



# NEWSLETTER

– Save Water, Save Lakes –

International Lake Environment Committee Foundation

This newsletter is also available in Japanese.



## The 15th World Lake Conference Highlights

The 15th World Lake Conference (WLC15); “Lakes: The Mirrors of the Earth – Balancing Ecosystem Integrity and Human Wellbeing,” was convened in Perugia, in the heart of Italy during September 1–5, 2014. Attended by nearly 800 participants from 45 countries, including scholars, delegates from governmental institutions, private enterprises, NGOs, artists, students and children, this gathering proved to be an insightful event highlighting both scientific and management issues regarding lakes, their surrounding ecosystems and human activities. Marking the 30th anniversary of WLC, the conference was opened with welcoming addresses by the Local Organizing Committee Chair, Prof. Lucio Ubertini, and several national/international-invited dignitaries, including Governor Taizo Mikazuki of the Shiga Prefecture, Japan, and Director General Hironori Hamanaka of ILEC. Prof. András Szöllösi-Nagy\*, the Rector of UNESCO’s Institute for Water Education (IHE), gave a

keynote address, focusing on water scarcity issues and the urgent need to increase the resilience of the global freshwater regime.

Over 30 thematic sessions/workshops were organized in eight mainstreams, covering diverse topics ranging from biological to governance and cultural issues. As a particular feature, the session entitled “Lake Basin Heartware” attracted many conference participants and the media, since it was an unprecedented session in the history of WLCs that first dedicated to themes related to human-nature interactions involving religious, cultural and traditional values of lakes and their basins. Another session featuring ILEC’s continuing activities was “Integrated Lake Basin Management (ILBM),” which highlighted various ongoing ILBM cases around the world, including the local site Lake Trasimeno. In parallel to the thematic program, several side events including the International Policy Forum, Local Policy Forum, and TWAP Open Forum were organized. Overviews of these fora are featured in the following pages of this issue.

During the conference, the venues scattered around the historical centre of Perugia also featured visual programs, in addition to the poster session and industrial exhibition convened in the main venue. These included special exhibitions on art/photography related to the conference theme, and a scientific educational exhibition, both open to the general public in the

city centre through the end of September. The conference participants also had the opportunity to discover natural and historical attractions of the Perugia surroundings, in the technical field trips to Lake Trasimeno and the Marmore Waterfall, as well as the social banquet on the shores of Lake Corbara.



The five day event concluded with the unveiling of the Perugia Declaration\*\*, which summarized all the key discussions and conclusions arising from the conference, and addressing messages to policy/decision-makers and lake stakeholders throughout the world. The next World Lake Conference (WLC16) is scheduled to take place in 2016 in Bali, Indonesia. Readers are invited to stay tuned on our website for coming updates. In closing, we would like to pay special thanks to the WLC15 host organization, the Umbria Scientific Meeting Association and all the people who were involved and participated in this event.



\* Prof. András Szöllösi-Nagy retired from UNESCO-IHE as of November 7, 2014.

\*\* The full text of the Declaration is downloadable in pdf format at: [www.ilec.or.jp/en/wlc/past/?p=2881](http://www.ilec.or.jp/en/wlc/past/?p=2881), along with a series of conference outcomes.

### IN THIS ISSUE

- The 15th World Lake Conference Highlights
- International Policy Forum
- Local Policy Forum:
  - Connecting Lake Trasimeno and Lake Biwa
- TWAP Open Forum
- East Africa and Post-AFSAN ILBM
- A Letter from Scientific Committee (Brazil)
- Scientific Journal of ILEC, “Lakes & Reservoirs” Vol.19
- A Report from a Former JICA Trainee (India)
- Obituary: Mr. Kei Yamazaki,
  - Advisor (the First Director General) of ILEC
- Our Internship Experiences at ILEC
- ILEC Activities Aired on TV in Japan
- Director General Hamanaka Decorated with the Order of the Sacred Treasure
- Overview of ILEC Activities (July 2014-March 2015)

## International Policy Forum

The International Policy Forum was organized to discuss the challenges and global agenda in managing lakes and other lentic water systems in the world. It was attended by more than two dozen experts from around the world, including 14 panelists from six countries and two international organizations. Under the chairmanship of Prof. András Szöllösi-Nagy, the Rector of UNESCO's Institute for Water Education (IHE)\*, the experts covered a range of policy and legal issues affecting lake and reservoir management across the world. The discussions were focused on the ecosystem services and their sustainable management approaches, where a new concept "heartware" was introduced in addition to conventional "hardware" and "software" components, which appreciates historical, cultural, anthropological and even religious implications of water governance.

