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I am a devoted reader of i4d and I think it is a really needed magazine and you are doing an outstanding job. Moreover, I am looking forward to opportunities of contributing to i4d.

*Dmitry Epstein*

*[dmitrye@bgumail.bgu.ac.il](mailto:dmitrye@bgumail.bgu.ac.il)*

Pakistan does not seem to exist as for i4d is concerned. One may find articles on Bangladesh and Sri Lanka, even Afghanistan but nothing on Pakistan. There are even no events for it. You may have a problem in getting a correspondent. You may find somebody if you try.

*Muhammad Abd al-Hameed, Lahore*

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May	ICT and Microfinance
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September	ICTs and SME
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November	ICTs for the disabled
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**Editorial**

**Globalisation of culture with ICT**



Culture is a core part of our identities as human beings, connected to our mother tongues, to our families and kinship, to our links to our ancestors. It binds us together with those whom we recognise as 'people similar to us'. The search for traditional commonalities in cultural heritage gives the birth of the sense of 'homogeneity', it brings a set of individuals together as persons of common cultural practices rather than as a gathering of strangers. The cultural and linguistic diversity helps us to understand the heterogeneity of human beings all over the world that is a most important character

of the human society. Cultural diversity and linguistic diversity both are essential for the development of an information society based on the dialogue among cultures, and at the same time, based on regional and international cooperation.

UNESCO WSIS Action Directory shows how UNESCO is implementing the WSIS Action Plan. It has focused some of the most essential points such as creating policies that support the respect, preservation, promotion and enhancement of cultural and linguistic diversity and cultural heritage within the information society, as reflected in relevant agreed UN documents, including UNESCO's Universal Declaration on Cultural Diversity. It has also emphasized on developing national policies and laws to ensure that libraries, archives, museums and other cultural institutions can play their full role of content and supporting efforts to develop and use ICTs for the preservation of natural and cultural heritage, keeping it accessible as a living part of today's culture.

The new areas of applying ICT for development are fascinating. But the reality says that the problem of 'digital divide' not only resists the full utilisation of ICT potential by all, but also, there lies a question of adaptability by the people associated. Here comes the requirement of content management and localisation.

We need to develop and implement policies that preserve, affirm, respect and promote diversity of cultural expression, indigenous knowledge and traditions, taking initiatives for local content development, translation and adaptation, creating digital archives, providing content that is relevant to the cultures and languages. For that, public-private partnerships are most essential.

This issue of i4d will help our readers to assess the contribution of ICT to cultural exchange and interaction in various parts of the globe. Let us start thinking locally and act globally, exchanging our views towards localisation of content with ICT, keeping the cultural diversity at its own place.

Ravi Gupta  
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# ICT: Hypes and realities

This article has been adapted from a speech by the author at International workshop on 'Building a Common Path : Beyond WSIS', organised by Sarvodaya ([www.sarvodaya.org](http://www.sarvodaya.org)) and supported by IDRC, Canada in Colombo, Sri Lanka, on 24 February 2006.

We cannot achieve progress in ICT4D when public acceptance of ICT is not yet established and our work doesn't happen in a social vacuum.



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It is easy for us to engage in self congratulatory talk and mutual compliments at gatherings of ICT4D professionals. But too much consensus can do more harm than good, so I am going to differ with majority views. I don't engage in uncritical cheer-leading – I like being the professional skeptic, asking difficult questions that ought to be confronted.

We must ask these questions:

- Why aren't ICTs in the mainstream of public life and public affairs in Sri Lanka?
- Are all the ICT4D initiatives merely tinkering at the periphery?
- Why is there such a string of failures in taking modern ICTs to the grassroots?
- Why is public trust and confidence in ICTs very low?
- Where are the champions of ICT when we need them?

I remember a popular Sri Lankan folk story. It relates an incident that happened when we were ruled by kings, and concerns jaggery - a delicious sugar substitute we make from the sap of the coconut palm.

The King of Lanka wanted to know how jaggery was made. He sent for the official jaggery supplier to the Palace, who claimed that it was being produced under the most hygienic conditions by people who had mastered the technique for decades. Unlike today's rulers, however, the king didn't believe everything he was told. He went in disguise to investigate. Just as well, because the reality was completely different! The king found jaggery being made in a rickety old shack, with none of the hygienic conditions. A very angry king revealed who he was, and demanded an explanation. He was told: 'That's the hype, Your Majesty, and this is the reality!' The gulf between the hype and reality in our ICT circles can be as wide and shocking.

## ICTs in the dock: two recent examples

Irrespective of our ethnic, economic, social or other divisions, there are three 'institutions' that all Sri Lankans would be outraged if anyone meddles with them:

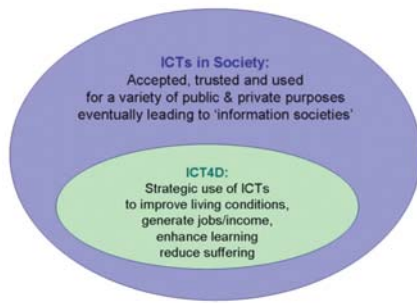
- our education system, and public examinations in particular,
- our multi-party electoral process ;
- Sri Lankan cricket team.

During the past few weeks, modern ICTs have been accused of interfering with two of these national institutions.

The first controversy erupted in January, 2006 and was about the marking of answer scripts in the highly competitive GCE Advanced Level examination, which decides university admissions. It was revealed that an Optical Mark Reading (OMR) machine used for marking multiple choice answer scripts had been malfunctioning for years. The US-made, Indian supplied machine had been in use for six years. Its increasingly erratic performance was later attributed to frequent power failures at the Department of Examinations – sometimes as frequently as 10 times a day. Apparently no one thought of using a UPS, and by the time the marking anomalies were spotted (or acknowledged), 2005' examination results had already been announced. An attempt to recall the results, and manually re-correct the answer scripts had thousands of students and parents shocked and outraged.

This 'exam scandal' not only seriously undermined the credibility of the entire public education system, but also caused much damage to the public perception of IT and ICT.

Even the usually open-minded English press was vocal in its criticism. The Island's editorial on 17 Feb 2006 said: "Now we know in this country, it is wrong to say 'IT is your future'. It should perhaps be correct



to say ‘IT can ruin your future’. The future of thousands of school children was almost ruined...”

While all these were happening, the government’s ICT Agency never once entered the debate. As we later discovered, it

was busy in placing our Parliament online. Nearly 11 years after commercial Internet arrived in Sri Lanka, the national legislature finally had its own website in February 2006, but it was far from perfect.

In reality, the website turned out to be incomplete and full of factual, spelling and grammatical errors, failing to provide basic accurate information about the 225 Parliamentarians.

As we studied the new website, having accessed *www.parliament.lk* on 21 February, 2006 a few days after its official launch — we found many problems. Among them, some are as follows :

- The entire website was only in English, whereas the national languages policy requires the government to use Sinhala, Tamil and English languages.
- Most Parliamentarians engage in their work and debates in Sinhala or Tamil, yet these languages were completely ignored.
- The website claimed to profile all 225 Members of Parliament (MPs). Yet, the Leader of the Opposition — an MP since 1977 and a former Prime Minister — was not listed!
- Other key opposition MPs are not included in either the directory or biography sections about MPs.

One might say that these are teething problems of a new website. But what was the rush to place such a website online, before ironing out these problems? Once again, this did not inspire public confidence in ICTs.

### Government online? Show me where!

In a sense, the bungling of the Parliament website must be seen within the broader context of numerous failures in rhetorical and costly moves for an e-Government. Sri Lanka was the first country in South Asia to have unrestricted, commercial Internet connectivity in April, 1995. Yet our public sector was totally unprepared to engage the new medium. The government agencies took several years to take even the first faltering steps of placing their brochures and forms online. A decade later, we have not moved very far. And a majority of government websites are still available exclusively in English, notwithstanding the Sinhala nationalist government now in office.

Writing the Sri Lanka chapter in the *Digital Review of Asia Pacific* (2005/2006 edition), I commented two years ago: ‘In spite of the ICT road map recognising e-Government as a priority area, not a single government agency or department offered the option of completing an entire transaction online as at May 2004. None of the statutory dues to the government could be paid online.’

Sadly, this has not improved by early 2006 – in spite of massive

amounts of donor or public funds being spent on re-engineering government to engage ICTs.

### You can’t get there from here...

Development practitioners, who want to apply ICTs to solve problems, need to take note of this big picture. We cannot achieve progress in ICT4D, when public acceptance of ICT is not yet established. Our work doesn’t happen in a social vacuum.

Tinkering with a few ‘pilots’ at the periphery is not going to mainstream ICTs in society. If we want real impact, we simply have to be smarter and more strategic. Let’s never lose sight of the fact that ICT4D is a subset within ICTs in society.

No amount of legislation, policy formulation and paid propaganda by the ICTA is going to mainstream ICTs in Sri Lankan society. ICTs have to prove their worth, and be accepted as adding value to living and working conditions of ordinary people.

We can assess the utility and relevance of a new technology by asking a few simple questions as follows :

#### ■ Does the new technology or process

- put more food on their table?
- add more money in people’s pockets?
- make interfacing with government easier?
- save time and effort involved in commuting?
- support cultural and personal needs of individuals and groups?
- put a smile on users’ faces?

Finally, is it affordable, user-friendly and widely available, with minimum entry level barriers?

This is a simple check list – one we need to run through every few weeks to ensure we are on the right track.

### Desperately looking for ICT4D successes

Indeed, there is a real danger that we might lull ourselves into believing that we are addressing the vast unmet needs through our little ‘pilots’, scattered in a few places.

In 2003/2004, the UNDP Asia Pacific Development Information Programme (UNDP-APDIP) carried out a nine-country Asia Pacific study to find out how ICTs are contributing to human development. The countries covered by this study were: China, India, Indonesia, Malaysia, Mongolia, Pakistan, Sri Lanka, Thailand and Vietnam. Two colleagues and I researched for instances of ICT tools that have had direct and discernible impact on the poor in Sri Lanka. We did not find a single successful initiative — except in artificial conditions created by disproportionately high donor funding and external technical support. After looking at various governmental, civil society and university projects – none of which can withstand real world conditions – we concluded that the single ‘winner’ from Sri Lanka was the mobile phone. This entirely market-driven phenomenon stood out amidst many donor-driven projects, that had either collapsed or never taken off.

Mobile phones today truly cut across social, class and economic divides. Having been an expensive, elitist tool when first introduced in 1989, it has become a tool that ordinary people can afford to use for a wide range of purposes. Breaking up the initial monopoly and good telecom regulation have helped bring down costs. Interestingly, not a single development donor has directly invested in this particular ICT.

There are now a large number of other ‘small-is-beautiful’ type ICT4D initiatives across Africa, Asia Pacific and Latin America. The tele-centre fever, currently sweeping the developing world, is the latest wave. Tax payers in the North keep these numerous projects on life support, believing the hype that they really help the poor. But do they, really? I remain to be convinced.

