socio-economic development and subsistence needs, with natural and artificial lakes and other lentic (impounded or static) water systems and their basins being especially important in regard to their wide ranging values and management challenges. At any given time, the quantity of freshwater on the surface of the globe contained in lakes and other lentic water systems functions collectively as a water “stock” containing more than 90 percent of the total surface liquid freshwater, which includes rivers which function as a “flow.” Artificial lakes (reservoirs) function collectively as flow regulators, and acquire some lentic properties over long periods of time. Together, these lentic water systems represent a readily-usable freshwater source, providing a variety of important ecosystem services for humans and other ecosystems.

However, it is ironic that lentic water systems largely remain a missing gap in global water discussions in spite of their immense importance. Reviews of major international water conventions and agreements highlight that, with few exceptions, lakes and other lentic water systems have been left out of the mainstream water agenda. For example, while United Nations (UN) and international organizations deal with open oceans, large marine ecosystems, regional seas, international rivers and aquifers, there is no corresponding international support mechanism directed to developing a global-scale forum for transboundary or non-transboundary lakes, or even to undertake global assessments on these lakes. It is therefore encouraging to note that specific reference to ensuring the availability and sustainable management of water-related ecosystems, including lakes, is included as a priority component in Goal 6 of the 2030 Agenda for Sustainable Development (SDG). In pursuing this Goal, however, the generalized “umbrella” approaches often-used for water resource management as a whole are not adequate for lakes. Rather, the management approach has to take into account their unique characteristics (long water retention time; integrating nature; non-linear response to stresses).

With the above as background, the Colloquium included keynote addresses on mainstreaming possibilities by experts from international and national organizations and programs. Presentations were also made on regional and national level programs in Africa, East Asia, South East Asia, and the European Union (EU) on the application of Integrated Lake Basin Management (ILBM<sup>1</sup>), including the relevance of their experiences in regard to mainstreaming lakes into the global water agenda. Statements of support from Global Environment Facility (GEF), United Nations Development Programme (UNDP), United Nations Educational, Scientific and Cultural Organization-International Hydrological Programme (UNESCO-IHP), United Nations Environment Programme (UNEP), World Bank and Living Lakes also were shared at the Colloquium. Following these presentations, an open discussion involving all Colloquium participants was held.

Although “lentic waters” are generally used to refer to natural impoundments, fresh and saline, the main focus of the Colloquium discussion was on natural as well as artificial lakes serving as water sources for both human water security and biodiversity. Accordingly, the primary aim of this Colloquium was to provide a forum to discuss how to mainstream lakes and other lentic water systems into the global water agenda (what do we need to do to accomplish it; how should we go about it; who should be involved; what are the logical steps for us to move forward to achieve this goal; etc.), as well as to infuse the Colloquium discussions into the discussion and conclusions of WLC17.

## Key Messages

- 1. Lakes are a major contributor to global human water security and aquatic biodiversity, containing more than 90% of the liquid surface freshwater on earth.**  
Only less than one percent of the freshwater on the Earth’s surface is in readily-usable form, with more than 90% of it being stored in lakes and reservoirs. Those lakes provide many uses for sustainable human livelihoods and economic development, while serving as essential habitats for a great variety of flora and fauna.
- 2. The state of lake environment is seriously deteriorating both in developed and developing countries.**  
Because of their unique characteristics (long retention time, integrating nature, and non-linear responses to stress), lakes are very vulnerable to human activities within, and sometimes even outside, their basins, with their overall condition deteriorating on a global scale. Accordingly, many lakes around the world are experiencing threats to their human water security and biodiversity values.
- 3. In spite of their immense importance within the global hydrologic cycle, lakes remain a “critical missing link” in the global water agenda.**  
Be it in terms of global water agenda or scientific publications, relatively less attention has been paid globally to lakes, compared to other water bodies, despite the critical role they play

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<sup>1</sup>ILBM is an approach for managing lakes and reservoirs for sustainable use through a cyclic process involving gradual, continuous and holistic improvement of basin governance, including sustainable efforts for integrating institutional responsibilities, policy directions, stakeholder participation, scientific and traditional knowledge, technological possibilities, and funding prospects and constraints.

in regard to global human water security and biodiversity. Indeed, lakes remain a “critical missing link” that continues to be essentially ignored in the global water agenda.