The ILEC Scientific Committee also contributed to the discussion. Prof. Luigi Naselli-Flores, the Italian Member, spoke of the role of civil society in lake and reservoir governance. He mentioned that these shared waterbodies deserved special attention, especially in terms of their role in facilitating the formation of partnerships among countries. Prof. Walter Rast, Vice-Chair, pointed out that the Integrated

Lake Basin Management (ILBM) filled the missing management perspective in the current international water dialogue which is primarily based on the Integrated Water Resources Management (IWRM) principles that overlooks fundamental roles of lentic water systems (lakes, reservoirs, etc.) in the linkages with lotic waters systems (rivers, channels, etc.). He said that this was an important element for effective governance of global water resources. Finally, Prof. Masahisa Nakamura, Chair, rounded out this discussion by pointing out that ILBM also created a link between people and lake and reservoir management by enhancing the cultural and historically-fostered shared values underlying lake basin governance.

Panelists, representing India, Indonesia, Italy, Japan, Kenya, Mexico, and Senegal, echoed these observations by noting

that regulations currently being adopted in many countries acknowledge the ILBM principles in lake and reservoir management. They made special note of global change, increasing incidences of water-related natural disasters (floods and droughts) and increasing competition among economic sector, and endorsed ILBM as the basis for managing water resources in a way that can provide flexible and emerging responses to global change, agreeing that freshwater should be a central feature of the global debate. Prof. Szollosi-Nagy concluded the forum by emphasizing the importance of communicating scientific concepts to the general public, underlining that technology opens new avenues and creates new opportunities for social communication and for participation and cooperation.



\* Prof. András Szöllösi-Nagy retired from UNESCO-IHE as of November 7, 2014.

## Local Policy Forum: Connecting Lake Trasimeno and Lake Biwa

Lake Trasimeno\*, the venue lake of the conference, is located about 20 km away from Perugia. Citizens actively involved in sustainable use and management of this lake were invited to a side event, the Local Policy Forum, to meet those who are doing similar activities in Lake Biwa, Japan. One of the speakers from Lake Trasimeno was a representative from the local fishermen's union; since the traditional fishing method in the lake looks similar to the one exists in Lake Biwa, his talk caught Japanese participants' attention. On the other hand, delegates from Lake Biwa talked about their unique eco-tourism in a community where spring water is circulated for household use, and citizen's long-lasting initiatives for river ecosystem restoration and water quality monitoring in the lake basin. Finally, a heartware research team from academic institutes in the Shiga Prefecture presented a storytelling picture screen that describes a typical lakeshore livelihood from 60 years ago. The

forum received a number of positive comments from participants requesting continued exchanges between the two lakes.



\* More information about Lake Trasimeno is featured on page 8 in the previous issue.



## TWAP Open Forum

ILEC is implementing the lakes component of Transboundary Waters Assessment Programme (TWAP) funded by Global Environment Facility (GEF), which represents the first global baseline assessment of five major types of transboundary water systems (Rivers, Lakes, Aquifers, Large Marine Ecosystems, Open Oceans; c.f., [www.geftwap.org](http://www.geftwap.org)). The TWAP Open Forum, convened during the 15th World Lake Conference, provided a useful opportunity to discuss and disseminate information about the TWAP Project to experts, and for obtaining their international inputs. The Forum was attended by nearly 40 experts from around the world.