If some people want to believe in myths, that’s a personal choice. But such projects — like Sri Lanka’s much-touted Kotmale Internet browsing by radio — do great harm by distracting funding agencies, distorting investment priorities and creating an illusion of accomplishment. Murali Shanmugavelan, a researcher with Panos London, calls these initiatives ‘donor mistresses’.

My own label for them is ‘picture postcard opportunities’ for roving development workers. There is a certain seductive allure in images of school children playing with a computer, a Buddhist monk using a mobile phone, or tribal people trying out a palm-top. They make us believe that we are fixing the world’s ills with geeky gadgets – when, in fact, we are merely tinkering in the periphery.

And all the while, the fundamental constraints keep our societies digitally divided. For Sri Lanka, these bottlenecks include:

- the high capital and operating costs;
- lack of adequate infrastructure;
- absence of enabling policies and laws and
- failure to produce standardised local language fonts and locally relevant content.

Unless and until these are addressed meaningfully, there cannot be much meaningful ICT4D. Tragically, the ICT Agency of Sri Lanka, which has the mandate and powers to address these issues, is instead dissipating its energy and resources on setting up rural tele-centres, a task that it should leave to better positioned and experienced groups. This glaring inability to set and pursue the right priorities has been a bane of Sri Lankan ICT sector for years.

### Public acceptance of ICT is vital

For any ICT4D to succeed, IT and ICTs need to win public trust, confidence and acceptance. Much research has been done looking at the sociology and social-anthropology of how new technologies are accepted and assimilated into societies. A key component within this is public communication of science and technology (PCST).

We now know that demonstrated economic, social or cultural benefits alone will not necessarily secure public acceptance of a new technology. The process is more complex and prolonged. The ICT professionals can learn from other sectors where new technologies or processes have been introduced through careful social marketing and promotion. Some examples can be sited here :

- In water supply and sanitation, the practitioners know that building latrines is only a beginning. There is a whole lot more that needs to be done before people change their behaviour.
- In family planning, too, promoters found out long ago that merely making birth control methods readily available was not enough: there was a ‘sociology’ to be studied, engaged and used.

All ICT and ICT4D practitioners must consider the ‘sociology’ of introducing and promoting new tools of ICT to communities. One reason for Sri Lanka’s long string of failures in taking ICTs to the grassroots is that it has been driven by engineers and technologists

(geeks) who believed, no doubt sincerely, that gadgets can fix all social problems.

Public acceptance of new technologies can be summed up in a few key, progressive steps:

- First, people begin to take note of it (there may be suspicions and apprehensions).
- Then some people warm up to it – they want to try and see!
- When more people use it, and become familiar with it, acceptance begins to take root slowly - and a few ‘champions’ begin to emerge from within.
- After years of use, barring serious mishaps, people begin to actually trust it, and trust their children with it!
- After some more time, everyone accepts it as part of the socio-cultural landscape, and no one gives a second thought
- Finally comes the stage where people clamour for it, and are even willing to pay for it!

In short, it moves from being supply-driven to demand-driven. In ICT4D, we are still at the beginning of this process, with external parties (from the city, or overseas) driving it with supply.

### Meeting the challenges: what can be done?

Although I ask difficult questions, I don’t have all the answers. Here are a few thoughts.

- **Adopt a ‘micro-macro’ approach:** By all means, we must continue the worthwhile grassroots micro projects. But at the same time, some of us should address the ‘big picture’ level bottlenecks, constraints and issues.
- **Kick the ‘pilots’ to take off:** It is fine to start pilot projects, as long as we know how and when to phase out and withdraw. Some pilots will never take off due to inherent design flaws. Others may fly only for a short while and crash. Even if just a handful manage to soar on their own power, that would be far better than sustaining ‘forever pilots’ that distort the scale for everyone.
- **Get the fundamentals right:** Our pilots can’t take off when the ‘runway’ is cluttered with debris. We need to identify and advocate areas for reform in policy, legislation, tariffs, technology, trade agreements, etc.
- **Don’t sleepwalk:** It’s easy to get mesmerised by gadgets, especially in the ICT sector. Let us never lose sight of what we are trying to do. ICTs are only means to an end – to make living and working easier for everyone.
- **Strengthen the industry:** Remembering that ICT4D is a sub-set of ICT, we need to create a more vigorous, dynamic ICT industry. Only then will ICT tools, processes, support services and know-how become widely available, affordable and public acceptance begin to consolidate.
- **Play our niche roles:** Government, industry, academia and civil society each have a niche role. There are some factors that only governments or their agencies can address such as infrastructure, enabling policies and good market regulation. We must each do what we are best at doing and leave the rest to the others.
- **Strategically champion ICTs:** This is perhaps the hardest to get right. We need credible, articulate, passionate individuals who take a ‘big picture’ view of ICTs’ role in society and economy, and who speak for the ICT sector in public debates and controversies. This is precisely what we in Sri Lanka currently lack. ■



# REALISING INDIA'S POTENTIAL

Building a digitally inclusive society.



The power of computing enables people to pursue their passions and achieve their ambitions, no matter who they are. At Microsoft, we share this passion for creating opportunities, and it is our mission to enable people and businesses throughout the world to realise their full potential. We are committed to helping countries improve their global competitiveness, promote local economic growth and development, and drive innovation. Microsoft also recognises that for millions of people, the promise of technology is still unrealised. In India, we have attempted to make this vision real through several initiatives that seek to drive the percolation of IT across different strata of society.

It is with this belief that Microsoft instituted three key projects in India:

- **Project Shiksha:** Training teachers in the use of technology as an aid in the teaching process
- **Project Bhasha:** Enabling local language computing
- **Project Jyoti:** Training the rural population in the use of PCs and Communication devices

Each of these programmes involves partnerships with the government, citizens and other experts to bring the benefits to the right constituencies.

## Project Shiksha



*Fourteen year old Santosh Cherapalli, begins his day at the wholesale market in Hyderabad, while his peers are deep asleep. He works four hours everyday before school to help supplement the family income. He looks*

*forward to attending classes at the local government and has worked hard to become the top student in his class. Not only that, with the right training at school he has sharpened his computer skills. Santosh sees computers as an ally in learning more, thereby setting the stage for a better life ahead.*

There are many like Santosh and his parents who view education as a critical enabler in improving the quality of life. They believe that the right education will help today's children build careers thereby being able to support themselves in the future.

It is with this insight that Microsoft launched Project Shiksha with the aim of teachers in using IT as a teaching aid in the classroom. This is a focussed programme that aims to bring IT to schools via effective teacher training programmes, thereby impacting the way teachers present the curriculum and students learn from them.

Project Shiksha partners state governments in setting up IT Academies wherein teachers are trained. Microsoft has signed MOUs with 9 state governments for setting up IT Academies in five years:

Uttaranchal, Andhra Pradesh, West Bengal, Karnataka, Rajasthan, Maharashtra, Punjab, Madhya Pradesh and Tamil Nadu.

Currently 8 IT Academies are functional in five states, while more are in the process of being setup in partnership with the state governments. The state governments provide the basic building infrastructure and Microsoft is responsible for creating a state of the art IT Academy which includes a classroom, library, staff room, server room, IT equipment, teaching curriculum and training staff. Of importance is the fact that the curriculum is being delivered in the local language to enable the participant school teachers to easily learn the use of IT and adopt the same as part of their teaching methodologies.

It is just as true that curriculum, concepts and the fundamental principles of subjects come alive at the hands of teachers who make an effort in teaching with innovative aids which help bring interest into the classroom. Students do not need to learn by rote, and learning is internalised better. This is captured very well in the words of AN Ramachandran, Dy. Director, NVS Bhopal, 'The child need not cram the rules or memorise the demonstration. Once it is picturised it is in his memory. Even if the children try they cannot forget it.'

The resultant teaching practices allow teachers to expose school curriculum in a meaningful and memorable manner, and is a new experience for the students. There has been a lot of positive



feedback from those who have benefited from the programme. Teachers have said that attendance in classes has gone up; while students see value in the use of audio-visual aids as they now learn from seeing and not just

hearing. Students have also demonstrated their increased understanding with a marked improvement in their performance. 'Earlier students used to absent themselves from school. Now they definitely come when it's their turn to use the computer', says Ahtisham Mirza, Teacher, GIC Nathuwawala. Needless to say, with this new exposure the children are able to learn more and can make their dreams of becoming doctors, teachers, scientists, sportspersons, designers et al into real careers.

As part of the Project Shiksha programme, Microsoft has also reached agreements with other government bodies that are responsible for taking education to the underprivileged. Some of these are:

- **Municipal Corporation of Delhi:** The aim is to reach out to 12,000 students over the 5 year period
- **Navodaya Vidyalaya Samiti (NVS) schools:** The NVS schools come directly under the administration of the Ministry of HRD. Today Project Shiksha benefits the NVS teachers in 9 states
- Teachers training is also being imparted at the **Jawahar Navodaya Vidya Samiti (JNV)** Panchawati, Andaman and Minicoy Islands, Lakshwadeep

Through Project Shiksha Microsoft seeks to reach 200,000 teachers and 10,000,000 students in the next five years. So far, Microsoft has trained over 50,000 teachers, thereby reaching out to 2.5 million students till date.

## Project Bhasha

*One would expect that a nationally acclaimed Hindi poet's creative juices flowed only when pen met paper. On the contrary Professor Ashok Chakradhar felt hampered at not being able to use his laptop to write poetry in his mother tongue. On the advice of a friend, he went to BhashaIndia.com and tried Microsoft Office in Hindi; it was love at first sight. Over the years he has travelled far and wide, using technology to share his creativity and has been an avowed supporter of Microsoft's language programme.*

In India, computing has not just become an integral part of our lives, but has changed the way we function, and continues to do so at breakneck speed. However only 2% of India's population has been able to embrace technology and reap its benefits. One of the reasons that IT adoption has lagged behind in India, has been the lack of a comfortable local language interface.

Project Bhasha, Microsoft India's National Language programme, brings technology to the most basic level of comfort – one's own language. The project was conceived in 2003 as a cohesive programme that rests on four pillars – localised product development, government engagement, local Independent Software Vendors and student involvement with community activities. The aim of the project is to foster an environment of collaboration in order to promote local language computing.

Under the aegis of Project Bhasha, almost all of Microsoft's products support 13 languages, like:

- **Microsoft Windows XP:** In order to support and enable local language computing, Microsoft has developed language versions



of the Operating Software. In fact, Windows XP Starter Edition was especially developed for India, and is aimed at the first time PC user as it enables computing in two languages – Hindi

and Tamil apart from the regular English interface. The plan is to launch the product in 8 other Indian languages by June 2006.

- **Microsoft Office Suite:** This powerful productivity tool is widely used by businesses in 13 local languages, thereby making it easier for business owners and managers to maintain data, make presentations and correspond in a language of their choice.

Apart from products, a community of talent has been created around bhashaindia.com which is a portal maintained by Microsoft. The portal has had 9 million page views since its inception, 300,000 page views per month and over 10,000 unique visitors per month. It enables the independent software vendor community which is 15,000 member strong, students and academia to share knowledge and develop local language enabled products and services. The community glossary website hosted on the portal for 5 languages has been a successful initiative. The portal allows this talent pool to download Language Interface Packs (LIP) in 13 languages and use them as the framework to localise existing products or develop software and applications anew.

