Report
on
SERENE Study tour held from 24th January 2010 to 3rd February 2010 in Vietnam, Thailand and Sri Lanka.

As part of the SERENE (South-South Exchange of Research and Education Network Experience) program administered by World Bank a six member team (Appendix 1) visited Vietnam, Thailand and Sri Lanka from 24th January 2010 to 3rd February 2010. The objective of the study tour was to gather and share experience and knowledge from similar activities of their National Research and Education Network (NREN) in those countries. The tour was also attended by delegates from three other countries namely: Afghanistan, Nepal and Bhutan.

The team visited all the NRENs operating centers of these countries including other institutions like Universities, Hospitals and Medical Colleges, Disaster Management and Weather forecasting departments etc where applications of NREN were displayed (Appendix 2).

The team gathered among many other information and experience the following key elements on Research and Education Network (REN):

1. How to build a sustainable REN.
2. The ownership, governance and management models.
3. Options for sustainable financing scheme. Role of users and Government.
4. Acquiring bandwidth at a competitive rate and innovative low cost solutions of building capacity.
5. Innovative ways in maintaining user groups and client support services.

To summarize the experiences:

1. Research and Education Network is an absolute necessity for the Higher Education Sector.
2. It needs Government patronization. But it should be managed and run outside direct Government hierarchy and authority.
3. Video Conferencing (VC) is one of the key applications running on this network. Faculty, students and researchers are using this network and VC facility for remote presentations, distance learning, medical services, disaster management, training etc.
4. All the countries have underlined the human level collaboration to reap the benefit of this network. They are already getting return of their NREN through global human level collaboration.

5. University HEMIS can be developed and run centrally to be used by all Universities remotely.

6. International / donor organizations are positive in rendering greater assistance in Higher Education sector. We need to capitalize this opportunity.

7. Both Vietnam and Thailand have put special emphasis on proficiency in English for obvious reason. Even Sri Lanka, where English proficiency is quite high, has put English proficiency as one of the key deliverable of their IRQUE (Increase Relevance and Quality of Under Graduate Education) project.

8. The medical community in these countries have higher level of computer literacy.

**Here are some recommendations for Bangladesh:**

1. Increasing proficiency in English at higher education level should be emphasized to meet the need of global connectivity.

2. Computer literacy among all higher education institutions specially in medical professionals should be enhanced, as such computer course should be included in the course curriculum of Medical students.

3. Appropriate projects on education sector should be prioritized by the Govt. and should help in accelerating the implementation process.

4. Professionals and academia’s should be promoted to participate in research and education collaborative activities like APAN, TEIN etc.
Appendix 1

As part of the South-South Exchange of Research and Education Network Experience (SERENE) program administered by World Bank a team with the following members visited Vietnam, Thailand and Sri Lanka to gather their experience in this field:

1. Mr. Syed Ataur Rahman, Secretary Ministry of Education
2. Prof. Nazrul Islam, Chairman, UGC.
3. Prof. Dr. Ehsanul Haque, Member, UGC
4. Prof. Dr. Tajul Islam, Member, UGC.
5. Prof. Dr. MMA Hashem, TST Consultant (Technical)
6. Md. Yousuf Niaz, TST Consultant (Management)

The study tour started from 24th January 2010 and ended on 3rd February.

The study tour was also attended by delegates from Afganistan, Nepal and Bhutan. The list of members attending from these countries are follows:

Afghanistan

Prof. Hamidullah Amin, Chancellor Kabul University
H.E. Mohammad Osman Babury, Deputy Minister of Higher Education (Academic affairs)
Mr. Salim Saay, IT Coordinator, Ministry of Higher Education

Bhutan

Mrs. Phintsho Choeden, Head of Research Royal University of Bhutan
Mr. Sonam Penjor, IT coordinator Royal University of Bhutan
Mr. Karma Wangdi. Acting Director, Department of Information Technology, Ministry of Information and Communication. RGoB.

Nepal

Dr. Ram Hai Aryl, Secretary of Ministry of Science and Technology, Nepal
Dr. Subarna Shakiya, Director, National Information Technology Center
Mr. Kishor Panth, Treasurer, NREN, Nepal

**World Bank**

Mr. Michael Foley, Senior Consultant World Bank

Mr. Juan Blazquez, Senior Knowledge Officer, World Bank

Mr. George McLaughlin, Senior Consultant, World Bank
Appendix 2

Visiting Vietnam: 25-01.2010 to 26-012010

The program started through a visit and presentation at National Center for Hydro-meteorological Forecasting Center (NCHMF) in Vietnam followed by visit to National Hospital, and VinaREN (Vietnam Research & Education Network) Network Operation Center (NOC) and Vietnam National University (VNU).

All of these organizations are active members of VinaREN. All of them are very much enthusiastic and upbit about the role, effectiveness and necessity of this network (the REN). There is a huge good will for this network and everybody is emphasizing on expanding the scope and depth of this network. VinaREN is now upgrading its network, although it is only around 3 years old. It enjoys a strong Govt. patronization.

