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NEWSLETTE

International Lake Environment Committee =Promoting Sustainable Lake Management=

This Newsletter is also available in Japanese.

### Promoting Interaction among Young People and Children for Better Lake Environment in the Future

I would like to express my sincere respect and gratitude to the interested parties and supporters of the International Lake Environment Committee (ILEC) foundation for their devoted efforts toward conservation and wise use of lakes around the world.

Since I was a university student, I have conducted environmental field work at Lake Biwa in Shiga Prefecture. After completing graduate school, I joined the Lake Biwa Research Institute and was involved in various projects as a research worker, such as sociological research on the relationship between the lake and people, survey of water use in the Lake Biwa basin, collection of basic information about river basins in Shiga Prefecture and creation of a database. These various activities and undertakings prepared the way for the World Lake Conference, leading to the establishment of ILEC.

The 1st World Lake Conference in 1984 also acted as a catalyst toward the establishment of the Lake Biwa Museum, where I used to work. For these circumstances, I feel deeply attached to ILEC.

For five and a half years from 2001 to 2006, before I became the governor of Shiga Prefecture, I served as a director of ILEC. I am

#### Yukiko Kada

Governor of Shiga Prefecture (Former ILEC Director)

therefore familiar with activities of ILEC.

While I was a member of ILEC, I participated in the World Lake Conference twice: the 9th Conference in 2001 ("homecoming" conference held in Shiga) and the 11th Conference in 2005 (Nairobi), and gave a presentation on human behavior relating to toilets, and hygiene issues, based on a field research project conducted at Lake Malawi. I also organized a program to promote interaction among young people and children who live in hard conditions in rural areas that depend overwhelmingly on resources from lakes. I believe that it is extremely important to involve young people and children in conservation activities and discussion on the future of the earth.

I understand that the 12th World Lake Conference will be held in Jaipur. India. under the joint auspices of ILEC and the Ministry of Environment and Forests of the government of India. In India, recent dramatic economic growth has brought about rapid deterioration in the lake environment. I therefore strongly hope that the coming conference will help raise public awareness. facilitating environmental conservation to take root in India.

The 12th conference will be the first ever World Lake Conference held in South Asia. I



believe it is of great significance to take a step toward solving problems specific to lakes in this area. I strongly hope to attend the conference and introduce various activities and measures undertaken in Shiga Prefecture. I wish to bring the message from Lake Biwa to South Asia, and then to the rest of the world.

As governor of Shiga Prefecture, I am determined to communicate to the world the efforts and commitment to protecting Lake Biwa by the residents of Shiga Prefecture, thereby strengthening the presence of Shiga and contributing to protecting the environment of lakes all over the world. We will exert every effort to protect the future of the lake environment, in close cooperation with the ILEC.

I strongly hope that ILEC will continue playing an active role in resolving environmental problems of lakes around the world.



### The new members of directors, auditors, councilors and advisers The 11th FIY (January 2007 — December 2008)

ILEC Foundation Articles of Association stipulates that directors and auditors shall be elected at the council, and councilors shall be elected at the board of directors. Furthermore, advisers are nominated by the board of directors. The 55th Councilors' Meeting was held on December 12th 2006 and The 67th Board of Directors' Meeting was held on December 20th 2006. The new members were elected and nominated at the each Meeting as follows: (Random order)

### Directors

Remaining	Hironori HAMANAKA	Professor, Faculty of Environmental Information, Keio University
Remaining	Masaaki NAITOU	Director, Lake Biwa Research Institute
Remaining	Hiroya KOTANI	Former Director of Shiga Prefecture
Remaining	Mr. Takahisa SASAKI	Former Ambassador to the Federal Republic of Nigeria
Remaining	Hideaki ODA	Adviser, NPO Japan Water Forum
Remaining	Saburo MATSUI	Professor, Environmentally-Friendly Industries for Sustainable Development, Graduate School of Global Environment, Kyoto University
Remaining	Masahisa NAKAMURA	Professor, Research Center for Sustainability and Environment, Shiga University
Remaining	Munetsugu KAWASHIMA	Professor, Faculty of Education, Shiga University
Remaining	Kazuo MATSUSHITA	Professor, Graduate School of Global Environmental Studies, Kyoto University
New	Kunio KOHATA	Chief, Water and Soil Environmental Division, National Institute for Environmental Studies
New	Izumi SHIBATA	Professor, Department of Ecosystem Studies, School of Environmental Studies, University of Shiga Prefecture
New	Hitomi TSUJI	Director, Akanoi-Biwako Environmental Citizens' Initiative
New	Mitinari NAKAMURA	Director, Lake Biwa and Environmental Policy Office, Shiga Prefecture