With the increased availability of local language computing more and more citizens will be able to access information, communicate, share ideas and transact business in their own language. Therefore, language will no longer be a deterrent to IT adoption but an active enabler in the effort.

## Project Jyoti

*Tahseen Bano is a Chikankari worker in Kanpur who practiced this art the traditional way, drawing designs by hand before trying them out on fabric. Tahseen now sees a new way to practice her craft with the use of computers. She makes*



*intricate designs on her computer and is able to experiment with colours before doing it on fabric, saving herself time and money. With the help of the Internet, Tahseen has been able*

*to sell her Chikan suits to Indians living abroad directly without the involvement of middlemen.*

Microsoft has launched the Project Jyoti programme in August 2004 with the goal to create and deliver sustainable technology solutions that will make a real difference in people's lives and ultimately enable them to realise their full potential. Through this project, Microsoft will take the benefits of IT to the grassroots thereby making a positive impact on the lives of individuals and communities in rural India who had little or no access to IT.

The program is driven via Community Technology Learning Centers (CTLC), which are a free or low cost centers based in the community. People of all ages and social backgrounds learn about computers, the Internet; and gain basic knowledge that allows them to explore new careers, further their education, participate in community activities or develop career building technology skills.

As of December, 2005, Microsoft has made grants of over Rs. 18 crores in cash and software to 6 NGOs who work across many parts of the country in attempting to empower the local populace under the Project Jyoti program. The project is currently under implementation in Madhya Pradesh, Uttar Pradesh, Punjab, New Delhi, Pondicherry, Gujarat, Orissa, Kerala, West Bengal, Tamil Nadu, Andhra Pradesh, Maharashtra and Karnataka.

**With a vision to empower people across India with the power of IT, Microsoft targets to directly train 22,155 individuals and indirectly touch over 100,000 persons by the end of 2007.**

Through these initiatives, Microsoft will continue to invest in driving technology as a key enabler to build a digitally inclusive society. We also recognise that each of these projects is a small step in unleashing the latent potential of India that resides in the underserved communities. Microsoft seeks to drive an indelible impact that reaches every citizen, thereby giving them the opportunity to rise above their circumstances with the strength of technology by their side.

Learn more at [www.microsoft.com/india/potential](http://www.microsoft.com/india/potential)

# A cultural communion for youth

The multilingual model of TakingITGlobal's online community is anchored in commitment to supporting youth participation not only at the international but also at the local levels.



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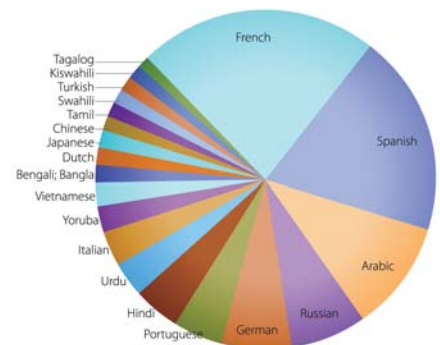
For thousands of young people around the world, online community *www.TakingITGlobal.org* provides a gateway to youth resources and opportunities as well as collaborative tools to support social action and community development. With a mission to inspire, inform and involve young people, TakingITGlobal.org uses cutting-edge technology to connect youth around the world to find inspiration, information and get involved in improving their local and global communities.

What is it about TakingITGlobal.org that makes it different from its numerous global counterparts – online communities that support youth dialogue, participation, expression and cross-cultural learning? The short answer is: multilingual capacity and the use of technology and local languages to support youth participation. The multilingual model of TakingITGlobal's (TIG's) online community is anchored in commitment to supporting youth participation not only at the international but also at the local levels. With the new content added every month, the portal enables users to interact with the site in any of the currently available seven languages (the number is expected to grow):

- English (*www.takingitglobal.org*),
- French (*fr.takingitglobal.org*),
- Spanish (*es.takingitglobal.org*),
- Russian (*ru.takingitglobal.org*),
- Arabic (*ar.takingitglobal.org*),
- Portuguese (*pt.takingitglobal.org*),
- Chinese (simplified) (*ch.takingitglobal.org*).

In what follows, we will describe the innovative multilingual framework developed by TakingITGlobal and reflect on the successes and challenges of managing this rapidly expanding multilingual online community.

Top 20 languages spoken by members of TakingITGlobal.org (excluding English)



Total languages spoken by TakingITGlobal members: 248

## Multilingual strategy of TIG's online community

After its launch in 2000, TakingITGlobal.org has quickly become a popular meeting place for young people around the world and a premier hub for youth resources, opportunities and activities. However, it soon became clear that programmes and opportunities offered by participation in this online community are only relevant to young people if they are in local languages and reflect what is going on in their community.

Whether it be surveys, projects or international events, facilitated by TakingITGlobal, the message has been clear: TakingITGlobal.org must exist in multiple languages to realise the potential of non-English speaking youth.

To respond to the linguistic diversity of young people, interested in joining TakingITGlobal.org, a multilingual strategy was developed by the TakingITGlobal's team. This strategy aims to provide long-term sustainability in the creation, promotion and maintenance of multilingual versions of the online community.





The three objectives of the strategy are:

- The creation of superior-quality multilingual versions of TakingITGlobal.org;
- The promotion of linguistic diversity and the development of a sizeable body of local content;
- The strengthening of TakingITGlobal's capacity to be an effective multilingual organisation, offering relevant multi-lingual programmes.

## Development of multilingual versions

In preparation to the development of multilingual versions of TakingITGlobal.org, a custom-made translation was developed by TIG's technical team. This ground-breaking technology allows translating its online community into any language by teams of virtual volunteers, based in different countries.

The next step involved identifying language coordinators for each language, in which translations were planned as well as developing resource materials and translation guides for each language. Language coordinators were responsible for recruiting volunteer online translators among TIG's members and their local peers and training them in the use of the translate tool. In addition, they were responsible for the development of the translation guide for each language which included the most commonly used terms on TIG's site. All Language Coordinators and Translators, who passed the translation test, had access to the translation tool which allowed them to translate the website from English into another language. Further, language coordinators were responsible for monitoring translation progress and communicating regularly with members of their translation teams. Drawing on this model, TIG launched French and Spanish versions of the website in spring 2004. The Russian and Arabic versions followed shortly. Most recently, Portuguese and simplified Chinese versions were launched.

## Unique features

The multilingual model that underlines the development of unique versions of TakingITGlobal.org in local languages has a number of unique characteristics:

- Multilingual versions of TIG's online community are not literal translations of the English language platform. They represent independent multilingual communities, driven by local content and local needs and serve as a backbone to effective youth engagement at the local level.
- The multilingual focus includes not only the translation of the framework of the website into local languages but also soliciting and encouraging original content in languages other than English submitted by TIG members.

## Web-based tools in local languages

An impressive array of online tools for collaboration, networking and knowledge sharing is available to TIG users, all free of charge. The most prominent ones include discussion boards, groups, newsletters, TIGblogs, open forums, projects, the Global Gallery and Panorama Magazine.

The Discussion Boards (<http://discuss5.takingitglobal.org>) are divided into threads and cover a wide range of topics, available to all, to better promote cross-cultural communication and understanding.

The e-Groups (<http://www.takingitglobal.org/connections/groups>) provide the key tools needed to connect and sustain the activities of a team project, an active discussion group, or a network of people.

Available in five languages, the monthly e-Newsletter (TIG Dispatch) (<http://www.takingitglobal.org/connections/newsletters/dispatch>) is sent out to all members who opt to receive it, keeping them informed as to the latest events and opportunities.

An online space for reflection, the honing of writing skills and sharing personal and professional news is offered by multilingual TIGblogs (<http://www.takingitglobal.org/connections/tigblogs>).





Open Forums (<http://www.takingitglobal.org/action/openforums>), an offline programme, are useful to all those who wish to discuss issues concerning their community. Reports posted after the event, which includes an overview of the topics discussed as well as the conclusions reached, are available to all members of TIG.

Another way to take action is to either start or join an already existing project (<http://www.takingitglobal.org/action/projects>). Since involvement is not restricted based on physical location, youth from around the world can come together and work on a cause they share in common.

Finally, the online gallery of youth artwork called Global Gallery (<http://www.takingitglobal.org/express/gallery>) and the Panorama Online Magazine (<http://www.takingitglobal.org/express/panorama>) are platforms for the creatively inclined to submit either artwork or writing. Upon approval, all submissions are showcased on TIG's website for everyone to see, affording budding artists and writers the much-needed initial exposure and experience.

### Challenges facing multilingual programmes

As it is always the case with such ambitious projects, they rarely go unaccompanied by all the attendant challenges. TIG depends on volunteer translators based around the world to help promote awareness and make various tools available in local languages. However, the level of commitment to the online translation work varies greatly among young people. The concomitant challenge is the issue of access and affordability of the Internet in many parts of the world. Many young people who are interested in contributing to the development of the multilingual communities simply cannot afford to translate online. This does not mean that they can't participate in online community in their language, rather than doing online translations, they can submit content in local languages to various online programmes offered by TIG.

Another challenge confronting TIG is the absence of funding for multilingual programming. As Taking ITGlobal is a not-for-

profit NGO, it is reliant on the support of its partners and donors to fund its initiatives. Without viable funding mechanism, it is difficult to ensure sustainability of the multilingual platform and to commit to the development of new versions of online community in local languages.

### Looking into the future

While recognising the challenges facing the development and sustainability of multilingual versions of TIG's web portal, a vision of TakingITGlobal.org as a multilingual online community remains a central priority for organisation's work in the area of youth engagement through ICTs. It is clear that to ensure sustainability of the multilingual community, new approaches and creative solutions need to be developed. These approaches used to gain support for the development of the multilingual platform by-

- engaging immigrant, diasporic and highly mobile youth who are fluent in English and other languages and are interested in getting involved in the development of multilingual versions of TakingITGlobal.org;
- developing translation partnerships with schools and universities around the world through which students participate in translation of the website as part of their academic studies;
- organising contests for the most active translators.

Notwithstanding the lack of funding for multilingual programming, TIG has no plans to slow down. The support and positive feedback from youth who are members of TakingITGlobal.org reinforces the importance of having TakingITGlobal Online Community in local languages. "As an Arabic member of TIG, I believe that TIG's Arabic site provides Arabic-speaking youth with the opportunity to participate and contribute more in all TIG's activities and programmes, therefore breaking the language barrier that they are facing," says Tala Nabulsi, TIG member from Jordan. What's next for TakingITGlobal? The development of German, Turkish and Vietnamese versions of the site. ■

## ICT for localisation – some projects

The project in Argentina 'Information and Communication Technologies and Native People: The multicultural development' aims to strengthen the links among the Mapuche people, living in rural and remote areas with those who have migrated to urban centres in the country. This project aims to promote social cohesion and the exchange of knowledge, information, and culture among these geographically separate Mapuche communities through the use of ICTs. Giving the Mapuche access to the Internet and the availability to show their presence on it will mean access to the information that will improve their ways of producing cultural content, with the consequent enhancement of their standard of living.