The university community as well as Govt. officials stressed the need of human level collaboration to capitalize the immense opportunity the network can offer. And they are already getting return out of it. In the National Hospital we were a witness of VC session where the presenter, a doctor, from Melbourne Pediatric Hospital, was giving a multimedia presentation to students and faculties participating from two medical colleges at Vietnam in an interactive way. This was possible due to the network and human level collaboration among the professionals and researchers of the two countries.

Key observations:

- The NCHMF can now download 40GB data from 30 different Modems all around the world where there are super computers.
- As such they can forecast weather now within minutes by getting the data analyzed. As a result death toll during the sever cyclones have come down very significantly.
- NREN can play a key role in training the medical students in Bangladesh with latest methodology and technologies.
- The presentation included a video of operation of hole in the heart of a child showing in detail.
- Australian doctors visits regularly to Vietnam to treat children with plastic surgery and others. In such cases, the doctors check the latest condition of the patients through VC for preparation before moving to Vietnam.
- VIETNAM is now a very active member in World REN community. They have already hosted a number of workshops and meetings such as APAN, TIEN3 etc. meeting although they started their NREN only about 3 years back.
- ViNAREN and NASASTI also now have greater prominence in the Government; as such NASASTI has been upgraded to higher level.
✓ There are now larger amount of collaboration with external researchers, academia due to VINAREN.

✓ Students having appointment of foreign professors, doing some part of their course from home country.

✓ Huge demand from University community; as such they are upgrading the network.

✓ VC has been main applications so far.

✓ Education community is very much upbit about ViNAREN.

✓ For ease of development the VP of Vietnam National University is directly under the Prime Minister.

✓ There is a lot of emphasis on education, specially higher education and science & technology from the government.

✓ President visited one of the very respected doctors of the Vietnam Medical College to encourage and honor them.
Visiting Thailand: From 27/01/2010 to 28/01/2010

Vietnam visit was followed by a visit to Thailand where the tour began with a visit and presentation to Chula Hospital. The team also visited and Asian Institute of Technology (AIT), intERlab, National Science Park and UniNET / ThaiREN NOC.

Thailand is much ahead in all respect. The ThaiREN is even offering connectivity to all the schools. They are utilizing the network resources to a maximum for their research and education purpose. Although, the network receives a lot of patronization from Government, it is managed and run through an organization outside the Government hierarchy.

Key observations:

✓ We learnt about DVTS a video conferencing technique which is required for very high quality multi-site VCs. Only Japan has DVTS servers which are very costly. NREN community can get free DVTS server service from Japan.

✓ Often there are live operation broadcasted over ThaiREN for medical students at other countries and places.

✓ Through this network and through robotic control patients are treated or operated remotely by experienced doctors.

✓ In the medicine faculty there are 50 buildings with 5000 computers, all are interconnected.

✓ Thailand as a whole tried to find the relevant research area which is required most for their country; as for example speech translation because English proficiency is poor in Thailand.

✓ ThaiREN is a separate entity outside the government, owned and maintained by Universities and research organizations.
Visiting Sri Lanka: From 29-01-2010 to 02-02-2010

The last leg of the tour was in Sri Lanka. Here the program started with a presentation of Sri Lankan research network, LEARN in the Hotel Cinnamon Grand in Colombo and a visit to Sri Lanka Telecom’s (SLT) data center. This was followed by a visit to University of Peradeniya and LEARN NOC at Kandy. The team spent last two days in a workshop in Colombo summarizing the outcome of tour and exchanging plan for each participating countries.

The Sri Lankan education and research community has underlined the necessity of this network and emphasized the human level collaboration to capitalize the benefit of this network. The network was actually built through the initiatives from the Universities under the UGC which was later supported by World Bank and the Govt. After enough study and discussion they have formed a company to manage and develop the network which is owned by the universities. According the Sri Lankan UGC Chairman, this can not run under Govt. bureaucratic structure.

Key observations:

- LEARN has been incorporated as a company.
- Open Source NMS
- LEARN possess a Video Conferencing Bridge to conduct Video Conferences.
- Universities and member organizations bear the cost of running the LEARN network through charges and fees.
- It is run at no profit basis.
- Separate license has not been required to provide Internet Services to its members.
- Sri Lanka has completed a project titled “Improve the Relevance and Quality of Under Graduate Education (IRQUE)” worth $40 m with support from the World Bank. The project emphasized on
  - Quality Assurance and accreditation
  - IT infrastructure
  - HEMIS
  - English Language Proficiency
  - Competition among Universities.
  - They have started a second phase with the WB funding titled “Higher Education for 21st Century” which will emphasize Library and Internet connectivity.
Equipment Rack at NOC of Peradeniya University, Kandy Sri Lanka

Presentation of LEARN Network Management, Sri Lanka