In the Forum, Prof. Walter Rast, the Lakes Group Project Manager, highlighted the scope and goals of the GEF-TWAP Project. He also reported on the progress of the Lakes Working Group, including discussion of regional expert group and consultative meetings, and the process for delineating 206 transboundary lake basins in the project, as well as the preparation of global and regional GIS maps highlighting transboundary water systems and lake basins as a basis for the GIS-based analyses. He also discussed the indicators used to assess the lake basins, the

challenges arising from the lack of uniform transboundary lake basin data on a global scale, issues facing transboundary lakes, their basins and their resources, and the need to refine the concept of prioritization as it relates to transboundary lakes and other water systems.

Prof. Masahisa Nakamura, Project Co-Manager, introduced the Lake Working Group assessment framework and approach. He highlighted the data file for 206 transboundary lakes in the project, including the 62 primary transboundary lakes comprising the main body of lakes to be analyzed. He also explained the scenario-based analysis to be undertaken in the project, highlighting the GIS-based priority assessment focusing on two major threats (Human Water Stress and Biodiversity) to lake basins, based on consideration of 23 drivers describing four thematic areas (Catchment Disturbance, Pollution, Water Resource Development, Biotic Factors). This approach facilitated the use of global-scale data available in the supplementary information article accompanying the article in the Nature journal on global threats to human water security and biodiversity ([www.nature.com/articles/nature09440](http://www.nature.com/articles/nature09440)).

It was noted that the overall scenario-based analysis of the lakes portion of the TWAP also will consider other relevant global data and document-based information related to lakes and their basins, with Learning Acceleration and Knowledge Enhancement System (LAKES) playing an important role, which was developed by Shiga University and ILEC.

Prof. Nakamura also introduced the Ecosystem Services - Shared Value Assessment (ES-SVA). It contained a series of questions on Ecosystem Services (ES) provided by the lake and its basin, using a Driver-Pressure/Stress-Impairment/Impact-Restoration sequence of analysis. The Assessment was already implemented in some African and South American lake basins, with the preliminary results also being reported in other conference sessions. The Assessment survey will be continued throughout the life of the project and beyond, with the results being used for the overall lakes analyses. On the occasion of the conference, ILEC organized a series of Regional Experts Meetings and conducted two questionnaires among participants, one for the ES-SVA and the other for appropriately weighting the 23 drivers for the GIS-based priority analysis as part of TWAP activities.

## East Africa and Post-AFSAN ILBM

ILEC, in cooperation with Research Center for Sustainability and Environment, Shiga University (RCSE-SU), undertook a project titled “African Lake Basin Management with Sanitation Challenges (AFSAN)” from FY 2009 to FY 2011, with financial support from the Ministry of the Environment, Japan. In the course of implementing the project, Lakes Victoria-Nyanza Gulf, Nakuru (Kenya), and Chivero (Zimbabwe) were able to complete the initial phase of the Integrated Lake Basin Management (ILBM) Platform Process.

As one of the follow-up activities to further promote ILBM in East Africa, ILEC organized a special session titled “East Africa and post-AFSAN ILBM”, funded by Japan Fund for Global Environment, during the 15th World Lake Conference at University of Perugia. Attended by experts from Kenya-based agencies/organizations including Ministry of Water, Environment, and Natural Resources, Country Government of Nakuru,

OSIENALA, and FlamingoNet, the session discussed how ILBM and transboundary cooperation could be pursued by sharing the outcome of the Ecosystem Service – Shared Value Assessment (ES-SVA) Survey conducted in several lake basins in East Africa.



# Toxic Cyanobacteria: A Good Tool to Connect Environmental Science and Health Science

Sandra M.F.O. Azevedo (Brazil)

Cyanobacteria represent a very diverse group of prokaryotes photosynthetic microorganisms with the majority of species growing as phytoplankton in pelagic environment of aquatic ecosystems. The diversity of this group includes secondary metabolites produced as cyanotoxins. The occurrence of cyanobacterial blooms is increasing worldwide as a consequence of accelerated eutrophication process of water bodies, and also of climate change, both in temperate and tropical region. Besides the environmental and human health threatens, the consequences are aesthetic and economic losses as well. Therefore, these toxic blooms can represent an environmental and public health risk.