### Auditors

Remaining	Koichi TAKADA	President of Shiga Bank
New	Ryousuke YAMAMOTO	Director General, Treasury Bureau, Shiga Prefecture

### Councilors

Remaining	Kagechika MATANO	Former Ambassador to the Kingdom of Sweden
Remaining	Eitaro WADA	Program Director of Ecosystem Change Research Program, Frontier Research Center for Global Change
Remaining	Motoyuki SUZUKI	Professor, University of the Air
Remaining	Kenji MORI	Vice-Chairman, The Shiga Economic and Industrial Association
Remaining	Kiyoshi YAMADA	Professor, Department of Environmental Systems Engineering, College of Science and Engineering, Ritsumeikan University
Remaining	Kotaro TAKEMURA	President of the Board of Directors, Foundation for Riverfront Improvement and Restoration
Remaining	Masako HORIKOSHI	Professor, Faculty of Education, Shiga University
Remaining	Reiko NAKAMURA	Secretary General, Ramsar Center Japan
Remaining	Hiroshi TSUNO	Professor, Urban and Environment Engineering, Graduate School of Engineering, Kyoto University
Remaining	Fumihiko JIKU	Professor, Department of Environmental Solution Technology, Faculty of Science and Technology, Ryukoku University
Remaining	Per BAKKEN	Director, United Nations Environment Programme, International Environmental Technology Centre
Remaining	Kiyoshi ITO	Director General, Department of Lake Biwa and the Environment, Shiga Prefecture
New	Masao NII	Director, National Institute for Environmental Studies

### Advisers

Remaining	Ziro KONDOU	Professor Emeritus at Tokyo University
Remaining	Kei YAMAZAKI	Former Director General of ILEC
Remaining	Tatsuo KIRA	Former Vice-Director General of ILEC
Remaining	Mitio HASHIMOTO	Former Vice-Director General of ILEC

## **Promoting Integrated Lake Basin Management (ILBM)**

T o promote "good governance" and sustainable use of lakes and their basins around the world, ILEC has vigorously advocated "Integrated Lake Basin Management (ILBM)." To propagate and promote the ILBM framework throughout the world and apply it in actual lake basin management, the ILEC has been pursuing the following activities.

#### <Propagating and promoting ILBM>

After introducing ILBM at the 11th World Lake Conference held in Nairobi, Kenya, we have taken every opportunity to promote the ILBM framework, including at the 4th World Water Forum (Mexico City, March 2006) and World Water Week (Stockholm, August 2006).

At the 4th World Water Forum, the Japanese government announced its new ODA policy initiative on water and sanitation, "Water and Sanitation Broad Partnership Initiative (WASABI)," in which ILBM was introduced as an example of Japanese initiatives. This represents a major advance in our efforts to promote ILBM.

### <Promoting collaboration with the Japanese government and others>

To ensure that ILBM is positioned as a high-

priority environmental initiative, we are promoting collaboration with the national government and international aid agencies.

# Establishment of the ILBM Promotion Council

To discuss and develop measures and strategies to make ILBM the pillar of Japan's international environmental cooperation, the ILBM Promotion Council was established in June 2006, with Mr. Kazuhiko Takemoto (Director General of the Environmental Management Bureau, Ministry of the Environment) as chairman. Members of the committee include representatives from the Ministry of the Environment, Japan International Cooperation Agency, and Japan Bank for International Cooperation. Vigorous discussions are under way and it is expected that certain conclusions will be drawn by the end of fiscal 2006.

# Creation of a summary pamphlet of the ILBM report and a handbook

We plan to develop a summary pamphlet that enables policy makers in various countries to gain a quick understanding of the principles, significance and usefulness of the ILBM framework. We also plan to create a handbook that explains ILBM, including background of the concept and related matters, in an easy-tounderstand manner. We are now seeking the support of the Ministry of the Environment.