By speeding the localisation of software and web content in African languages and Arabic, the project 'Localising ICTs to African Languages and Arabic' will lower the barriers to ICT adoption, especially in rural areas. The three-year project has three main components: initial survey of the current state of localisation in Africa, followed up by a survey to measure progress; a capacity-building workshop in which African and other experts will exchange information and identify areas for collaboration;

and a web-based database of localisation resources for software developers and content authors. The project is led and managed respectively by two NGOs: Bisharat, an NGO supporting the use of African languages in software and web content through research, advocacy, and networking; and, Kabissa.org, an NGO dedicated to helping African civil society organisations put ICTs to work for the benefit of the people they serve.

'Mechanisms and Tools for Generating, Processing and Disseminating Appropriate Local Content in Underprivileged Communities in Ghana' is another project to enhance information and knowledge sharing for poverty reduction by proposing mechanisms and tools to generate and disseminate relevant local contents using appropriate and acceptable ICT formats. This project seeks to enhance information and knowledge sharing between underprivileged communities in Ghana. It will develop relevant local content in a participatory manner and disseminating it using appropriate tools.

Source: [http://www.idrc.ca/wsis/ev-88484-201-1-DO\\_TOPIC.html](http://www.idrc.ca/wsis/ev-88484-201-1-DO_TOPIC.html)

# Rural kiosks on profit mode

A delicate balance need to be created between economic sustainability and social gain in establishing kiosks among the poorer section of the community.



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The scenarios mentioned below among many others, are played out everyday in villages across India. Internet and gaming parlours, computer education and school tutorial centres, remote healthcare facilities, photo studios, insurance agents, agriculture consultants- a single village hosts all of these at the common access point at a 'rural kiosk'.

- An elderly woman walks just 2 kms from her home to get a weekly blood pressure level check despite the fact that the nearest doctor is 20 kms away.
- An unemployed youth in a remote village submits applications to the top 10 job opportunities across 3 different cities every day at a cost of less than 50 cents per day.
- A farmer, monitoring an unusual crop disease in his field, has agricultural experts located 300 kms away who examines plant samples and give him weekly updates for 50 cents per session, without ever leaving his village.
- Young children who have never even played a simple video game, navigate their way through complex racing games and adventure simulations.

This article is based on a study conducted over a period of one year at 300 rural kiosks across India, talking to over 3000 customers. For the purposes of the study, we have defined a rural kiosk as 'one or more computer(s), with Internet connectivity, offering ICT-enabled services, aimed at providing information access, means of communication and developmental mechanisms for the rural population.'

All of the kiosks, which are part of this study, are run by entrepreneurs as for-profit social enterprises that are members of two leading franchises: n-Logue Communications Pvt. Ltd. and Drishtee Dot Com. These entrepreneurs make capital investments through sources such as their own savings, bank loans and borrowings from friends and

relatives. These kiosks, therefore, have a dual mission: marrying community and social development with individual economic gain. Some of the important learnings emerging from this study are as follows :

- Most of the kiosks currently function more like cyber-cafes or gaming booths or computer education centres. Usage of development-oriented services (e-Agriculture etc.) is lower.
- Despite consistently low revenues, most kiosk owners believe that, with more locally relevant content/services, better Internet connectivity and reliable technical support, a rural kiosk is a sustainable business.
- Kiosk owners are exploring alternate revenue generation options which do not depend on services, provided by an external resource such as photocopying, data entry, desktop publishing.
- Linkages with local institutions such as village panchayat, school, primary health centre could help increase content relevance as well as streamline delivery mechanism of existing services.

## The primary stakeholders

**The kiosk owner:** In the rural space, the kiosk is essentially managed and operated by just one person - the kiosk owner, who is the primary investor, the operations manager, marketing head, teacher and trainer, and kiosk technical support resource. Some kiosk owners do employ skilled computer operators to help, but this also means a regular outflow for the person's salary, which currently is not affordable for most kiosk owners.

Most of the kiosk owners are male and are in the age group of 20–35 years. As can be expected in rural India, most are from a farming background. They begin with limited computer skills and sometimes they

have no prior work experience of any kind. These 'social entrepreneurs' are motivated by a belief that a kiosk gives them a sustainable livelihood option, along with the opportunity to do good for their community.

**The consumers:** The majority of the kiosk users are people for whom the kiosk currently is a point of access to skills building and entertainment. These users are primarily students, people with private or government jobs, or educated, unemployed youth. They avail of the computer courses offered, either as a supplement to classes at school or with a hope that it would help them compete better in the job market. Several of them, particularly high school and college students, use the kiosk to complete assignments for approximately 20-45 cents per hour. Gaming is another very popular usage, as is searching and applying for jobs, all without travelling more than 1-3 kms from their homes.

The kiosk also serves as a convenient and inexpensive resource to browse for information which rural consumers otherwise would not even know where to start looking for. Many of these users are educated – either studying in or have graduated from high school or college. They often do have prior exposure, albeit limited, to the computer and are familiar with at least word processing.

The second group of consumers is people, for whom the kiosk is an information access point and facilitates communication. This group consists primarily of farmers, housewives, petty traders, and the elderly. Though some of them do use the kiosk for computer education and browsing, for most of these consumers, the kiosk gives them access to market prices, the doctor, the agriculture expert, etc. These consumers generally do not interact with the computer directly. They rely on the kiosk owner to send a query, set up video-conferencing or chat sessions, etc. For them, the value proposition which the kiosk offers is not the technology. It is the window to information access without having to travel more than 3-5 kms beyond their village. This pattern of usage is transactional, which means that users go to a kiosk when they have a specific need versus spending time regularly at the kiosk to use the computer such as taking a computer course, browse etc. Examples of transactional usages are as follows :

- remote eye examination and diagnosis via video-conferencing, at 20-30 cents per session brings to a village a benefit which would otherwise mean travelling for at least half a day, struggling to get an appointment with a doctor and perhaps staying overnight at one's own expense. We estimate that cost savings are at a minimum of INR 47 per transaction.
- availability of insurance policies at the kiosk not only gives the community a convenient service, but at a more basic level, increases their awareness about financial risk management options.

### How sustainable are these kiosks?

Like any business, the rural kiosk also requires time to show profits and build a customer base. However, most kiosks do not show very high levels of consistent profitability and even those that do seem to hit ceiling levels fairly fast. Stagnation or steep drop in revenue are seen within six months to a year of operations. Yet, kiosk owners maintain their faith in the business. Over a period of a year more than 50 percent of the kiosk owners in our study have added equipment at their own cost such as an additional computer, a CD-

writer and a printer. Most of those who have not done so yet, plan to at least add another computer within six months to a year. Other preferred additions are scanner and a photocopier.

Kiosk owners also put in effort to drive customer traffic. They feel that the kiosk provides opportunity to the village, particularly the children and youth, by offering education services and exposure to new technologies and they would definitely be able to increase usage over a period of time. Kiosks are generally open 8-10 hours a day, and the owners spend a fair amount of time talking to the villagers about the services offered.

Today, the most effective way to spread information in a village is word-of-mouth. It is low cost, allows personal interaction and does not require the audience to be literate. The kiosk owner uses this informal channel effectively, not just to build awareness about the services which the kiosk offers, but also to get a buy-in from the decision-makers. For example:

- A kiosk owner increased customer traffic for a Spoken English course by visiting the homes of girls who had completed formal education and by speaking with their parents about the course.
- Several kiosk owners began getting a regular stream of students for online mathematics and science tutorials once they demonstrated the application to teachers at the local school and involved them in the teaching sessions at the kiosk. Kiosk owners believe that they can increase their current monthly income by at least INR 1034 to INR 2068, if only they had higher Internet speeds, more technical support and more new services. They anticipate growth in the following areas:
- *Services such as games, browsing, and computer education:* These would still primarily target existing regular users, getting them to spend more time at the kiosk, but essentially using the same set of services.
- *Photocopying, data entry, photography, etc:* These would target a different set of users—owners of small businesses, the village panchayat office, etc, for whom the kiosk would essentially provide business centre services which would otherwise be available only in nearby towns. For example, digital photography is emerging as a high-potential service, with most government schemes, school and college admissions, examination hall tickets, etc, requiring photographs of the applicant.

All of the above indicate that the kiosk business has potential to become sustainable, particularly in the context that the current services address the needs of less than 10 percent of the village population. Provided that additional relevant services are created, the potential to impact the village community from a socio and economic standpoint is substantial.

### Augmenting current service/business model

In terms of rural ICT bridging the digital divide, most services provided by rural kiosks today do not address the needs of the illiterate mother-to-be or the retired government clerk, trying to find out why he has not received his monthly pension amount. The kiosk owners do not anticipate high revenue flow from development services such as e-Agriculture, e-Health, etc.

The reason is fundamental - the business model cannot be built around services where the usage might be restricted to a visit at the kiosk once in six months to access a land record or an emergency consultation with a doctor. This already low usage is further limited

by social and cultural norms. For example, most rural users are currently not very comfortable getting a blood pressure reading without some accompanying comforting conversation with a doctor. Similarly, an adult literacy programme would probably be welcomed by the village women. However, her ability to attend these classes many times depends on the gender of the kiosk owner, the kiosk location, the class timings, and her husband's or father's consent. Furthermore, charging even a small amount for basic, yet vital health services could prove to be difficult, and may result in erosion of goodwill within the community. Therefore, a delicate balance needs to be created between economic sustainability and social gain.

In this context, it is interesting to consider whether some of the development services would penetrate better, if offered through the village office, primary health centre, etc, with the kiosk functioning as a facilitator. For example, information on pre-natal care could be made available at the kiosk, but instead of the kiosk owner attempting to market the service, the primary health centre could organise awareness sessions at the kiosk.

Taking this idea further, in villages with population below 2000 (where kiosk viability becomes even less due to lower available market volume), the kiosks could just be a computer in one local institution, with a focus on addressing some specific local needs. Placing a computer in the local school and using it primarily for extra tutorials for a nominal fee would, in the long-term generate a better return on investment than setting up a full-fledged kiosk. This would also mean training one or more teachers adequately, which would extend the potential of the computer further to improve teaching skills. This facility could even be run as an entrepreneurship- an individual could pay for the computer and even function as a teacher, while the school provided the space and paid for electricity, maintenance etc.

The appeal of these models lies in the fact that they offer the opportunity to use ICT to enhance existing rural development service delivery mechanisms. There is, however a flip side. The local institution (the school, primary health centre, etc.) should exist in the village, in the first place. Secondly, it should be reasonably functional, with some qualified staff available. Fulfilling both of these conditions is itself often a challenge in the rural landscape. Thus, until adequate resources are provided at schools and primary health centres, availability of such services will continue to be inconsistent and infrequent.