The cyanotoxin hazard has been recognized more than a century ago and a number of further incidences of poisoning of domestic, wild animals and humans have been reported. Ecotoxicological studies also underline the toxicity of cyanobacterial metabolites and their potential impact on aquatic ecosystems. There is already a good base of knowledge about the cellular and tissue effects of cyanotoxins poisoning in terrestrial animals. However, understanding the effects of these toxins in the aquatic environment is still far from being achieved. Some important advances have been verified in the last decades, especially with the contribution

of genomic and proteomic studies. It is widely accepted that the toxicity of a bloom majorly depends on the presence of toxic strains. In natural blooms, toxic and non-toxic strains co-exist and the toxic ones have varying toxin contents. Consequently, cyanotoxin dynamics are driven chiefly by the dynamics of toxin producing clones. In the last few years, marked advances in methodology allowed the elucidation of sub-specific or clonal dynamics in natural waters. So far, the major conclusion is: cyanobacterial clonal dynamics and hence cyanotoxin dynamics are very complex. The driving forces behind clonal dynamics are poorly understood and only a few studies have been published yet. Light has been shown to be a driving factor but only for two pairs of strains. In natural water bodies, many other factors might be important, as nutrient availability, temperature, grazing resistance, overwintering capacity, etc. Besides, the role of cyanotoxins is still an open question and the evolution of toxicity among species and strains is practically unknown - very distant taxa may produce identical toxins while very closely related differ in this capacity.

In Brazil, toxicological studies with cyanobacteria started at the beginning of the 1990s. However, only after an incident involving the intoxication of patients with chronic renal failure in



1996, this matter came to be considered also relevant for public health. After about three decades, we can now observe that there are research groups working in virtually all aspects of the causes and consequences of toxic cyanobacteria blooms. We have had a major breakthrough in studies of management and treatment of water for public supply, in environmental aspects relate with cyanobacteria growth and dominance and in toxicology and ecotoxicology of some cyanotoxins. But there are still little advance in cellular and molecular studies that allow us to understand the mechanisms controlling the synthesis of cyanotoxins and their effects on aquatic community.

Considering the multidisciplinary characteristic of studies involving toxic

cyanobacteria issues, the Integrated Lake Basin Management (ILBM) developed by ILEC offers a good conceptual framework to focus this area, allowing various stakeholders to discuss causes and consequences with involvement of all actors necessary to prevent and mitigate these phenomena.



## Scientific Journal of ILEC

### *Lakes & Reservoirs: Research and Management*

### Volume 19 Table of Contents

#### Issue 1 (March, 2014)

Page	Title of Article	1st Author
1	The myths and realities in the management of the <i>Kapenta</i> fishery at Lake Kariba (Zimbabwe)	Kefasi Nyikahadzoi
11	Spatial variations in nutrients and other physicochemical variables in the topographically closed Lake Baringo freshwater basin (Kenya)	Henry Ouma
24	Determining the spatial variations of phosphorous in a lake system using remote sensing techniques	Sheela Albert Moses
37	Does distance between aquatic plant assemblages matter in defining similarity between them during high water-level periods?	Jose de Ribamar
46	Bacterial abundance on the skin, gills and intensities of <i>Cyprinus carpio</i> in Lake Naivasha, Kenya: Implications for public health and fish quality	Oscar O. Donde
56	Food-web patterns and diversity in tropical fish communities	Upali S. Amarasinghe
70	15th World Lake Conference 1st Announcement – Lakes: The Mirror of the Earth	

#### Issue 2 (June, 2014)

Page	Title of Article	1st Author
73	The 15th World Lake Conference is on the Horizon	Walter Rast
74	Abundance of native fishes, wild-introduced salmonids and escaped farmed rainbow trout in a Patagonian reservoir	Victor Cussac
86	Catch per unit effort and yields as indicators of exploited fish communities: application to two West African reservoirs	Justin Kantoussan
98	Discriminating four temperate lakes using phytoplankton absorption spectra	David Kalenak
118	Impacts of wind waves on sediment transport in a large, shallow lake	Zhen-Gang
130	Lakes of Malaysia: Water quality, eutrophication and management	Zati Sharip
142	First assessment of the ecological status of Kaaraoun reservoir, Lebanon	Ali Fadel
159	15th World Lake Conference 2nd Announcement – Lakes: The Mirror of the Earth	