**4. Mainstreaming lakes into the global water agenda crosses many sectors, making it everyone's responsibility.**

Given the many important functions that freshwater plays in regard to human needs and livelihoods, and maintenance of the life-supporting ecosystem services provided by nature, and noting that the vast majority (>90%) of our freshwater exists in lakes, wetlands and other lentic water systems, it is clear that mainstreaming lakes into the global water agenda crosses many sectors. Thus, ultimately achieving this goal ends up being everyone's responsibility, whether done within the context of international and national agency programs, the scientific community, non-governmental organizations, the private sector and/or the daily activities of citizens.

## **Way Forward to Mainstreaming Lakes in the Global Agenda**

In highlighting these recommended actions to mainstream lakes, it is noted below that efforts are underway at the national level in some countries to highlight the essential role and governance challenges associated with maintaining the wide range of life-supporting ecosystem services provided by lakes, reservoirs and other lentic water systems. At the same time, however, the Colloquium highlighted the reality that mainstreaming lakes into the global water agenda is not a specific program or activity of any individual UN or other international or national organization or agency. Rather, everyone has a role in regard to mainstreaming lakes in the global water agenda within their own range of mandates and related activities, including national governments, UN and other international agencies, academia, research institutions, the private sector, non-governmental organizations (NGOs) and the general public. Because their respective roles in addressing this challenge will surely vary, the necessary collective actions to mainstream lakes in the global water agenda will doubtless have many components.

**1. Promote country-level efforts to mainstream lakes at the national level.**

Country case studies presented from India, Indonesia, Japan, Kenya and Malaysia highlight promising efforts to apply Integrated Lake Basin Management (ILBM) approaches in some individual lake basins, and also in country-level water resource management plans, strategies and policies. Although the levels of success and challenges vary from country to country, all these cases demonstrated a gradual learning process of the six key governance “pillars” of ILBM and how to strengthen them through a cyclic ILBM Platform Process<sup>2</sup>. It is extremely important to explore ways and means to spread these efforts to other lake basins and countries around the world, through developing synergies with other related ongoing processes and mechanisms such as Integrated Water Resources Management (IWRM), Integrated River Basin Management (IRBM), The Ramsar Convention on Wetlands (Ramsar), and the World Water Forum (WWF).

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<sup>2</sup>The ILBM Platform is a virtual stage for collective stakeholder actions for improving lake basin governance through ILBM as a strategic means of facilitating the gradual and continuous improvement of basin governance over a long time period.

**2. Initiate a global platform to mainstream lake issues at the global level.**

A key missing link in current efforts to mainstream lakes is the lack of a common global platform to promote lake issues to the highest global policy level. The above-noted case studies presented at the Colloquium clearly demonstrate the existence of efforts to promote sustainable management of lakes at country and individual lake basin level, mainly through bottom-up efforts. However, such efforts are isolated and “disintegrated,” lacking a common global platform to share experiences and lessons learned, and efforts that would facilitate mainstreaming lake issues into the global agenda. It is therefore recommended that such a platform be established with the involvement of relevant UN Agencies, and other relevant international and regional organizations.

**3. Promote efforts to consolidate and share data, information and knowledge on lakes on a global scale.**

There is a serious deficiency of consistent, meaningful data and information on lakes on a global scale, with past efforts being largely fragmented. It is therefore necessary to initiate a global effort to consolidate data and information on both the scientific and socio-economic aspects of lakes and their management for sustainable use. This initiative would generate and share knowledge that identifies key drivers, emerging trends, challenges and possible policy responses. One example of such an initiative would be establishment of a Global Lake Assessment Program that concentrates currently-fragmented ongoing efforts related to the assessment of lakes into a transdisciplinary program on a global scale. Potential partners for such a program would include, among others, the United Nations World Water Assessment Programme (UNESCO WWAP), the new Sustainable Water Futures Programme (SWFP), UNESCO-IHP, International Institute for Applied Systems Analysis (IIASA), World Water Council (WWC), Global Water Partnership (GWP), International Association of Hydrological Sciences (IAHS), International Association for Hydro-Environment Engineering and Research (IAHR), International Water Association (IWA) and International Water Resources Association (IWRA).