Even within user groups interested in using the kiosk, it becomes difficult to expand the consumer base over time because:

- there is a lack of local language content and interface and
- end-to-end services need to be provided. The farmer definitely needs to know accurate market prices, but he also needs to know soil quality, water table levels, alternate cropping options, etc. While the kiosk does not address these needs today, large scale domain experts and companies will need to provide locally relevant, updated content in order to reach scale.

### Would kiosks deepen existing divides?

Currently, the most used services are games, browsing and computer education. Though this is a good business driver for the kiosk, the long-term implications on the village economic and social structure could be negative if these services continue to be the only significant uses of a kiosk.

Computer education provides additional skill sets that help to open the door to opportunity, and is therefore a popular service that has been adopted by the village community to collectively drive towards socio-economic development. Currently the education offerings at a kiosk are mostly limited to computer education, but in order to drive real socio-economic change, the kiosks must add additional focus on vocational training, school-based education, among others. Increasing consumption of games and browsing means increase in revenue for the kiosk owner; however the flip side is that community earnings and savings are not being spent on services that provide returns such as increased income or job opportunities.

A related issue here is that kiosks themselves do not currently provide any means of employment (beyond the odd computer operator), nor do they currently act as a source of information which enables people to improve their livelihood. That said, several organisations are trying to create opportunities for employment within a village. Microsoft and Drishtee Dot Com have taken a step in this direction. The two companies have been working on trials to determine more efficient methods of connecting rural artisans with regional and global marketplaces. These products are then globally marketed on the portal *drishteebaahat.com*. This e-Commerce website not only facilitates marketing and selling products made in rural areas, but also collects feedback and specific design requests. Requests from customers are collected by the kiosk owner, who uses a TabletPC to demonstrate and explain the feedback from buyers and customers, communicate design requests to artisans, and help them create concept designs.

### Conclusion

The rural kiosk has definitely had a positive impact on some sections of the village community. ICT-enabled services in the rural space can be scalable and sustainable. However in the long-term, the kiosk model in its current form could cause financial distress for the kiosk owner as well as increase socio-economic divides in the village because of any of the following reasons :

- It may happen if the needs of a wider user community are not addressed. This needs to be achieved without compromising sustainability. Enhancing the local relevance of service content and making the scope more comprehensive is a required approach. In addition, it would also be interesting to consider locally suitable variations of the current model.
- It may also happen if appropriate support mechanisms are not put in place for the kiosk owner. This requires greater involvement by resources such as connectivity providers, financial institutions, domain experts, the private sector, etc. The kiosk owner should focus more on customer needs assessment, business development, customer relationship management, and linkage-building at the local level. Larger issues such as service/application development, infrastructure management, etc. should be owned by external entities.

Moving forward, the rural kiosk needs to expand its offerings from Internet access, games and computer education and become a 'rural knowledge centre' that enables a village community to address social, economic and educational needs through information and expertise linkages, which would otherwise not be accessible or affordable. ■

*(Additional acknowledgement: Suneet Sethi, Microsoft India, Sangamitra Ramachander and Arvind Narayanan.)*

*The findings are based on an internal research done by Microsoft India.*



# Online workplace learning: recent trends

Under the impact of globalisation, marketisation and standardisation of distance e-Learning courses (some of which were advertised in the key journals on distance education) have encountered several value dilemmas in China.



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## e-Learning in workplace

Workplace education aims to help adults to be equipped with newly evolved skills and knowledge through lifelong and life-wide learning. As a result of the stress on knowledge-based economy and the emergence of rapid information globalisation through the Internet, the number of electronic (e-) learning courses delivered in the distance mode has been growing fast at national, regional and continental levels, especially in the area of workplace education. e-Learning can help minimise costs by economising on teaching workforces, help facilitate synchronous (during lessons) and asynchronous learning (after lessons), and flexibly cater for varied needs of distance learners.

State allocation of jobs was abolished in China in the 1980s after the implementation of economic and educational decentralisation policies, resulting in market-driven workplace education and keen competition among distance education institutions. Various e-Learning course modules for workplace education are now run by single-functional open universities or other newly established independent tertiary institutions, under the administration of conventional comprehensive universities in China. Their daily operations are financed by the central and regional governments, local communities or international-local partnership collaborations. There are 'reputation competitions', strengthened by joint ventures with overseas prestigious universities and 'technological competitions', intensified by organisation of cyber adult courses.

However, such technical innovations (of standardising courses, re-structuring of course administration and developing localised course materials in particular) pose challenges to the traditional distance learning

systems using radio and television transmission in many developing countries such as Chile, China, India and Russia. This article endeavours to depict social tensions and value dilemmas between localisation and globalisation (in the interrelated dimensions of policy reforms, teaching workforces, curriculum and research development, and marketing orientations) in China and may help draw future trends for these developing countries.

## Background

Since late 1970s, distance education (through radio and television broadcast) has rapidly developed at a large scale, following educational and economic decentralisation policies and speedy development of communication and broadcasting technologies in China. Information and communication technologies (ICT) undoubtedly speeded up the development of distance e-Learning courses, offered by tertiary institutions in China since the mid-1990s. Aiming at promoting high standards of distance education and research development in digital technologies, the state has helped establish e-Learning platforms, run by single-functional open universities and traditional comprehensive universities (or in joint venture with other international organisations or Western private enterprises). In April 2003, there were 67 online learning universities with a total student population of over 800,000 students. Following the educational administration ordinances governing the functions of cyber webs and cyber schools in China on 5 July 2003, 67 cyber schools have been established and the number of employees participating in on-the-job training has grown steadily. In 2005, the market size of e-Learning courses reached 11.6 billion yuen (renminbi).

## Tensions

Until now, there are socio-economic and socio-cultural tensions between 'globalising' local values and 'localising' global trends. Through establishment of cyber webs and cyber schools in China, workplace education, in a broader sense, entails lifelong and life-wide learning for employees in all walks of life. After China's accession to WTO, its exported education products have had to compete with the rest of the world and its locally consumed educational products have struggled in the increasingly difficult markets with both highly competitive local and overseas players. There will be increasing demand for quality and copyrighted goods in the years to come.

On the one hand, both adult learners and distance education institutions face tremendous global pressures to increase their local market values; on the other hand, international organisations and western private enterprises at global level may fully exploit their marketing services by devising localised working strategies and indigenous versions of their courseware.

## Dilemmas after course standardisation

Under the impact of globalisation, marketisation and standardisation of distance e-Learning courses (some of which were advertised in the key journals on distance education) have encountered several value dilemmas in China. Firstly, constant updating of e-Learning resources is not affordable in some open universities or new tertiary institutions. Shifting the tasks by suggesting that distance learners should use the Internet (especially broadband) services is infeasible, due to high user charges (especially in remote and rural regions).

Secondly, it is still problematic for full integration of ICT into existing open universities or new tertiary institutions. It is because it is generally not so cost-effective to re-structure the organisational structure, reallocate and retrain teachers, and merge new materials into current resources within a short time.

Thirdly, there has been a pressing need for developing courseware using Chinese language and local dialects in China, but this would increase running costs and workload of daily administrative and teaching staff.

Fourthly, standardisation of e-Learning courses and marketing costs have been a drain on the resources, resulting in a lack of flexibility and interactivity, insufficiently catering for the varied learning needs of adult trainees.

## Experience and resource sharing among teachers

Exchanges of teaching and learning experiences take place in China through staff development programmes and also when staff members of distance-teaching tertiary institutions for lifelong or life-wide learning in one region (e.g. in Western China) take distance education higher degree courses, delivered by counterparts in other regions (e.g. in Central or Coastal regions) or they organise local and international conferences in open adult learning. Some open learning institutions in China also deliver courses to adult learners from other Asian developing countries, such as Vietnam. This creates opportunities for some 'intra-national and inter-national regionalisation' of workplace education in Asia.

## Future trends

Technology-mediated open or distance education has been gradually shifting away from traditional broadcast or satellite TV, as a major means of delivering course contents to e-Learning through the Internet and intranet for workplace education in China and other developing countries. This trend will go on for years. It is also expected that the quantity of student-student and tutor-tutee interaction in most courses will increase with some fundamental transformation in pedagogy, course delivery and curriculum re-engineering and these will considerably challenge typical running modes and organisational structures of workplace education providers. This, in brief, reflects the promising development of distance e-Learning tertiary institutions since the last decade in China. In addition, there will be a definite increase in technology-mediated synchronous and asynchronous learning events. ■

## Cultural Diversity Focus Group (CDFG)

The CEN/ISSS Cultural Diversity Focus Group (CDFG), placed at the cross-roads of cultural diversity, information technology, and standardisation, is a committee within the European standardisation body CEN and its Information Society Standardisation System. The European countries participating in European Committee for Standardisation, CEN are characterised by their wealth of different cultural traditions, languages and customs. In addition to all member states of the European Union the EFTA countries Iceland, Norway and Switzerland, and Romania are full members of CEN.

The mission of CDFG is to recommend on actions and to initiate activities relating to standardisation within the field of cultural and linguistic diversity from the point of view of ICT, in particular on the European level, and also on regional or international level if this is deemed appropriate for European interests. It also aims to function as a European discussion and

coordination forum for standardization activities related to cultural diversity in ICT in Europe and beyond.

CEN/ISSS's Cultural Diversity Focus Group has the key task to ensure that each and every one of those Europeans can have equal access to today's information society and can express their cultural background in today's world of information and communication technologies (ICT). For this purpose, the CDFG has prepared a report on Cultural Diversity in ICT (CDICT). This report identifies a work programme for future CDICT standardisation.

CEN/ISSS has now charged the CDFG to act as a focal point for the implementation of the report. It does so not by undertaking standardisation itself, but by mapping and coordinating ongoing work in this field in Europe and beyond. Many of the relevant players are part of this steering group.

Source: <http://www.cenorm.be/>

# Multilingual ICT education in cyberspace

This article presents an effort made by a consortium of universities and research centres in Asia to address the problem of ‘digital language divide’ through the establishment of a World Language



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Compared to an astronomical observatory, which observes space for astronomical phenomena, a language observatory observes language phenomena in cyberspace. The mother Language Observatory (LO) in Japan periodically sends software agents in the form of soft bots into cyberspace. This is intentionally to examine websites and identify its languages and contents in an attempt to identify language communities in various regions of cyberspace and to report on the current language situation in cyberspace, which have implications on education.

## ICT education and mother tongue

Customised ubiquitous learning model sparks discovery activities that are student-centred and personalised. Personalised education also means that learning is best administered in the natural language of the student. Although this model is very pervasive and the technology is superb, we are still confronted with an age old problem that relates to the issue of ‘digital divide’ or ‘e-Exclusion’. The issue of the digital divide is more than direct access to technology, it is also regarding the disparity between how different nations are using ICT as a tool for social and economic development. However, here focus has been made more on the language-related issue.

Language is an important tool for human communication and now, the language dominating ICT is English language. According to the UDHR website, the number of persons speaking English as their mother tongue is 322 millions. Another study by O’Neill, et al in 2003 found a higher proportion of English usage to be 72 percent

in terms of web pages, which were recorded by analysing random samples of web pages.

