IEICE Global Plaza no.12

– Monthly community plaza in English for students, faculties and engineers –

Essay

e-Bario - Bridging the Digital Divide

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Vice-Chancellor of Universiti Malaysia Sarawak (UNIMAS)
Leader of the e-Bario Project

Greetings to all of IEICE members, researchers and students! Allow me to introduce you with our e-Bario activities with the aim towards creating brighter future for our society where the "digital divide" would be lessened through sharing the benefit of evolving information and communication technologies (ICT). I believe our experience will surely encourage people who have been interested in solving the digital divide worldwide.

For the benefit of the readers, let me give you a brief information about Sarawak. It is the largest State in Malaysia making up 37.5% of the total population in Malaysia and one of two States in East Malaysia situated in the famous island of Borneo. Covered with vast tropical rain forests with its exotic flora and fauna, numerous animal species, not to mention its friendly and beautiful multi-ethnic population, Sarawak, Land of the Hornbills, is undeniably a unique and interesting place to visit. On that same note, our university, Universiti Malaysia Sarawak, proudly known as UNIMAS, was established in December 24th 1992 under the Universities and University Colleges Act 1971, soon after the declaration of an important national development plan, called "WAWASAN 2020" (translated as Vision 2020 in English). Located at the south east of the Administrative Capital City of Kuching, it is the eighth public university in Malaysia, and the first one initiated by the aspirations of Vision 2020. Initially, the main campus at Kota Samarahan was officially launched by the then Malaysian Prime Minister, Dr. Mahathir Mohamad on Malaysian Independence Day in 1993. Later in April 24th 2006, Abdullah Ahmad Badawi, the fifth Prime Minister of Malaysia was given the honour to officiate the new campus which is located just a drive away from the old campus area.

Sufficed with that information, now let us get to the main part of the topic. The idea of bringing the Internet to Bario was conceived as a research project by a group of academic staff at UNIMAS to determine opportunities for social development available from the deployment of ICT within remote communities in Sarawak. Bario means a highly remote and isolated village in the State of Sarawak. The only practical way of reaching Bario is a one-hour flight on a 19-seater plane or a journey by rivers and trekking which will take at least two weeks. The Bario population of 1,000 people comprises mainly of Kelabits, one of the smallest ethnic groups in Sarawak. They are mainly farmers producing pineapples and the famous fragrant Bario rice. Prior to the start of the e-Bario project, they had neither electricity supply nor telephone service. The communication was conducted by radio calls, as well as by sending messages to departing passengers, and receiving messages from arriving passengers at the airport.

Therefore, the e-Bario project was implemented with the objective to define the extent to which contemporary ICTs could deliver sustainable human development to remote rural communities. It is also aimed to identify further needs and opportunities within such communities that can be satisfied by the innovative use of ICTs, and through action-oriented measures, to demonstrate how significant and sustainable development can be achieved by remote communities through such implementations.

The project was undertaken against the background of the Malaysian Government's aggressive adoption of ICTs for national development and the underdeveloped infrastructure and scattered population of Sarawak. It has as its rationale, the delivery of equal access to ICTs for those remote and marginalised communities that characterise the rural life in Sarawak, and which contain more than half of the State's population. At that point of time, in most of such communities, the areas are almost inaccessible by roads, and they have only access to meagre or non-existent telecommunications services. The objectives were to demonstrate that access to ICTs, specifically the Internet, could precipitate significant improvements in the lives of such communities.

The e-Bario project involved the secondary school focusing on the e-Learning initiative, as well as the community for the e-Community initiative. With the community's access to ICTs, an increased computer literacy exists among the students, teachers and community. Students who have undergone computer training are even with their urban counterparts in terms of knowledge and skills. The community members, including/from the council of elders, the village safety and development committee to the layperson, play an important role in the planning, decision making, and management of the telecentre. The telecentre is now self-sustaining since it is earning enough revenue from payments for computer and Internet usage to pay for minor maintenance and the salary of technical support staff.

There has been a clear improvement of livelihood of the community since the introduction of e-Bario in 1999. The community is now able to communicate with the outside world using telephone and email. This can be of immense importance during emergencies. Those involved in the tourism industry, they have taken advantage of the ICTs as they are now able to liaise with potential clients directly via email, and to confirm accommodation bookings online. In addition, some of them are using the Internet to promote their trekking service and the other tourism businesses. The most obvious impact has been an increase in the number of tourists and visitors there. And this can contribute significantly to the increased of revenue for the community. More youths and their family members are coming back to and staying in Bario to provide accommodation for visitors and other tourist services, and this has successfully resulted in reduced migration of local people to urban areas.

Due to the great success of the e-Bario project, the UNIMAS team has been given the opportunity and honor by the Malaysian Government to replicate the same implementation model to 5 other nationwide remote sites throughout Malaysia. So far we have implemented successfully two projects at Long Lamai in Sarawak (known as e-Lamai) and Kampong Buayan in another State, Sabah (known as e-Buayan). The other 3 sites have been identified and the implementation work is currently on-going.

Up to date, the e-Bario project is internationally recognized

by many institutions. It has received awards including the Industry Innovators Award for Systems Development and Applications by Society of Satellite Professionals International (2002), Prime Minister's Information Technology Award (2003), eASIA Award for the Bridging the Digital Divide Category (2004), Mondialogo Engineering Award by UNESCO and Daimler-Chrysler (2005), and Commonwealth Association for Public Administration and Management (CAPAM) Gold Medal for International Innovation Award (2006), to name a few.

aI hope that this project will lead a chance toward the bright future for those who have suffered from the digital divide in various parts of the world, and now they may share the benefits of the advancement ICT and its applications.