#### Ex-post evaluation of a yen-loanfinanced project

We and the Japan Bank for International Cooperation (JBIC) have agreed to conduct expost evaluation of the Bhopal Lake Conservation and Management Project (a yen-loan-financed project undertaken by the JBIC), from the perspective of ILBM. In November 2006, a field investigation was launched, led by Prof. Masahisa Nakamura, a member the Scientific Committee (Director of ILEC; Professor at Shiga University). This is the first opportunity to apply the ILBM framework to an actual lake. We expect that evaluation activities will produce useful results, contributing to the 12th World Lake Conference to be held in 2007 in India.

### World Lake Vision Action Report preparation under way

World Lake Vision Action Report is to support the implementation of the sustainable lake management by disseminating around-the-world lake management cases to follow up the World lake Vision presented in March 2003 at the WWF3 in Japan. The project was endorsed at the 11th World Lake Conference held in Narobi, Kenya in October-November in 2005.

A fter setting up the World lake Vision Action Report Committee in March 2006 at the WWF4 in Mexico, ILEC called for the case study report from around the world with the help of



Working Group Meeting in ILEC

committee members and our partner organizations, including "Living Lakes". So far we have received 28 reports from 19 countries, each of which is full of useful experiences and information. Currently all the reports are being reviewed by ILEC Secretariat and Prof. Walter Rast, Chairman of the Report Committee. ILEC held a Working Group Meeting from 30th November - 2nd December, 2006 by inviting Committee Members representing five regions (Asia/Pacific, Africa, Europe, North America, Latin/South America) to wrap up these case study reports, drawing lessons based on them and coming up with recommendations to further promote the World Lake Vision and its Seven Principles for the sustainable lake management. The Report will be printed by the end of February, 2007 and distributed at the 12th World Lake Conference to be held in India in October-November, 2007.

# **General Meeting of the ILEC Scientific Committee in Stockholm**

The ILEC Scientific Committee (SciCom) General Meeting was held on 20th and 25th August 2006 on the occasion of World Water Week in Stockholm. The main agenda items were restructuring the SciCom and Bureau members, and rethinking how to streamline the editorial board's editing process of Journal "Lakes & Reservoirs : Research and



SciCom General Meeting (Stockholm)

Management".

Regarding the restructuring the SciCom, the ILEC secretariat had been collecting members' plan whether or not to stay as a SciCom member and their recommendations for new members since January 2006. As a result of it and the General Meeting in Stockholm, the candidates for SciCom members for the next term was decided. The new SciCom structure will be presented in the next issue of this newsletter.

As for the Journal and its editorial board, the members of editorial board are all current and ex-ILEC SciCom members. The General Meeting dealt with the issue of editing process and problems with it. The SciCom members who attended the general meeting discussed the current status of editorial board and possible corrective strategies. In order to raise the level of importance and influence of the Journal in academic society, ILEC wants to overcome these issues and will have more close talks and negotiation with SciCom and the publisher.

### ILEC Side Event at World Water Week in Stockholm - Toward the 12th World Lake Conferences -

On 24th August 2006 during World Water Week in Stockholm (21st - 26th August), ILEC held a side event meeting titled "Next Steps in World Lake Conferences and Integrated Lake Basin Management". The side event was conducted under the following objectives: to know the current status and situation of lake basin managements, to discuss and collect opinions on how the obstacles can be overcome and how the goals can be achieved by utilizing outcomes and lessons learnt from our past activities, and to have mutual recognition that the 12th World Lake Conference to be held in Jaipur, India will be a vital opportunity for discussion on the points given above among the stakeholder of lake basin management at global level.

Firstly, there was opening remark by Mr. Hironori Hamanaka, Director General of ILEC, followed by a message from Mr. Raja, Minister of Environment and Forests, Government of India, which declares to host the 12th World Lake Conference in Jaipur, India, in 2007. Dr. Mohan Kodarkar, who is the ILEC Scientific Committee member elect for the next term, read the message on his befalf. Following this, outcomes from the 11th World Lake Conference and the way forward were reported by the ILEC Secretariat. And there were presentations by the ILEC Scientific Committee (SciCom) members - "World Lake Vision (WLV) and Lake Basin Management Initiative (LBMI): What is Next?" by Prof. Walter Rast and "The Improving Ecological Situation in

the Northern Aral Sea" by Prof. Nick Aladin. Dr. Thomas Ballatore, ILEC Researcher, reported on mapping lake basins as a followup of GEF-LBMI and utilizing GIS (Geographical Information System); and Ms. Santos-Borja from LLDA (Lake Laguna Development Authority), another SciCom member elect, has been working talked about their project applying carbon trading in the connection of CDN (Clean Development Mechanism). During the discussion after the sequence of presentations, there were a number of questions and suggestions on these presentations and session structures



ILEC Side Event (Stockholm)

for the 12th World Lake Conference in Jaipur, India. Before closing, there was an announcement on International Conference on Toxic Cyanobacteria to be held in Brazil in August 2007 by Prof. Sandra Azevedo, who is also a SciCom member elect.