There are certainly many merits for using a single *de facto* language like English, but studies have shown that, in many cases, instruction in a mother tongue is more beneficial for students in regards to acquisition of language competencies, achievements in other subject areas, and even for learning a second language.

According to Sri-Lanka country report by APDIP 2003, only less than 10 percent of computers in Sri Lanka use Sinhalese and Tamil. The main operations are mostly for word processing, publishing, and sadly insignificant usage in local languages. With such a low usage in mother language, it is likely that the competitive nature of English language will dominate and supersede the mother language in Sri Lankan cyberspace.

Latest observatorial analysis found that there are 4332 web servers with sub domains of .ac and .edu in Asian country code Top Level Domains (TLDs). This contributed to more than one fifth of nearly 10 millions in text documents. By means of such info structure, it is mainly important to ensure that there are rooms for the usage of mother languages for their very existence.

## Languages and scripts diversity

Customised education has to cope with the tremendous diversity of world languages and scripts. The United Nations Higher Commission for Human Rights (UNHCHR) has translated a text of universal value, the Universal Declaration of Human Rights (UDHR), into as many as 328 different languages (covers existing national languages) where Chinese language has the biggest speaking population of almost a billion people. This is followed by English, Russian, Arabic, Spanish, Bengali, Hindi,

Portuguese, Indonesian and Japanese. The site also provides the estimated speaking population of each language.

From the viewpoint of complexity in localisation, diversity of scripts is another problematic issue. Here, for the sake of simplicity, all Latin based scripts, alphabets and its extensions used for various European languages, Vietnamese, Filipino, etc. are treated as one set. Chinese ideograms, Japanese syllabics and Korean Hangul scripts will be treated as 'Hanzi'. The remaining languages will comprise of many kinds of diversified scripts. Here, the 'Indic script' will be taken to be in the third category. This category includes not only Indian language scripts such as Devanagari, Bengali, Tamil, Gujarati, etc., but also four Southeast Asian language scripts, Thai, Lao, Cambodian (Khmer) and Myanmar. Languages based on Arabic script will be treated as one set and so on for languages using Cyrillic scripts.

### Distribution of user population by script groupings

Script	Latin	Hanzi	Indic	Arabic	Cyrillic	Others
Number of users in million	2,238	1,085	807	462	451	129
[ % of total ]	[43.28%]	[20.98%]	[15.61%]	[8.93%]	[8.71%]	[2.49%]

(Source: Speaking population of each language is based on the data provided at UNHCHR website.)

## ICT and multilingualism

If the website of the Office of the Higher Commissioner for Human Rights of the United Nations is visited, more than 300 different language versions of the Universal Declaration of Human Rights (UDHR) will be found. Unfortunately, many of the language translations, especially for non-Latin scripts based languages, are just posted as 'GIF' or 'PDF' files and not in encoded texts. The table below it clearly shows that languages that use Latin scripts are mostly represented in the form of encoded texts. Languages that use non-Latin script, especially Indic and other scripts are difficult to be represented in encoded form. When the script is not represented by any of the three foremost forms provided, they are grouped as not available. Moreover, it is necessary to download special fonts to properly view these scripts. This difficult situation can be described as a digital divide among languages or termed as the 'digital languages divide'.

### Form of representation of UDHR texts by script grouping

Form of Presentation	Script					
	Latin	Cyril	Arabic	Hanzi	Indic	Others
Encoded	253	10	1	3	0	1
PDF	2	4	2	0	7	10
Image (GIF)	1	3	7	0	12	7
Not available	0	0	0	0	3*	1**

*Magahi\**, *Bhojpuri\**, *Sanskrit\** and *Tigrigna\*\**.

From a technical viewpoint, the major reason behind the digital language divide is due to the lack or non-availability of appropriate character encoding schemes. Internationally recognised directories of encoding schemes, like the IANA Registry of character codes or ISO-IR (International Registry of Escape Sequence), we cannot find any encoding schemes for these languages is found.

## Unicode for a multilingual cyberspace

Character coding standards that are internationally recognised such the 'Unicode' provides character encoding schemes for 50 writing

systems from English to Osmanya and through Kannada. Unicode with its latest version 4.1.0 covers a vast system of encoding properties. In table below findings for the percentage of Unicode encoded documents on web servers in Asian TLDs are provided.

### Unicode encoded documents on web servers in Asian TLDs-summary of trend in unicode for Asian and Africa Case

TLD	Unicode docs (%)	Unicode domains (%)	TLD	Unicode docs (%)	Unicode domains (%)	TLD	Unicode docs (%)	Unicode domains (%)
ae	38.4	18.6	my	14.4	14.4	kw	4.3	17.2
af	49.6	10.3	np	48.7	14.7	kz	14.5	11.4
az	18.8	34.2	om	3.1	15.2	la	0.2	5.4
bd	51.1	8.3	pg	0.3	3.4	lb	14.7	17.7
bh	0.6	6.9	ph	20.6	15.3	lk	31.3	19.5
bt	5.4	15.4	ps	4.7	19.0	mm	0.2	8.7
cy	5.0	17.9	qa	12.3	15.8	sg	21.3	20.4
id	6.3	13.3	sa	13.6	21.7	sy	6.1	9.1
il	5.9	11.4	ir	55.4	64.3	th	4.0	13.2
in	31.2	24.6	jo	30.1	10.1	tj	71.7	13.0
mn	14.0	18.0	kg	9.5	0.8	tm	48.5	8.1
mv	0.2	3.2	kh	1.7	5.6	tp	3.4	9.4
tr	5.6	9.4	uz	3.0	3.7	vn	69.1	74.5
ye	0.9	10.6						

## Establishment of the language observatory

The Language Observatory (LO) was launched in 2003 due to the importance of monitoring language activities in cyberspace. Language observatory operates by periodically releasing crawler robots into cyberspace by the mother Language Observatory in Japan to examine websites and attempt to identify language communities in various regions of cyberspace.

The Language Observatory is planned to provide as a means for assessing the usage level of each language in cyberspace, for instance to periodically produce a statistical profile of language, scripts, and character code usage in cyberspace.

Preferably, the following questions can be answered: How many different languages are found in the virtual universe? Which languages are missing in the virtual universe? How many web pages are written in any given language, say Pashto? How many web pages are written using the Tamil script? What kinds of character encoding schemes (CESs) are employed to encode a given language, say Berber? How quickly is Unicode replacing the conventional and locally developed encoding schemes on the net? Along with such a survey, the project is expected to work on developing a proposal to overcome this situation both at a technical level and at a policy level.

## Conclusion

The information collected from such a study has implications on multilingual ICT education such as customised ubiquitous learning. By having a monitoring body such as that performed by the Language Observatory, to look at the development of languages through for an example, its encoding system, a sophisticated method to understand the language scenario can be realised. Through these efforts, LO hope to make the world more aware of its living and dying languages in the cyberspace. The LO is also not a closed network grouping and interested parties are most welcomed to participate in its activities. ■





## ■ Agriculture

### K-AgriNet to connect 80 FITS

A programme named 'K-AgriNet' has been initiated in Philippines by the agricultural departments of the country for the maintenance and updating of databases and knowledge networks, training of ICT manpower to maintain networks, and training of the project implementers.

K-AgriNet connects 80 Farmers Information and Technology Service (FITS) centres nationwide. The managers of the FITS recently received desktop publishing equipment and computer accessories, digital camera, and cellular telephones. With these equipments and interconnectivity, the delivery and access of information and technologies would be faster, enhanced and modernised.

*www.sunstar.com*

## ■ Community Radio

### e-TUKTUK, a mobile telecentre for Sri Lankan villagers

eTUKTUK, a self-contained mobile telecentre and radio broadcasting unit housed with-in a tuk-tuk (three wheeled motorcycle), is on track to inform Sri Lankan villagers.

It is a project of the Kothmale FM Community Radio Station, located in Mawathura. Since 1999, Kothmale Community Radio has been serving as an interface between rural communities in the central hill region of Sri Lanka and new communication technologies. The eTUKTUK involves a laptop computer located inside the vehicle as it has a battery operated printer, camera, telephone and scanner. Internet is provided via a CDMA-enabled wireless connection and electricity is provided via a generator, which in turn charges a battery that is used to provide additional power for short

periods of time. The weekly route of eTUKTUK is broadcast over the radio to inform listeners as to the location and time when it will arrive in their locality.

*www.newkerala.com*

## ■ Education

### Students to handle e-Governance in Indian state

Engineering students in Karnataka will now handle e-Governance initiatives of the state government. In a novel scheme aimed at addressing e-Governance glitches faced by several government departments, the Board for IT Education Standards (BITES) in association with the IT department and IBM has launched Project INVITE (Initiative to Nurture a Vibrant Information Technology Ecosystem).

This project will engage final year engineering students in government projects. BE students will help to create solutions/prototypes for local e-Governance needs at various levels. Over 400 students are already working on 24 project scenarios for 22 government departments. More than 100 faculty members have been trained to help students with the projects. This initiative is primarily aimed at plugging plagiarism in college projects, besides helping the government solve roadblocks. Since not all faculty members have technical expertise, students can call on e-mentors for assistance. This will also help IT industry to recruit students with real-project experience.

*timesofindia.indiatimes.com*

### School children tap into technology in Cayman Island

Government primary school children in Cayman Island have been talking to each other and to their counterparts in Bermuda and Seattle by video conferencing.

Thanks to the efforts of Information & Communications Technology, children were given the opportunity to speak to other students at other primary school sites and ask questions of common interest. This was done, not with expensive video conferencing equipment, but with a webcam, micro-phone, multimedia projector and external speakers, said a press release from the school. The webcam enabled the students to see and speak to each other and the projector and speakers were used for whole class comfort.

*www.caycompass.com*

## ■ e-Commerce

### PNB to outsource ATMs to individuals

Punjab National Bank (PNB), India, is planning to outsource ATMs to individuals or organisations, those who have spacious houses and can provide access to ATMs round-the-clock.

To put up an ATM, it requires 80-sq feet and round-the-clock accessibility. The bank will obtain the necessary licence and will provide with the cash kept in the machine to the concerned individual. Such an ATM should be able to attract at least 200 transactions a day to break-even. The bank will not have make any capital investment since the ATM will be purchased by the person and the maintenance is also taken care of by the owner of the ATM. The cost of installing an ATM is around Rs 7.5 lakh. The bank will sign a contract of three years with the person concerned. On the process to obtain such a contract, the interested party will need to apply to the bank, which after scrutiny by bank officials will be considered for obtaining necessary approvals from RBI and finally the ATM will be leased out in the name of the individual.

*economictimes.indiatimes.com*

## Indiatimes offers online practice tests for students

Indiatimes.com, the country's leading Internet portal, is now providing online testing services, under its knowledge brand — Indiatimes Mindscape Test Centre. This is the first step towards offering a full services education portal, with a whole range of content and service offerings, right from school to post graduation.