# Record of Discussion

## ILEC International Colloquium

### **“Mainstreaming Lakes and Other Lentic Waters in the Global Water Agenda”**

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#### **1. Greetings and Introduction**

##### **1.1. Greetings by Prof. K. Takemoto, President, Board of Directors, ILEC**

Prof. Kazuhiko Takemoto, President of the Board of Directors, ILEC opened the meeting by welcoming the participants and thanking them for their attendance. Prof. Takemoto identified the objective of the meeting being to facilitate a wide range of discussion on how to mainstream lake basin management into the global water agenda. He noted that ILEC would reflect the outcome of the Colloquium in its activities. Additionally, ILEC would create a network of experts consisting of Colloquium participants, as well as like-minded experts around the world.

##### **1.2. Introduction of Participants by S. Ichiki, Secretary General, ILEC**

Mr. Shigekazu Ichiki, Secretary General, ILEC introduced participants.

#### **2. Keynote Address**

##### **2.1. “Lakes and Other Lentic Water Systems: A Critical Missing Link in Global Water Debates, and the Need for Mainstreaming” by Walter Rast and Masahisa Nakamura**

The presentation outlined the background and objective of the Colloquium. It was noted that although lakes and other lentic water bodies play an important role in global water security by virtue of holding more than 90% of the liquid surface freshwater on earth, the management and sustainable use of lakes, reservoirs, wetlands and other lentic water systems, are largely ignored in global water discussions in favor more “umbrella” management topics involving water resources in general. The reality is that such approaches do not work for lentic water systems because of their unique characteristics (long water retention time; integrating nature; non - linear response to stresses) that make their accurate assessment and management problematic.

It was noted that this Colloquium was designed to discuss the fact their large water volumes (>90%) and their unique characteristics mandate that lakes and other lentic water systems be ‘mainstreamed’ into the global water discussions, including being explicitly identified as warranting priority attention. Thus, the overall goal of the Colloquium was to highlight this need, and particularly to discuss how to best mainstream lakes into the global water arena (what do we need to do to accomplish it; how should we go about it; who should be involved; what are the logical steps for us to move forward to achieve this goal; etc.).

## **2.2. “On a Proposal to Launch an International Lake Assessment Programme” by András Szöllősi-Nagy**

This presentation observed that, despite lentic waters representing more than 90% of the liquid surface freshwater on earth, much less attention has been paid to lentic waters, compared to lotic (flowing) waters, as evidenced by the fact that the numbers of publications on lotic waters are many orders of magnitude more than for lentic waters. Managing water systems for sustainable use is now an issue of major concern because of the declining quantities of available surface water and increasing withdrawals for meeting human health, livelihoods and other socioeconomic needs.

The presentation emphasized the need to undertake a global synthesis to understand the scientific underpinning of connections between lake water, lake ecosystems, pollution and sanitation, as well as other SDGs having a connection with lakes. Such an effort would result in a compendium of the state of knowledge that identifies key drivers, emerging trends, challenges and possible policy responses. It was therefore proposed to develop an International Lake Assessment Program by concentrating the yet fragmented ongoing efforts related to the assessment of lentic waters into a transdisciplinary program. The UN system, particularly the UN World Water Assessment Programme (WWAP) led by UNESCO, and the new Sustainable Water Futures Programme (SWFP), represent excellent vehicles to utilize to address this goal. Through and with WWAP, governments could be reached more effectively, while SWFP which is linked to Future Earth of ICSU, is an outstanding vehicle to involve the global water science community to address issues ranging from lake hydrology research all the way to water sociology, anthropology and ethics. Thus, it was proposed that ILEC, WWAP and SWFP enter into discussions with a view to developing an International Lake Assessment Program as part and parcel of a global sustainable water future with other potential partners such as UNESCO’s International Hydrological Programme, IIASA, WWC, GWP, IAHS, IAHR, IWRA, IWA and other relevant institutions.