#### Issue 3 (September, 2014)

Page	Title of Article	1st Author
161	Sedimentation and internal loads in Krishnagiri Reservoir, India	Elangovan Arunbabu
174	Evaluation of Owabi Reservoir (Ghana) water quality using factor analysis	Osei Akoto
183	Use of geographical information system and remote sensing techniques for planning culture-based fisheries in non-perennial reservoirs of Sri Lanka	W. M. Hiranya Kelum Wijenayake
192	Artisanal and commercial fishing gear and practices in the Lake Victoria basin drainage systems of Kenya: A photodiagrammatic verification	Daniel O. Okeyo
206	Declining commercial fish catches in Lake Victoria's Winam Gulf: The importance of restructuring Kenya's aquaculture programme	Solomon Omwoma
211	Integrating economic and hydrologic interdependence in reservoir management	Deepayan Debnath
225	Reducing reservoir impacts and improving outcomes for dam-forced resettlement: experiences in central Vietnam	Jane Singer

#### Issue 4 (December, 2014)

Page	Title of Article	1st Author
237	The 15th World Lake Conference: An overview of an international event	Walter Rast
240	Effects of environmental factors on cyanobacteria dynamics in Lake Baringo, Kenya	Casianes O.Olilo
255	Stakeholder evaluation of the feasibility of watershed management alternatives, using Integrated Lake Basin Management	B. A. Saunders
269	A numerical tool to predict ice growth in lakes	Horacio Toniolo
280	Land-use impacts on small-scale Mpologoma wetland fishery, eastern Uganda: A socio-economic perspective	Grace A. Ssanyu
293	Sensitivity of water quality indicators in a large tropical reservoir to selected climate and land-use changes	Gustavious P. Williams
306	Multivariate analysis of the sediment quality of a tropical coastal lake system	Sheela A. M.
319	List of Reviewers	



# A Report from a Former JICA Trainee

Dr. Suhas Khobragade (India)

Dr. Suhas Khobragade participated in the Group Training Course on “Integrated Basin Management for Lake Environments” organised by JICA and ILEC, Japan in 2013. Dr. Khobragade has been working as scientist in the area of Lake Hydrology at the National Institute of Hydrology (NIH), Roorkee in the northern part of India. He has also been organizing various short training courses on Lake Conservation, and is currently undertaking detailed hydrological investigations on Sukhna Lake in Chandigarh, India. You can contact him at [suhas@nih.ernet.in](mailto:suhas@nih.ernet.in).



Many lakes in India have been subjected to quantitative and qualitative degradation in the last few decades due to unscientific management, urbanization and human interference in the catchments. Siltation, organic pollution, eutrophication, reduced inflows are some of the major problems of many urban lakes in India. Lately, conservation and proper management of lakes for socio-economic benefits have been assumed great significance in India. The Ministry of Environment and Forests has launched a special National Lake Conservation Programme (NLCP). The National Institute of Hydrology, Roorkee, which is a premier research organization of India in the field of hydrology and water resources under the Ministry of Water Resources, has carried out a number of studies on various lakes such as Dal, Nainital, Bhopal, Pichhola, Mansar, Renuka, Barapani, in addition to a number of tanks and reservoirs. To share the technical knowhow developed over the years with the field engineers, planners and academicians, NIH has been organizing regular training courses on conservation and management of lakes.