The side event produced a variety of ideas and suggestions on tangible steps and way forward. The ILEC secretariat will try to make the most of these proposed ideas and suggestions for preparation of the Conference in India.

## **The Environment Education Class for Children**

The Environment Education Class for Children, which is held during the summer vacation, is funded by the Heiwado Foundation, Hikone-City, Shiga Prefecture. It started 4 years ago, and this fiscal year's class was held for 3 days from August 7th to 9th.

The participant must be in the 4th to 6th grade of an elementary school in Shiga Prefecture. There were a total of 23 participants of 12 students from Kusatsu-City, 10 students from Otsu-City and 1 student from Higashioumi-City this year.

Same as last year, the program for the 3 days was made for the purpose of building the ability to think of the environment. The program mainly focused on the Lake Biwa Basin through the experience of field study in upstream and midstream of Lake Biwa.

On the first day, in cooperation with Koka Shiga Prefectural Branch Office, the students went to "Takama Waterfront Park" and studied about the forest, which has an important role of cultivating water resources. On this occasion, they were taught about the problem that many forests can not perform their natural functions because they are not cared for well now. Additionally, they experienced logging operation and made the "Key Ring Hooks", woodworks using the trees that they cut.

On the second day, in cooperation with A k a n o i - B i w a k o E n v i r o n m e n t a l

Citizens' Initiative, they observed the nature of Meta River flowing through the residential area of Moriyama-City. They knew many creatures are living in the river, and learned the importance of environmental conservation of river, which is in the city.

In the morning of the final day, they observed "Eri", "Eri" is a major traditional fishing method in Lake Biwa, for catching foreign fishes that was setting in the "Tsudae", an attached lake of Lake Biwa located near ILEC. The students observed



Observation in Meta River

the fishes in the net, and learned from local fishermen about the original fishes in Lake Biwa and foreign fishes. After that they ate deep-fried Black Bass. In the afternoon, with Professor Kawashima of Shiga University, they did experiments for detection of phosphorus using everyday materials. Then, they studied world lakes and problems of Lake Biwa. Finally they heard the elementary school students's activity report of "Oba-Qgoro", an environment conservation group in Kusatsu-City.

# **JICA - Environment Education Course**

ILEC implemented JICA-Environment Education Course commissioned by the Japan International Cooperation Agency (JICA) from 2000 to 2006. The course had been conducted 7 times.

The period of this fiscal years course was from 4th September to 19th October, 2006. Nine trainees from 8 countries participated, one each from Costa Rica, Cote d'Ivoire, Egypt, Iran, Malaysia, Tunisia, Venezuela, and two from China.

We need to solve the serious environmental problems on the developing countries in the long term such as forest destruction, water pollution and waste treatment as well as the global environmental problems. To that end,

Environment Education for children, who are the next generation, is very important. But the persons engaged in educating the leaders of Environment Education are quite limited both in quality and quantity. Therefore, it is very important to support the training of these leaders. Environment Education Course provides participants with know-how on Environment Education focusing on fresh water environment through lectures, field visits, and practice. At the end of the course, each trainee makes an action plan to implement in his or her own country.

On the course, various lecturers are invited mainly from the Faculty of Education of Shiga University, the Faculty of Economics of Shiga University, the Faculty of Environmental Science of The University of Shiga Prefecture and so forth. The participants take part in many practical activities that they can experience by themselves which helps them to think about Environment Education, for example visiting Lake Biwa Museum, fieldwork in to Tokyo, visiting to elementary school and junior high school attached to Shiga University.