## **2.3. “Mainstreaming Lakes in Global Agenda: Messages, Targets, Strategy, and Symbolic Actions” by Kenzo Hiroki**

This presentation emphasized that discussion should start by defining “mainstreaming” in order to develop a common understanding. The following four examples of possible definitions were given: 1) Stakeholders recognize criticality of addressing lakes for our common future; 2) Stakeholders proactively take concrete actions towards “better lakes”; 3) Institutions have sound governance for “better lakes”; and 4) More resources are consequently mobilized for action. The presentation also identified the following four key elements needed in mainstreaming lakes: 1) Clear-cut messages; 2) Measureable targets; 3) Concrete Strategies; and 4) Symbolic actions to keep up the necessary momentum. Based on this outline, the presentation proposed the following key actions for mainstreaming lakes: 1) Raise political profile of the World Lake Conference by organizing, for example, a Ministerial Conference or by Creating an ILBM Principle to be endorsed by Governors and Mayors; 2) Make inputs (such as a WLC17 Message) to related processes such as WWF and COP; 3) Create and/or link with UN, Advisory Bodies, and Partner Process to collaborate in lobbying for lakes at all levels; 4) Recommendation to promote regional discussions on lakes at a high political level; 5) Feed

Messages and Targets of WLC into the UN, member states, and stakeholders focusing on mainstreaming lakes;; and 5) Establish a UN World Lake Day as a symbolic action.

#### **2.4. “Call to Solidarity for the Conservation of Lakes of the World: Within and Beyond 'Lakes'; From Shiga's Experience in Lake Biwa” by Masaki Hirowaki**

This presentation highlighted the efforts to conserve Lake Biwa through joint actions among citizens, the government and researchers. Measures by Shiga Prefectural Government to share these experiences locally and globally were highlighted. One such measure was the First World Lake Conference (WLC1) held in Shiga in 1984, leading to the establishment of ILEC. The need to actively promote communication among stakeholders was emphasized as a key requirement to promote solidarity and cooperation for lake conservation. Examples in the Lake Biwa basin include the Soap Movement that led to enactment of an ordinance for lake conservation; Mother Lake Forum (BIWA-COMI Meeting) for residents, NPOs private companies and students; and International Volunteer Students Association (IVUSA) involved in voluntary activities for Lake Biwa conservation. From the viewpoint of the presentation, to “mainstream” lakes means making lake information and experiences known to all people.

### **3. National Lake Basin Management Policies and Programs**

#### **3.1. “Integrated Lake Basin Management (ILBM) – An Integral Part of Transforming the Malaysian Water Sector” by Salmah Zakaria**

This presentation highlighted efforts to reform the water sector in Malaysia over the last ten years. Since 2008, the Academy of Sciences Malaysia (ASM), in collaboration with relevant stakeholders, has undertaken various thematic studies on the water sector covering all key areas of concern. The studies culminated in the publication of a National Integrated Water Resources Management Plan (NIWRM) that was formally launched in 2016. The plan contains strategies and a road map to address the issues and challenges facing the water sector in Malaysia. The plan complements the National Transformation Program (NTP) (Malaysia’s blueprint for socio-economic development to achieve developed country status by 2020; Vision 2020) in ensuring the water sector is duly prioritized in socioeconomic development. NIWRM is a vital contribution to meeting Malaysia’s commitment to SDGs, particularly Target 6.5 to “Implement integrated water resources management at all levels” by 2030 under SDG Goal 6 on “Clean Water and Sanitation.” The timeframe for implementation of the road map developed for each strategy in the NIWRM is 15 years ending in 2030, the UN target year for achieving SDGs. The presentation emphasized that it takes time to bring change, thereby requiring much patience on the part of lake practitioners.

#### **3.2. “Kenya National Integrated Lake Basin Management Strategy – An Overview” by Daniel O. Olago**

Kenya has both fully internal and transboundary lakes under intense pressures from anthropogenic uses and activities within the lakes themselves and in their catchments. Climate changes are compounding the pressures of the quantity, quality, function and ecosystem health of these lakes. However, there is no specific policy, legislative and governance regime to



address the management of the lakes in a holistic and sustainable manner. To address this gap, with the support of ILEC, a National Integrated Lentic-Lotic Basin Management (ILLBM) Strategy has been developed to provide an integrated framework for the sustainable management and use of lake basin resources. The policy is expected to be officially endorsed soon by the Kenyan Government.