However, after attending the training course on the Integrated Lake Basin Management (ILBM) at ILEC, during 2013, I learnt

and realized that “science” alone cannot solve issues related to lake conservation. For sustainable conservation and management, it is more important to follow an ILBM approach. Although in India people have recently started talking about the Integrated Water Resources Management (IWRM), it has been observed that the lentic component is clearly missing in this so-called IWRM approach. Therefore I decided to change the training course title as “ILBM Approach for Conservation and Management of Lakes” from 2014 onward. Accordingly, the first course on this topic was organized during November 10-14, 2014 at NIH. The training was attended by 22 participants from different states of India including field engineers, academicians, research scholars, and NGO representatives. Unfortunately, no representatives from the Ministry of Environment and Forests and organizations working under NLCP attended. Since it was our first course featured ILBM, only one theoretical lecture on the ILBM concept and case study from Sukhna Lake that demonstrates how the concept can be applied was included. I delivered the ILBM lectures briefly making comparison with the IWRM, differences between lentic-lotic environments, the Six Pillars of Governance, ILBM

Platform Process, heartware etc. The other lectures were on the hydrological aspects and case studies.

The training received positive feedback from participants who appreciated the ILBM concept. They particularly appreciated the “heartware” terminology and concept, suggesting that more detailed lectures on different aspects of ILBM should be included in the training course. Therefore, I plan to add more lectures on ILBM concept from next time, including Lake Brief preparation, philosophy and principles of ILBM, the Six Pillars of Governance, Indian experience on heartware, etc. Continued efforts are wanted to propagate and popularize the ILBM in India.



## Obituary:

### Mr. Kei Yamazaki, Advisor (the First Director General) of ILEC

Mr. Kei Yamazaki, Advisor and formerly Director General of ILEC, passed away at the age of 84 on September, 8th, 2014. Mr. Yamazaki, previously served as Administrative Vice-Minister of the Environment, Japan, was inaugurated as the first Director General of ILEC in 1987. He stepped out in 2004 and continued to contributing to world's lake conservation as Advisor to the Foundation.



# Our Internship Experiences at ILEC

From September to December 2014, ILEC received two interns. They contributed articles to share their experiences with our readers.

## ILEC Internship: Where Learning Meets Experience

Cita Ekanijati (Indonesia)

The three month internship at ILEC has become an extremely precious experience for me, beyond my highest expectation, to gain knowledge, work experience, and interpersonal study. Its highlight was the training course on the Integrated Lake Basin Management (ILBM). Through helping this training, I was able to understand the state of some of the biggest and most important lakes in the world, and to get a grasp of the threats to these lakes and how ILEC has developed and standardized methodologies to assess lake responses and restore their health. I was also very happy to find out that the next World Lake Conference in 2016 would be held in Indonesia, my home country. I hope that through adopting the ILBM, Indonesian lakes could be well managed and sustainably maintained.



## What I Perceived from My Internship at ILEC

Nira Sharma (Nepal)

Working as an intern gave me a first-hand experience on ILEC's dedication towards sustainable management of lakes and their basins. I also had a great opportunity to attend the ILBM training course with JICA trainees. What struck me was how Lake Biwa now stands as a prominent example of successful ILBM application by incorporating all the Six Pillars of Governance. Also notable was the high level of environmental awareness among the population around the lake, with a history dating back to the 1970's "Soap Movement". Having come from Nepal, a country with a vast resource of freshwater lakes and with its own share of woes regarding conservation efforts, I found it quite reasonable that the major stakeholders involve in lake conservation and management. It is also imperative that Nepal should reach out for more ILBM traineeship opportunities.




## ILEC Activities Aired on TV in Japan

ILEC and its activities were aired on the following regional TV programs in Japan:



JICA Training Participants being filmed by NHK crews

Topic	Date	Time	TV Program		Broadcasting Area	TV Station
			Title	Type		
The 15th World Lake Conference	Sep. 9, 2014	5:45-6:10 p.m.	<i>Kirarin Shiga</i>	News	Shiga	BBC*
	Sep. 21, 2014	6:15-6:29 p.m.	<i>Mizuumi to no Kizuna -WLC15-</i>	Documentary	Shiga	BBC*
	 You can watch this coverage on YouTube at: <a href="http://www.youtube.com/watch?v=YtVz712Yvls&amp;feature=youtu.be">www.youtube.com/watch?v=YtVz712Yvls&amp;feature=youtu.be</a>					
	Oct. 2, 2014	6:10-7:00 p.m.	<i>Omi Hatsu 610</i>	News	Shiga	NHK**
	Mar. 8 & 15, 2015	8:45-9:00 a.m.	<i>Hiei no Hikari</i>	Religion	Kyoto and Shiga	KBS***
JICA Training Course	Nov. 14, 2014	7:30-7:55 p.m.	<i>Kansai Nesshisen</i>	Documentary	Kansai****	NHK**
	Nov. 20, 2014	6:10-7:00 p.m.	<i>Omi Hatsu 610</i>	News	Shiga	NHK**

\*BBC: Biwako Broadcasting Co., Ltd. / \*\*KBS: Kyoto Broadcasting System Co., Ltd.

\*\*\*NHK: Japan Broadcasting Co. / \*\*\*\*Kansai includes Osaka, Hyogo, Kyoto, Shiga, Nara, and Wakayama Prefectures.



## Director General Hamanaka Decorated with the Order of the Sacred Treasure

Having been recognized for his services to the nation and to the public, Director General Hironori Hamanaka of ILEC was decorated with the Order of the Sacred Treasure, Gold and Silver Star (Zuiho-jukosho) on November 3, 2014.

## Overview of ILEC Activities (July 2014 - March 2015)

### 2014

- July 15** A delegation headed by the Regent of Jayapura, Papua Province, Indonesia, visits ILEC
- 22** A JICA partnership program (known as “Grassroots Program”) training team from the Philippines visits ILEC
- August 2-5** A JICA commissioned training program for Iran, “Integrated Wetland Management for Ecosystem Conservation in Lake Biwa” **[PIC①]**
- 29** Delegates from Hunan Province, China visit ILEC during their training program in Japan
- September 1-5** The 15th World Lake Conference, ILEC Scientific Committee General Meetings, TWAP Expert Group Meetings, and East Africa ILBM Special Session (Perugia)
- 16** An Indonesian student from the Graduate School of Global Environmental Studies, Kyoto University, interns at ILEC (- Dec. 15)
- 17** A Nepalese master’s degree holder (graduated from the Graduate School of Engineering, Osaka University) interns at ILEC (- Dec. 15)
- October 3** A JICA commissioned training program, “Integrated Basin Management for Lake Environment” kicks off (concluded on Nov. 28) **[PIC②]**
- 27** Delegates from National Hydraulic Research Institute of Malaysia (NAHRIM) visit ILEC
- November 10-14** TWAP Lake Group Technical Working Group Meeting at ILEC and Shiga University (Shiga Pref.)



**PIC①**



**PIC②**



**PIC③**

### 2015

- January 10-17** TWAP Lake Group Wrap-up Meeting at ILEC and Shiga University (Shiga Pref.)
- 13** Preparatory Meeting with Daegu Gyeongbuk Development Institute on the 7th World Water Forum at ILEC
- February 11-12** Consultative visit to Daegu Gyeongbuk Development Institute on the 7th World Water Forum (Daegu)
- March 2-3** Participation in TWAP Steering Committee Meeting (Paris)
- 3-5** East Africa ILBM Expert Group Meeting (Nakuru) **[PIC③]**
- 7-8** Participation in the SATOYAMA Initiative domestic network seminar/excursions (Fukui Pref.)

INTERNATIONAL LAKE ENVIRONMENT COMMITTEE FOUNDATION (ILEC)



–Secretariat–

1091 Oroshimo-cho, Kusatsu-city Shiga 520-001, JAPAN

Tel: +81-77-568-4567 / Fax: +81-77-568-4568 / E-mail: [infoilec@ilec.or.jp](mailto:infoilec@ilec.or.jp)

Website: [www.ilec.or.jp](http://www.ilec.or.jp) / Facebook: [www.facebook.com/ilec.english](http://www.facebook.com/ilec.english)

\*The latest issue and back issues of this newsletter are also available on our website above.