Workshop by Assoc.Prof. Ichikawa, Shiga University

Based on this, JICA -

# **Mapping Lake Basins**

Thomas Ballatore (Researcher, ILEC)

Most of you are probably familiar with the recently-completed Lake Basin Management Initiative (LBMI) project. This article is the story about how we made maps here at ILEC for that project as well as some of our follow-up activities.

#### Where are the basin maps???

Lakes are intimately connected with their drainage basins: that's no surprise. It has been long-known to limnologists and it is now becoming more-and-more accepted among water resource managers. The importance of the basin permeated most of the discussions in the LBMI project, and rightly so.

Therefore, it was a surprise to me--and a problem for ILEC in general---that less than half of the early drafts of the 28 LBMI lake briefs contained useable basin maps (the final briefs *with maps* can be found at http://www.ilec.or.jp/eg/

Ibmi/index.htm). Some of the briefs, like the Lake Champlain one, included professional quality basin maps; others had simpler, more schematic-type maps, which were also okay because they allowed the reader to visualize what was being talked about in the brief.

But unfortunately, many of the draft briefs had no maps whatsoever, or even worse (in my view), just a map of the lake---out there, floating, lost in space, an entity divorced from its basin, devoid of context. That is not the story that we wanted to tell. We needed to find a remedy.

#### The search begins

Perhaps I was naïve, but I expected that for any lake in the world---especially for the large type of lakes in our survey---that a basin map existed. All we had to do was find it.

This proved much harder than

expected. At first, we asked the authors to try again, but we learned that many of them had indeed wanted to include a basin map but just didn't have one. We searched the literature and the internet, and although we were often able to find useful pieces to the puzzle, consistency among maps, as well as copyrights and reliability, were constraints.

We then contacted organizations that had experience making maps and asked them to prepare a sample map (for Lake Biwa). It was at this point I realized that sophisticated software, databases and techniques simply cannot match detailed knowledge and familiarity with a given lake basin. Each lake basin has its exceptions; automated mapping without local input just doesn't work.

### If you want it done right... ...then do it in-house!

It was desperation that spurred us on. The project deadline was approaching; we still needed maps. Half-jokingly, I suggested to Tanigawa-san (graphic designer at ILEC) that we try our own hand at cartography. We had some old topographic maps used by pilots (ONC and TPC charts) available and one day I just taped one (for Lake Dianchi basin) onto the window, added some blank sheets of paper, and started tracing ridge lines. Manipulation in Adobe Photoshop and Illustrator, as well as addition of information on rivers, cities, etc. from other sources, followed.

We went through a ridiculous number of drafts in the beginning but, in the end,

we were able to produce uniform, acceptable basin maps for the 28 project lakes in time.

They are not going to win any cartographic prizes, but they served their purpose, which was to show not only lakes but their basins, major rivers, cities, and international and domestic jurisdictions in a consistent fashion.

#### **Process versus product**

While the whole point of our mapping exercise was to obviously make maps, the greatest lessons came through the process---not only the process of creating something (which was both scary and invigorating), but the process of getting to know each lake and its basin intimately.

To me, lakes are like people: each one is different. Some are big, others small; some beautiful, others not; some deep, many shallow! Getting to know a lake is like meeting a new friend. And to make a lake basin map, well, that's like making a portrait of a friend. Observing, inspecting, chatting while you draw. You find out things you never knew. It's a process that draws one closer to the object, and it is the most rewarding experience I personally had from the LBMI project.

### Learning to love GIS

Lake basin mapping ended up becoming so fun and so intellectually stimulating that it has been pretty much the only thing I have been doing since the end of the LBMI project. The relatively relaxed post-project period has been a good time to learn how to use geographic information system (GIS) software like ArcGIS.

Because it is such a standard method, most people were surprised that we did not use GIS when making the LBMI maps. We chose "primitive" methods like tracing by hand and Adobe Illustrator for two simple reasons: the learning curve for GIS (at least for ArcGIS) was too steep and also we didn't really need it for our purposes at the time. We were designing maps that were to be looked at. The information they gave was sufficient.

But what we need now are maps that are tools for analysis: maps that are not just looked at, but maps that are explored and analyzed. My overall goal, besides producing more and more accurate and visually-pleasing basin maps, is to add analytical rigor to the policy issues ILEC is addressing. The real value of a lake basin map becomes apparent when you start to overlay information, like population, precipitation, languages, and so on. Without a precise way of controlling and manipulating this spatial information, we would not be able to say anything with precision. The same thing applies to standard cartographic issues like projections and scales. Without a formal system like GIS, we cannot manage these.