### **3.3. “Shaping up of the National Programme on Integrated Lake Basin Management, Issues and Challenges: The Indian Experience” by Ajit K. Pattnaik**

The presentation introduced various policies, legislation and regulatory regimes for lake basin management in India, including the National Wetland Conservation Plan (NWCP) of 1986, the National Lake Conservation Programme (NLCP) of 2001, the National Plan for Conservation of Aquatic ecosystem (NPCA) of 2013, and the Wetland (Conservation and Management) Rules of 2017. Lake Chilika was cited as one of the success stories of ecological restoration through adopting the ILBM approach. It was noted that the various measures to conserve lakes in India have not been able to keep pace with the rapidly-increasing pressures on them in terms of population growth, the excessive dependence for meeting human needs and water for agriculture, unsustainable urbanization, pollution, invasive species, and climate change. Key gaps limiting the effectiveness of national efforts are uncoordinated sectoral approaches to addressing the challenges, weak governance mechanisms, limited capacity for integrated management, and inadequate research-management interface. The focus of national programs is therefore being shifted to increased ownership of state governments in wetlands management, and mainstreaming the full range of wetlands ecosystem services and biodiversity values with an integrated management approach in developmental planning.

### **3.4. “Indonesian Lake Management: The Indonesian Movement for Lakes Ecosystem Conservation and Rehabilitation” by Inge Retnowati**

Ongoing efforts to manage lakes in Indonesia were highlighted. One such effort is The Indonesian Movement for Lakes Ecosystem Conservation and Rehabilitation (GERMADAN). It is a road map to save lakes in Indonesia initiated by a “9 Ministries’ Agreement on Sustainable Lake Management” in which 15 Priority Lakes were identified at the 1<sup>st</sup> Indonesian National Lake Conference in 2009 in Bali. Although there have been efforts undertaken to manage lakes over the last 10 years, many challenges still remain.

### **3.5. “Water Environment Administration of Lakes in Japan” by Kazuya Kumagai**

This presentation highlighted the legislative framework for administration of the water environment in Japan. The framework consists of the Basic Environmental Act that establishes Environmental Quality Standards, the Water Pollution Control Act that establishes Effluent Discharge Standards for industrial wastewater, and the Sewerage Act and Johkasou (septic tank) Act for domestic wastewater treatment.

### **3.6. “Implementing Better-Governance for the Integrated River Basin Management in Lake Biwa – Yodo River Basin” by Shoji Kozaka**

Ongoing efforts by the Union of Kansai Governments (UKG) to coordinate efforts for integrated river basin management were presented, focusing on upcoming issues such as increased flood/drought risk, climate change impacts, and population decline. Establishing a Common Platform to elaborate issues and coordinate joint effort was identified as a key factor contributing to successful river basin management. As a coordinator of the Common Platform, UKG has to maintain neutrality in order to win the confidence of all stakeholders (including its seven Prefectural Government members) in implementing their shared long-term vision.

### **3.7. “European Lakes and the EU Water Framework Directive” by Pieter van der Zaag**

This presentation provided an overview of the European Union (EU) Water Framework Directive (WFD) that came into force in the year 2000. The WFD consolidated a number of earlier directives into a unified legal framework to protect and restore clean waters in Europe, adopting a holistic integrated approach that incorporates water, land, atmosphere and biosphere, with the river basin as the unit of management. The WFD sets specific deadlines for Member States to achieve ambitious environmental objectives for aquatic ecosystems. The ultimate aim of the WFD is to ensure all waterbodies (rivers, lakes, transitional and coastal waters) achieve a “good” status, in terms of biological and chemical criteria. Each River Basin District (RBD) has to develop a six-year term River Basin Management Plan (RBMP) with a concrete Program of Measures to achieve a “good” status by the end of each term. The outcomes are evaluated every six years, and the plans updated and revised as necessary.

Nevertheless, there has been limited progress in achieving the WFD targets. During the first WFD cycle (2009-2015), for example, the number of surface water bodies in “good” state only increased by 10%. Many RBDs have asked the European Commission (EC) to allow them to postpone achieving a “good” status for all waterbodies until the end of the third cycle in 2027. The challenges in implementing the WDF include a peculiar balance between the flexibility of Member States and the enforceable and binding obligations by the EC. Because Member States can establish their own reference sites and assessment methods, there are more than 100 different national assessment methods for lakes, and more than 600 different national lake types across Europe. Further, because the reporting entities are the member states, rather than the RBDs, the WFD has reduced collective action in some transboundary basins between riparians because member states are reporting individually to the EU.