This service allows students to take a number of practice tests for competitive exams like IIT JEE, CBSE PMT, BITSAT and AIEEE at a nominal cost. The service will shortly be extended to various other competitive exams, including CAT, GMAT, GRE, TOEFL and even Xth & XIth boards. The launch of testing services is a unique service offered to students for online practice tests to increase their chances of success in the real exam. It is planning to expand into e-Learning and e-Coaching. Log on to: <http://www.testcentre.indiatimes.com> for more information.



[www.google.com](http://www.google.com)

[economictimes.indiatimes.com](http://economictimes.indiatimes.com)

### e-Tailing plan by garment retail stores to tap customers

India's garment retail sector is now seeking space in cyberspace. Big retail stores like Pantaloon, Shoppers' Stop and Globus are looking at setting up e-Retailing portals.

The past two years have seen a rise in the number of companies entering into the e-Retailing or e-Tailing market. In line with this, the company has also decided to use the e-Commerce route to tap customers. While many companies are upbeat on online retailing, some are still sceptical. While the base is expected to be small, through online portals, stores are looking at reaching out to consumers in smaller towns and centres where physical outlets have not yet been set up.

[infotech.indiatimes.com](http://infotech.indiatimes.com)

### e-Governance

#### e-Bharat to connect 600,000 villages

In a bid to bridge digital divide, India is embarking on an ambitious project called 'e-Bharat to connect 600,000 villages.

This mass IT empowerment project will cost the government almost US\$1.3 billion and is being undertaken by National e-Governance Action Plan (NeGAP) of the Union Ministry of Information Technology. This is aimed at providing last mile, direct technology and Internet access to village entrepreneurs through over 100,000 multipurpose kiosks by December 2007. The kiosks, being designed by a specially assembled team picked from various technology companies, will enable services like e-Learning, e-Training, e-Teaching, e-

Health, telemedicine, e-Farming, e-Tourism, e-Entertainment and e-Commerce.

[www.siliconindia.com](http://www.siliconindia.com)

#### Qatar creates hallmark in online service delivery

The state of Qatar has moved to 62nd place from its 80th position in 2004, according to a recently compiled index by the United Nations Department of Economic and Social Affairs (UNDESA).

The recently released UNDESA document 'Global e-Government Readiness Report 2005: From e-Government to e-Inclusion' is also full of praise for Qatar's fast pace in online service delivery. The Readiness Report 2005 has placed the UAE number one in GCC countries. The report indicated that the UAE had moved up to the 18th position from 2004, where it was ranked 60th in the world. The UN Report has praised Qatar's improvement of online service delivery, and concluded that its e-Government portal was regional best practice and comparable to integrated services portals elsewhere in the world.

[www.thepeninsulaqatar.com](http://www.thepeninsulaqatar.com)

### Health

#### e-Book on e-Health released

Bankix Systems Ltd has released its latest e-Book, 'Making E-Health Work'.

e-Health has become an integral part of present-day healthcare delivery. With healthcare consumers, increasingly the focus of most health systems, the widespread implementation of health Information and Communications Technologies offers cost-effective opportunities to meet

their increasingly sophisticated healthcare needs. These technologies no doubt provide the enabling environment for cost-saving healthcare initiatives to work. This e-Book attempts to not only highlight the significance of healthcare ICT in contemporary healthcare delivery, but also some of the issues germane to moving any e-Health program forward. This e-Book would interest the public, policymakers, healthcare professionals, health advocacy groups, hospital CEOs and other staff, the media, government agencies, health insurance companies, industry analysts and leaders, and other healthcare stakeholders.

[www.emediawire.com](http://www.emediawire.com)

### VirtualB Keyboard developed for dental practises

The VirtualB Keyboard, a flexible wireless keyboard, has developed for use in dental practises, because use of IT equipments in surgeries is proved to be infectious.

The company says the risk of infection is inherent in dentistry - and particularly surgical dentistry- and therefore protecting practitioners, their staff, and patients from infection is a priority. The virtual keyboard offers a new solution for preventing the spread of viruses and bacteria. It is based on sensitive object's acoustic signal recognition technology; dentists can tailor the keyboard to their needs.

[www.wirelesshealthcare.co.uk](http://www.wirelesshealthcare.co.uk)

### Livelihood

#### Timesjobs.com to create website for INPA

Timesjobs.com and the Indian Navy have entered into an exclusive 3-year contract to facilitate retired naval officers, sailors or personnel below the officer rank, including widows of naval personnel in corporate India for a smooth transition into second career placements.

The association with Timesjobs.com comprises two modules — creating a website for the Indian Naval Placement Agency (INPA) and Timesjobs.com providing offline assistance to prospective job seekers from the Navy. Under the INPA guidance, the portal will facilitate easy registration with a guarantee of confidentiality, which means that a resume will not be visible to any employer before being approved by the INPA.

[economictimes.indiatimes.com](http://economictimes.indiatimes.com)

## Jyoti programme for village communities

Microsoft announced the roll-out of fourth round of funding under its 'Unlimited Potential - Project Jyoti' programme that seeks to impart IT skills in village communities to help them improve their earning potential.

Under this round of funding, the company would grant a sum of Rs 8 crore in software and monetary aid to four NGOs, to help establish Community Technology Learning Centres (CTLC) across rural India. The Unlimited Potential programme is being implemented by Microsoft worldwide and so far the company has spent 167 million dollars on it. 'As many as 600 organisations in 99 countries have benefited from it, four NGOs, Development Alternatives, Drishtee Foundation, Grameen Sanchar Society and Indian Society of Agribusiness Professionals, have been made beneficiaries under this round of funding.

*infotech.indiatimes.com*

## Technology

### Microsoft Corp to unveil new search tools for biz

Microsoft Corp, the biggest supplier of business software, will unveil new tools, which would make it easier for office workers to share and locate information.

Windows Live Search, which will be available for free from Microsoft's website, allows users to search for documents stored on their computers, on departmental computer networks or out on the Internet and see the results in one place. Jim Murphy, an analyst at AMR Research, said Microsoft is filling a long-time gap in its business search products while seeking to block Google - which dominates web search - from gaining ground in the market for corporate information search.

*economictimes.indiatimes.com*

### California DMV unveiled Online Appointment System for customers

The California Department of Motor Vehicles (DMV) has added new online services for increased convenience by expanding its Internet Online Appointment System.

Customers can now book their driving test appointments or schedule as many as three separate transactions for three dif-

## Expansion of ISRO's telemedicine network

ISRO, India, signed Memorandum of Understanding (MOU) with four specialty hospitals to further expand its telemedicine network.

The four specialty hospitals are Manipal Hospital, Bangalore; Sir Ganga Ram Hospital, New Delhi; Madras Diabetic Research Foundation, Chennai and Dr Venkatrao Dawle Medical Foundation, Ambajogai (Maharashtra). ISRO's satellite based Telemedicine network, which started in 2001 on an experimental basis, is aimed at linking remote/rural district hospitals with super-speciality hospitals in major cities via INSAT. While ISRO provides the software, hardware and communication equipment as well as satellite bandwidth, the speciality hospitals provide the infrastructure, manpower and maintain the system. ISRO's telemedicine network has matured into an operational system and now covers 165 hospitals - 132 remote/rural/district hospitals/health centres connected to 33 speciality hospitals located in major cities.



*www.google.com*

*www.spaceref.com*

ferent persons at once through DMV's web page. Before the expansion of the Internet Online Appointment System went into effect on May 2, customers had to call or visit a field office if they needed to make a Class C or motorcycle driving test appointment or to make multiple driver license, identification card, and vehicle registration service appointments. The enhancements will be of special interest to parents of teenagers who would like to make other DMV transactions while their son or daughter is taking a drive test for their provisional driver license. Those parents can now go online and make the drive test appointment plus up to two more simultaneous appointments for themselves or any other family member.

*www.govtech.net*

## Telecentres

### CTPH nominated for world's best ICT project award

Uganda's Conservation Through Public Health (CTPH), a grassroots NGO, is nominated for the world's best ICT project award in the environment category for the remarkable success of the tele-centre project in Bwindi in the Stockholm Challenge.

The organisation plans to establish a network of 10 or more tele-centres in and around conservation areas in Africa. Plans are now being developed to establish wildlife health monitoring infrastructure. Conservation Through Public Health (CTPH) promotes conservation and public health by improving primary healthcare to people and animals in and around protected areas

as in Africa. Founder of CTPH said that this event is an ideal forum to showcase new tele-centre approaches to monitoring the health of endangered mountain gorillas, strengthening the local economy, raising villagers' and eco-tourists' environmental awareness and improving human health practices in a Ugandan World Heritage Site.

*allafrica.com*

## Telecommunication

### Swiss telco ByCell to invest \$100m in India

ByCell Holding, a Swiss telecom giant will establish a 74:26 joint venture with Hyderabad-based Jayalakshmi Group to become the ninth GSM-based cellular operator in the crowded Indian market.

The Telco will set up a subsidiary in India and invest \$100m (Rs 450 crore) over the next 3-5 years. The JV with ByCell marks Jayalakshmi's foray into the ICT (information and communication technology) sector. ByCell, when it rolls out services, will be the ninth GSM operator after BSNL, MTNL, Bharti Airtel, Hutchison Essar, Idea Cellular, Spice Telecom, Reliance Telecom and Aircel. ByCell plans to offer cellular services in 13 states across five circles — Assam, Bihar and Jharkhand, the North East, Orissa and West Bengal. The telco wants to take advantage of the low levels of market penetration in the north-eastern region (less than 2%). This is ByCell's first foray into India.

*economictimes.indiatimes.com*





## Introduction

India is going through one of the most exciting phase of economic development since independence. With consistent growth in domestic business, foreign investment, government expenditure and employment, India is poised to emerge as the leading market of Asia and one of the fastest developing economies of the world. The credit for such an overwhelming performance can largely be contributed to the precision and pace with which our business, people and government have been able to realise the tremendous potential of the knowledge and information economy. Unfortunately, inadequate IT infrastructure in rural areas, lack of wide-scale connectivity beyond urban centres and insufficient technology access screened out the majority of 70% rural population of India to reap real benefit of the hallowed 'I' and 'T'. Although, instances of isolated IT initiatives of developmental agencies and civil society organisations can be found at different corners of the country, there was a clear absence of any concerted effort in form of a national programme. However, of late, Indian government has got proactive in plugging this vital gap, which is supposedly afflicting the developmental surge of rural India. The much-awaited Common Service Centre (CSC) program is on the verge of getting rolled-out; setting for itself a target to put up hundred thousand rural telecentres by end of next year ...which promise to give rural India a test-ride on the information highway.

## About Indian Telecentre Forum 2006

Indian Telecentre Forum 2006 aims to discuss, deliberate and brainstorm on multi variate issues concerning policy, technology, best practices and business models relating to implementation and sustainability of rural ICT centres and their returns in terms of socio-economic development. The event is expected to follow a consultative mode, with due consideration for making it highly participatory and interactive in nature, bringing together the best of minds, thought leaders, practitioners and stakeholders from government, business and civil society.

## Important Dates

We are accepting papers for presentation on the topics related to e-Governance.