Learning ArcGIS has been challenging. The software is frankly maddening. It's like a wild horse. At first, you have no idea how to even get on. Once on, you are thrown off: again and again, until you finally get comfortable and start to see its potential. It can trot, it can run. One day, you learn how to make it jump; the next, you find out it can even swim...

But to our advantage, we have known what we want, and in that sense, the software has not driven the process, rather enabled it. I have seen a lot of people who get stuck making things because they can, not because they need to.

#### A request

An important thing for each and every lake basin map is to have input from local experts. For our test maps, this is exactly what we have been doing. We will continue and expand this process.

If you'd like to see some examples of the sort of maps we are now producing, please visit http://www.ilec.or.jp/maps.htm

Also, let us know if you would us like to work on a map for a basin that interests you. We'd be happy to produce a draft and then work with you on details. You can reach us at map@ilec.or.jp I'm always interested in making new friends, both human and lentic!

### Integrated Management of Amur/Heilong River Basin Project

ILEC is participating in the Integrated Management of Amur/Heilong River Basin Project, a GEF project being implemented by UNEP Beijing office. The project, currently at its PDF-B stage, aims to produce the two reports (i) Transboundary Diagnostic Analysis (TDA) for the Amur/Heilong Basin and its associated costal areas, and (ii) Strategic Action Programme (SAP) for the Lake Xingkai/Khanka Basin and preparation of pilot bi-national activities to propose the full scale project. The 1st Steering Committee was organized in Beijing on 8th - 9th May, 2006 to kick-off the project. ILEC will join as an adviser to the project, more specifically, based on our accumulated knowledge and experience, to contribute to the preparation of the SAP report on Lake Xingkai/Khanka, which is one of 28 lakes studied in a GEF-medium size Project "Lake Basin Management Initiative" executed by ILEC.



Participants of the 1st Steering Committee (Beijing)

### Building a World Lake Database and Knowledge Base

The ILEC is working on building a World Lake Database and Knowledge Base.

It has been pointed out that the use value of the present World Lake Database has decreased due to two problems: that the data contained in the present database are old, and that geographical and physicochemical data on lakes exist unrelated to other information. To solve these problems, we are building a new information system that interconnects with a "Knowledge Base" and that is in line with the framework of Integrated Lake Basin Management (ILBM).

Since two fiscal years ago, we have been working in cooperation with the Research Institute for Humanity and Nature. We have finished developing a search engine and this fiscal year we are developing a data search system.

- \* Features of the World Lake Database and Knowledge Base
- For example, when you want to know about the system of lake environment conservation

If you search on the keyword 'system', you will get a list of descriptions about 'system' that appear in documents and papers. You will also get information on conservation systems (legal, economic, customary, etc.) for each lake. By checking the environmental data of the lake such as water quality, you can assess, to some extent, the effects of each system.

This system features a function to provide a wide range of information regarding lake basin management, from various perspectives. Being able to provide information from various perspectives means that the same information can be "translated" into terms in various different fields. It is therefore expected that this system facilitates discussion among people in different fields or with different interests regarding lake basin management.

### ILEC Received Lake Chapala Award

ILEC received the Lake Chapala Award, which is given to individuals or organizations which has contributed to the preservation of Lake Chapala, the largest lake in Mexico. The awarding ceremony took place on 21st March, 2006 at Auditorio de la Ribera del Lago Chapala. On behalf of ILEC,

–Secretariat–

Prof. Matsui, a Board Member and ILEC Scientific Committee Member, received the award plaque from the Lakeside Awards Committee.

As part of collaboration, ILEC co-organized an experts meeting and a public forum for the restoration of Lake Chapala from 1st - 4th



Award Plaque

November, 2006 with Corazon de la Tierra, a local NGO which has been implementing the Sustainable Development Program of Condiro-Canales Mountain for the conservation of Lake Chapala and its rich biodiversity.



Prof. Matsui with Local People after the Ceremony



#### INTERNATIONAL LAKE ENVIRONMENT COMMITTEE

1091 Oroshimo-cho, Kusatsu-city, Shiga 520-0001, JAPAN TEL +81-77-568-4567, FAX +81-77-568-4568, E-mail: info@ilec.or.jp