### **3.8. “Lake Erhai and Other Cities: Environment Control Activities in China” by Zhengyu Hu**

This presentation outlined a new River/Lake Keeper/Chief system introduced in China in 2016 for nationwide implementation. In this system, heads of various levels of government in China are designated as chiefs responsible and accountable for all rivers and lakes in their region. Heads of provincial-level regions are designated as general chiefs responsible for all rivers and lakes in the region. Other top officials at the provincial, city, county and township levels are designated as chiefs responsible for different parts of the waterbodies. Responsibilities of the chiefs include water resource protection, pollution prevention and control, and ecological restoration. The job performance of the chiefs is assessed, each being held individually

accountable if environmental damage occurs in the waterbodies they oversee. This new system has led to more concrete actions to protect lakes and rivers in China. As an example, 19 billion RMB are planned to be invested for the conservation of Lake Erhai in 2018 – 2020.

### **3.9. “Global Wetland Outlook: State of the World’s Wetlands and their Services to People 2018” by Colin Maxwell Finlayson**

The presentation gave an overview of the report “Global Wetland Outlook: State of the World’s Wetlands and their Services to People 2018” produced by the Technical Advisory Panel for Ramsar Convention on Wetlands. The report builds on previous assessments such as Millennium Ecosystem Assessment (MEA), CBD Global Biodiversity Outlook (GBO), IPBES Land Degradation and Restoration Assessment, and The Economics of Ecosystems and Biodiversity (TEEB). The report emphasizes the role of wetlands in delivering sustainable development, framing the role of the Ramsar Convention nationally and internationally. It notes wetlands are rapidly declining, with 35% losses since 1970 based on available data. Thus, wetland ecosystems are in crisis, with a quarter of species at risk of extinction. The quality of wetlands is also declining due to drainage, pollution, invasive species, unsustainable use, disrupted flow regimes and climate change. The responses proposed to deal with the issues facing wetlands include: 1) Enhancing the network of Ramsar Sites; 2) Integrating wetlands into the post-2015 development agenda; 3) Strengthening legal and policy arrangements; and 4) Applying economic and financial incentives.

## **4. Discussion**

### **4.1. Seeking More Active Role of UN and International Agencies in Lake Basin Management: Closing the Gap between Bottom-Up and Top-Down Approaches:**

Masahisa Nakamura, Vice President, ILEC Board of Directors, observed that it was now appropriate and timely to discuss mainstreaming of lakes into the global water agenda. He noted ILEC has been undertaking many activities to support lake management around the world. One challenge is that many of the necessary activities need to be implemented on-the-ground through projects and programs supported by national governments. While some countries (such as those whose national case studies were presented in this Colloquium) have started recognizing and implementing integrated lake basin management at the national level, such efforts remain limited on a regional and global scale. There is need for more top-down recognition and support of these national efforts by global players such as UN and WWF in order to support the ongoing isolated bottom-up approaches. Masahisa Nakamura therefore raised the following two questions for consideration: 1) What are the gaps between bottom-up and top-down approaches to promote sustainable lake management; and 2) What are the gaps between the ideal situations in the supporting Statements by the UN and other International Agencies on one hand, and the real on-the-ground situations on the other hand?

András Szöllősi-Nagy noted that the UN needs to be stimulated by ideas to react, supported by properly-packaged information. He proposed one approach being to influence ongoing UN programs to bring lake issues into their agenda. As a specific example, he noted UNESCO’s International Hydrological Programme (IHP) is in the process of planning for its 9<sup>th</sup> Phase of eight years. He therefore proposed that a planning workshop be held in early-2019 to prepare

a document on lakes to be submitted to IHP for possible inclusion in the 9<sup>th</sup> Phase work plan. The proposed topic of the document was to be on indicators mapping the relation of lakes with their natural and social environment, written in such a manner as to be easily understood and easily capture the interest of policymakers.

#### **4.2. Valuing Lakes Properly**

Alejandro Juarez Aguilar, Sandra Azevedo, Ajit Pattnaik and Adelina Santos-Borja emphasized the need to value lakes properly, including relevant socio-economic aspects. Where possible, "numbers" should be used in such efforts because they are easy to communicate.

As to why lakes have received little attention globally, despite their great significance, András Szöllősi-Nagy noted it was partly because lakes have slower dynamics. Therefore not quickly capturing interest as, for example, floods in rivers. At the same time, however, the "tipping point" in lakes can happen quickly, as in the case of lake eutrophication.

#### **4.3. Need to Promote Local Action**

Pieter van der Zaag noted that lakes are local, therefore highlighting the need to engage with local leaders (Mayors and Governors) who are connected to lakes.