Fig.1 Frontier inhabitants join e-Bario activities.

Fig.2 Launching e-Bario Project with local representatives.

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Useful Remarks

Interview: IEICE Technical Committee on Information Communication Management developing complete English Sessions in annual IEICE Society Conference

IEICE Communications Society & TFIPP

As briefly reported in IEICE Global Plaza no.11, Technical Committee on Information Communication Management (briefly, ICM) under IEICE Communications Society has planned and managed the complete English sessions in Annual IEICE Society conferences so far. Prof.Takahashi of TFIPP interviewed Mr.Hikaru Seshake, Secretary, the ICM to ask why they commenced and extended the English sessions:

Mr.Hikaru Sesehsake
NTT Network Service System Laboratories
Secretary, ICM,IEICE

Q: *Thank you very much for your kind acceptance of this interview, today. Frankly asking, what are the purpose and background of the complete English sessions?*
A: *It is to call many participants also from overseas and lead it to the globalization of IEICE through presentation and discussion in English and exchange opinions from the global point of view.*

Q: *How about the number of participants?*
A: *It goes forward as shown inTable.1*

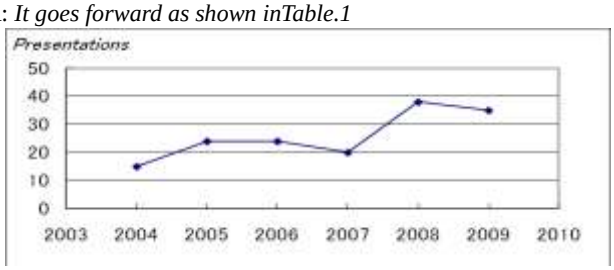

Table 1 The number of participants trends upward.

Q: *Many foreigners joined it and had positive discussions in the Sessions. What reaction comes out from the participants?*
A: *As a matter of fact, the most of participants are foreign students studying in Japan or foreign researchers. They tend to discuss to their satisfaction so that the time for discussion is set up to be longer than that of general sessions. Most of them want to extend it, therefore, it has been extended from the first one day Session to four days Sessions taking their opinions into account .*
Q: *Would you please introduce the future perspectives of the plan.*
A: *The rate of participants is 80% for the foreigners in Japan and the left 20% for Japanese at the moment. Since they need it and the number of presented papers grows up year by year, the plan will be evolved without interruption. The ICM will extend it through synergy of reinforcement with Call for Papers covering overseas and lectures of outstanding overseas researchers.*
Q: *Thank you very much for your valuable talks.*

"IEICE Fundamentals Review" activates and shares discussion in different fields toward the future enhanced Society

Keiji Konishi, Prof. Dr.,
Osaka Prefecture University
Editor, IEICE Fundamentals Review
IEICE Engineering Sciences Society

The Fundamentals Review (briefly, "FR") was commenced as a novel on-line journal based on IEICE Engineering Sciences Society different from the current IEICE Journal or Transactions in July, 2007. The FR covers a great variety of topics in the field of fundamental and/or interdisciplinary electronics, information and communication technologies, with sophisticated interpretative papers or review papers written by leading people at the front, history of the Society or Technical Committees, reports of international conferences, symposiums and workshops, introduction of hobbies from outstanding researchers, and so on. The Society members can easily catch the technological trend in the field, with the FR.

The Society is entrusted with exploration of wide special fields beyond the conventional framework of Societies. In other words, it is more severely required for the Society to develop and create new schemes of academic fields or interdisciplinary fields than for the other Societies. Thus, the FR has a role of promoting the reformation of current special fields to evolve novel research fields through mutual communication between members.

The editorial committee of the FR is organized by the representatives of 4 Sub-societies and 22 Technical Committees and promotes discussions toward unexplored creative fields so that the FR can provide a forum for the mutual communication. Regarding the structure of the Society, please see an article of IEICE Global Plaza at
http://www.ieice.org/eng/global_plaza/2009/02.html#3.

The FR is open to any people as well, if they are interested in the field. Everyone can easily retrieve the expected article on the Web. Please try to visit
http://www.ieice.org/ess/ESS/Fundam-Review.html (in Japanese).

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Hot Topics

IEICE Fellow, Prof. Dr. Wolfgang-Martin Boerner contributes a paper in IEICE homepage

A contribution " International Collaboration on advancing microwave radar remote sensing and stress-change monitoring of the terrestrial covers from space for the benefit of sustaining the biosphere in which we reside" by Prof. Wolfgang-Martin Boerner, Professor Emeritus of University of Illinois Chicago, USA is archived at http://www.ieice.org/eng/global_plaza/2009/08.html.

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IEICE's International Conferences

APSITT2010 by IEICE Communications Society

The 8th Asia-Pacific Symposium on Information and Telecommunication Technologies: held in Malaysia, in June 2010. *http://www.ieice.org/cs/in/APSITT/2010/.*

APARM 2010 by *IEICE Engineering Sciences Society*
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The 4th Asia-Pacific International Symposium on Advanced Reliability and Maintenance Modeling: held in New Zealand, in December 2010. *http://msor.victoria.ac.nz/Events/APARM2010/.*

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Message from TFIPP Secretariat

This issue is delivered also by a free mail magazine "IEICE Global Plaza on Line" with updated IEICE conference calendar, news of scholarships and ICT trends. Please contact Prof. Kenzo Takahashi, TFIPP at global@ieice.org. See back numbers at *http://www.ieice.org/eng/global_plaza/index.html/.*
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