#### **4.4. Role of Science and Effective Communication of Science for Policy Making**

Citing the case of Malaysia and other South East Asian Countries, Mashhor Mansor and Inge Retnowati emphasized the need to support research to generate data and information that can be used as hard evidence when communicating lake issues to policymakers. Colin Maxwell Finlayson noted that short papers on scientific findings are a powerful tool to communicate with technical experts involved in policymaking. Paul Kere and Dan Mogusu emphasized the importance of having short, clear messages for communicating with policymakers.

Citing the experience of ILBM in Malaysia, Salmah Zakaria noted there is always a time gap between the issuance of scientific communications and the time wherein policymakers understand and can respond. This situation indicates the need for patience on the part of the scientific community.

#### **4.5. Financing**

Citing the case of the EU Water Framework Directive, Gábor Molnár noted there is a definite need to finance lake management at the local level. Funding at the local level is typically sectoral, with different sectors competing for funding. However, there are no funding mechanisms in most cases for multi-sector programs such as lake management.

#### **4.6. Engagement with Ramsar Convention on Wetlands**

Colin Maxwell Finlayson proposed that ILEC establish a formal engagement with the Ramsar Convention on Wetlands (Ramsar) with the view of promoting lake issues within the Ramsar structure. Ramsar has strong contacts with National Governments of its 170 Contracting

Parties. Thus, ILEC would benefit from contact with the various national governments through such a formal engagement.

#### **4.7. Ninth (9<sup>th</sup>) World Water Forum “Dakar 2021”: Water Security for Peace and Development**

Salif Diop presented an overview of the 9<sup>th</sup> World Water Forum (WWF9) to be held in 2021 in Dakar, Senegal. The forum is designed to be a more focused, inclusive forum, being a catalyst for actions on water and sanitation commitments. It links with other platforms and international frameworks such as SDGs, Paris Agreement, Africa Water Vision 2025, and Africa Agenda 2063. The forum will focus on four priority themes, namely: 1) Water Security; 2) Cooperation; 3) Water and Rural Development; and 4) Means and Tools (Innovation, Governance, etc.). Participants were asked to consider what contributions “lakes” can make to WWF9. Shigenori Asahi outlined various activities being undertaken by Japan Water Forum in preparation for WWF9.

#### **4.8. Statements of Support from UN and Other International Organizations for Mainstreaming Lakes in the Global Water Arena**

Statements of support for mainstreaming lakes in the global water arena were also received from a number of United Nations and other international organizations that were unable to send participants to the Colloquium, including UNEP, UNDP, UNESCO-IHP, World Bank, GEF and Living Lakes. The participation of these and other relevant organizations with water resources assessment and management mandates and programmes will significantly facilitate the lake mainstreaming goal. As noted below, these statements generally support the goals and recommendations arising from the Colloquium discussions. Because some include a number of similar or overlapping observations, only the overall thrust of these statements is provided herein.

Virtually all the statements agree that, although lakes and other lentic water systems are a major component of global hydrologic resources, with critically important functions (e.g., underpinning economic development; livelihoods; food security; cultural heritage in many regions), these water systems have been largely ignored in global water discussions and agreements.

Accurate, meaningful risk assessment for lakes and other lentic water systems requires consideration of a wide range of interacting scientific, socioeconomic and governance issues, often with very subtle and incremental impacts, a situation not currently existing. The linkages between lakes/lentic water systems and lotic water systems within a basin also is a very important consideration, but also often ignored in assessment and management efforts. A concerted international effort to develop comprehensive lake databases to assess such situations is long overdue.

With their unique characteristics, managing lakes for sustainable use cannot be achieved in isolation, instead requiring collective commitments and action. Indeed, there is a need to develop more multi-sectoral perspectives (e.g., across environment, water, agriculture, climate, other sectors) to generate a shared vision for their planning and management, including recognizing the multi-purpose/multi-stakeholder dimensions of such resources. Achieving this

goal will require stepping up of multi-stakeholder partnerships across private and public sectors, and across local, national and global actors.

Freshwater is critical for achieving the SDGs, with lakes having special significance (i.e., large volumes of readily-usable water). Nevertheless, SDG Target 6.6 lacks objectives to achieve the goals. Thus, there is a need to inform, pressure and mobilize local, state and national governments regarding lake and lentic water system management needs, including modernizing the way information, institutions, policies, incentives and investments are facilitated to support sustainable lake management. To this end, integrating and infusing the ILBM concept as a complement to IWRM will go far to achieve effective lake management. Finally, the UN Environment Assembly offers a means of ensuring the mainstreaming of lakes and other lentic waters in the Global Water Agenda, particularly towards realization of the aspirations of the 2030 Agenda for Sustainable Development.

#### **4.9. Summary of Discussion**

Masahisa Nakamura, Vice President, ILEC Board of Directors, requested András Szöllősi-Nagy to summarize the discussion. In response, András Szöllősi-Nagy noted very fruitful deliberations had taken place. He will undertake to contact UN Water and other relevant UN and international agencies to propose a planning workshop be organized in early 2019, with the goal of establishing an International Lake Assessment Program. Masahisa Nakamura noted that, in addition to ILEC, other key players who could readily contribute to this initiative include, among others, the Japanese Government, Shiga Prefectural Government and United Nations University (UNU).

# List of Participants

## ILEC International Colloquium

### “Mainstreaming Lakes and Other Lentic Waters in the Global Water Agenda”

*WLC17 Side Event, 14<sup>th</sup> October 2018*

*Tsukuba International Center, Tsukuba, Ibaraki, Japan*

	Country	Organization	Name	
1	Australia	ILEC Scientific Committee	Maxwell Finlayson	
2	Brazil		Sandra Azevedo	
3	China		Hu Zhengyu	
4	India		Ajit Pattnaik	
5	Japan		Tsugihiko Watanabe	
6	Japan		Yoshihisa Shimizu	
7	Kenya		Daniel Olago	
8	Netherlands		Pieter van der Zaag	
9	Philippines		Adelina Santos-Borja	
10	Senegal		Salif Diop	
11	USA		Walter Rast	
12	China	ASEM Water Resources Research and Development Center	Yang Nan	
13	Hungary	Lake Balaton Development Coordination Agency	Gábor Molnár	
14		Sustainable Water Management National University of Public Service	András Szöllősi Nagy	
15	Indonesia	Indonesian Institute of Science (LIPI)	Luki Subehi	
16		Ministry of Environment and Forestry (MOEF)	Arief Mahmud	
17			Inge Retnowati	
18			Sakti Hadengganan	
19			Winarni Monoarfa	
20	Japan	ILEC Board	Kazuhiko Takemoto	
21			Masahisa Nakamura	
22		ILEC Secretariat	Hirofumi Waki	
23			Kiyoko Takemoto	
24			Nobuko Yamazaki	
25			Shigekazu Ichiki	
26			Victor Muhandiki	
27			Lake Biwa-Yodo River Water Quality Preservation Organization	Keiko Wada
28			Ministry of Environment	Kazuya Kumagai
29		Tadasu Yamada		
30		National Graduate Institute	Kenzo Hiroki	

	<b>Country</b>	<b>Organization</b>	<b>Name</b>
31	Japan	Shiga Prefectural Government	Jun'ichi Tanoue
32			Masaki Hirowaki
33			Minoru Shirai
34			Naoki Komatsu
35		Union of Kansai Governments	Shouji Kouzaka
36		University of Shiga Prefecture	Naoko Hirayama
37		Water Forum Japan	Shigenori Asai
38	Kenya	Ministry of Environment and Forestry	Paul Kere
39		Ministry of Water and Sanitation	Daniel Mogusu
40	Malaysia	Academy of Science Malaysia	Salmah Zakaria
41		Malaysian Primatological Society	Mashhor Mansor
42		National Hydraulic Research Institute of Malaysia (NAHRIM)	Zati Sharip
43		Putrajaya Cooperation	Normaliza Binti Noordin
44		Selangor Waters management Authority	Mazlan Bin Idrus
45		Universiti Sains Malaysia	Siti Norasikin Binti Ismail
46	Mexico	Corazón de la Tierra	Alejandro Juarez
47		Mexican Watershed Network	Eduardo Ríos Patrón
48	Nepal	National Lake Conservation Development Committee (NLCDC)	Lanka Bahadur Shahi
49			Laxmi Karki
50			Mingma Kami Sherpa
51			Nanikasi Thapa
52			Pradeep Acharya
53	Philippines	Laguna Lake Development Authority (LLDA)	Obsert Leo