Abstract Submission: June 30, 2006

Acceptance Notification: July 05, 2006

Full Paper Submission: July 25, 2006

Final Confirmation: July 31, 2006

Register Today!

[www.i4donline.net/indiantelecentreforum/del\\_registration.asp](http://www.i4donline.net/indiantelecentreforum/del_registration.asp)

## Session Titles

- The Telecentre Forum - Vision 2010
- South Asian Telecentre Movement: Catalytic Factors
- How can state take advantage for fulfilling various development objectives?
- Emerging Markets - the opportunity for technology, content and support providers
- Tech support, services gaps and localisation needs
- Mapping TC services - banking, insurance, agri, health information
- Lessons from global networks
- Capacity building for telecentre operation

## Exhibition

Indian Telecentre Forum 2006 will have an exhibition of latest e-solutions, services, initiatives and case studies from across Asia and beyond. Professional service providers, IT vendors, consulting firms, government agencies and national/international development organisations involved in the rural ICT domain are encouraged to participate in the exhibition.

Our past exhibitors have been Intel, Microsoft, IBM, Sida, SAP, CDAC, HP, Ernst & Young, Wipro, Gilat, Telelogic, Educomp, Wyse, Comat, UNDP, Sybase, Nortel, NIIT, Newgen, Norhtec, Riverbed, etc.

## Participant's Profile

- Central and State Department Secretaries
- Department Directors
- Deputy Directors
- Chief Information Officers
- State Administrators
- IT Directors
- Project Managers
- Finance Officers
- Elected Officials
- Heads of NGOs
- Procurement Officials
- Telecommunication Officials
- Banking Executives
- IT Sector Executives
- Solution Providers
- Representatives of International Agencies





## NEPAD e-Africa Youth Programme



NEPAD e-Africa Youth Programme, organised by the e-Africa Commission in conjunction with the South African Department of Communications, focused on sharing views youth involvement in development, is initiated in Africa for information sharing and to create awareness on information society in the African continent.

The main objective of the programme is to build a cadre of youth who will serve as active participants in building an inclusive information society in order to reduce the digital divide. The programme will be linked to the NEPAD e-Schools programme and governments will form the programme focal points in their respective countries. Youth participants at the meeting decided to set up an Internet portal for information sharing on matters such as career guidance, skills development, learning materials and funding mechanisms. The programme will also address health and poverty issues using English, French, Portuguese and Arabic, some of Africa's official languages.

*allafrica.com*

### General

#### ICT: A common platform for all sectors

The Confederation of Indian Industry (CII) organised a national essay competition on 'Leveraging ICTs for Inclusive and Sustained Economic Growth in India', late last year.

The Winners of the essay competition are Biswa Varati Ghadei and Muhir Kumar Mohanty, both from NTPC, Talcher Super Thermal Power Station, Orissa, made interesting observations on the use of ICT tools for inclusive development. They received Rs 1 lakh in the group category. Another presenter was Debdas Bhattacharjee, an M Tech in Computer Science from BITS Pilani, who has 28 years of experience in the IT industry. He received the first prize of Rs 25,000 in individual category. They stressed on how near, yet how far India is from leveraging ICTs for development.

Since India discovered its IT power, experts have been weighing ways and means of harnessing its potential. So, whether we see education, health or employment, most of our achievements in last two decades have an IT component in them.

*www.financialexpress.com*

#### Computers on Wheels

'Computers on Wheels (COW),' is a Stockholm Challenge project, that uses motorcycles equipped with an Internet-connected laptop computer, to provide Internet connectivity to residents of 21 remote villages in Mahbubnagar District, Andhra Pradesh, India.

COW is taking the ICT revolution the last mile, to remote rural areas of India.

*http://www.govtech.net*

#### Intel to promote Internet use in poor nations

Intel Corp plans to spend \$1 billion over five years to promote Internet use and computer training in developing countries. The program, which Intel has dubbed 'World Ahead', aims to bring high-speed wireless Internet access to 1 billion people who can't now get online, while training 10 million teachers to use technology in education.

The programme includes Intel's ongoing effort to promote cheap PCs that it hopes will find enthusiastic buyers among schools and villages in developing countries,

*www.cnn.com*

#### Namibian Telecom heads for rural connectivity

Telecom Namibia plans to spend N\$240 million this year in modernising its infrastructure and in boosting connectivity to rural areas.

Telecom Namibia acquired 44 percent of equity and shares in an Angolan fixed line operator, MundoStartel two years ago. In South Africa, Telecom Namibia is part of the ommuniTel consortium that was awarded a 13% stake in the Second National Operator (SNO). Mobile Telecommunications (MTC), the state owned mobile operator, has already entered into a strategic partnership with Portugal Telecom which has acquired its 34% equity.

*allafrica.com*

franchisee for a further period based on performance. The café aims at providing better convenience to passengers. The Railway Ministry has issued detailed guidelines to various zonal railways to provide Internet facilities at railway stations. On an average, each cyber café will cost around Rs. 6 lakh to Rs. 7 lakh and the expenditure on this account will be met by the franchisee.

*www.hindu.com*

#### Broadband invading rural interiors

Broadband is now being touted as the next big thing in telecom that would touch the lives of a farmer in a remote village as effectively as a high flying corporate executive.

Industry analysts admit that the initial response has been sluggish in India, for one, both the Comm-unications Ministry and the Telecom Regulatory Authority of India have given top priority to the task of taking broadband to even the deepest corners of the country. The recent decision to lower the national long distance licence fee to Rs 2.5 crore has attracted nearly 10 new players in the segment, including public sector utility behemoths such as RailTel and GailTel. Other operators are exploring wireless technologies such as the Wi-Max (Worldwide Interoperability for Microwave Access), High Speed Downlink Packet Access (HSDPA) and Gigabit-capable Passive Optical Network (GPON) on devices like the mobile handset and the television. (WiMAX is a wireless technology touted to be the prime mover of broadband.

*www.thehindubusinessline.com*

### Wireless

#### India's first wi-fi enabled railway station

The Bangalore railway station will soon become the first wi-fi enabled railway station in the country. Passengers at the Bangalore city railway station can now look forward to spend their time more productively.

Tata Group company VSNL is all ready to start operating a cyber café on the main concourse from the entrance of the railway station providing facilities such as Internet, audio/video chatting, Internet telephony, gaming, scanning, printing, photocopying, faxing and video-conferencing. Passengers can even charge their mobile phones from the kiosk. The VSNL will run the cafés for two years after which Railtel has the option to renew the deal with the

# ICT enabled development by localisation

In 2002, as the WSIS process began and spread its message of an all inclusive Information Society to the ends of the earth, the need for embedding ICTs in local language and content arose.



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With the advent of the 21<sup>st</sup> century came the proliferation of technology as more and more people got connected into cyberspace and began their virtual world journey. This, inspite of the survival challenge which presumes that people in some of the world's less developed regions, would rather focus their energies on daily bread at the expense of their inclusion and representation in the emerging Information Society. In 2002, as the WSIS process began and spread its message of an all inclusive Information Society to the ends of the earth, the need for embedding ICTs in local language and content arose. This has led to a number of initiatives that Paradigm Initiative Nigeria has implemented and is currently working on over the last four years.

## Paradigm Initiative Nigeria

Paradigm Initiative Nigeria (PIN) is a youth-led and youth-focused organisation that has since 2002, worked in the field of ICTs. As a group interested in the role of young people in ICTs, PIN has focused actively on engaging in ICT policy processes both locally and internationally. This is to promote the involvement of Nigerian youths in policy making and formulation processes and ensure that youths contribute to the enactment of correct ICT laws in Nigeria.

One good way to learn is to look at what other people have done, understand what they worked, what challenges they faced and seek to replicate such laudable efforts. This has been done by conducting case studies on ICT projects and efforts being implemented elsewhere.

PIN has been actively involved in speaking to young Nigerians across secondary and tertiary institutions on ICTs and its role in their world (today and tomorrow). Setting up a number of ICT clubs in secondary schools towards the

promotion of early engagement in ICT and the development of requisite skill sets has also been supported.

Working with other organisations and coalitions, PIN has been involved in ICT career development and counselling efforts to help guide youths who need to make critical decisions in their life. This, in some cases, has involved the set-up of businesses by students who incorporate proven business models to have their business flourish. Over the years, PIN has also been involved in the implementation of a number of strategic projects focused on practical solutions to ICT challenges facing young Nigerians all across the country with various portfolios.

## An educative project for in-school adolescents

PIN uses this to introduce the students to the basic framework of a personal computer (hardware) its components and their functions. With a donation of a prototype by one of our mentors, Mr. Chris Uwaje. This project is used to further simplify hardware components while bringing in industry experts (young working professionals) to facilitate the learning sessions. The content for the project was developed locally with Seun Olajide as lead personnel.

The aim of using a young professional is to show that ICTs is not rocket science while also giving an opportunity for students to ask these professionals even beyond the scope of the projects. Subsequently, there are opportunities for these students to remain connected to PINs facilitators and a mentorship process developed thereby develops. So far, there are over five hundred participants at these sessions and there is hope to take the project to more rural settlements while improving content to be delivered in local languages.

## National WSIS youth campaigns

Sponsored by the WSIS Youth Caucus and managed by PIN, the youth campaigns were run through a coalition of CSOs and several youth-focused organisations working all across the country. This was a follow-up to earlier e-Conferences that ran on a regional scale (Africa-wide).

The goal was to gauge awareness of the ongoing WSIS Phase I process by Nigerian youths, spread all across the country. Arrangements have been made to create possible engagement channel for participants to make their contributions to the WSIS process which would be presented to Nigeria's official delegation to the WSIS process.

Using a bottom-up approach, it was hoped to identify issues Nigerian youths perceived as critical to the deployment of ICTs and its use both as a development and economic empowerment tool.

Three physical meetings were held in Kano, Port-Harcourt and Lagos with over five hundred participants. Participants at the campaigns also filled questionnaires that were used to evaluate the impact of the campaigns and helped PIN to design better programmes. There was a second phase to the National Campaigns on rural settlements and surveys were undertaken focusing to assess current ICT facilities available to them and to look at ways of improving access to ICTs. Delivery of content at the campaigns in both WSIS phases was done in local languages (Igbo and Hausa) at some of the locations.

## Youth agenda

In 2005, PIN got involved in a review process for the Millennium Development Goals (MDGs) after news agency reports showed that African countries were generally lagging behind in the attainment of set goals for 2015.

Then, a one day workshop was organised with selected youth participants from all regions of the country to discuss MDGs

and possible strategies Nigeria can adopt to help in achieving these goals.

On May 27, 2006, second edition of Youth Agenda with discussions focused on ICT application in rural Nigeria was arranged. As part of 'standing on the shoulders of others' belief, resource has been provided for participants to conduct a case study on MSSRE, India and the possible creation of tele/knowledge centres in all states (36) and local governments (764) of the federation. The journey is not a short one and Nigeria may continue her sojourn to a digitally complaint society.

## Year 2006

In accordance with five year strategic plan (2004-2009), this year, PIN is working on a number of cyber crime initiatives with which can be show cased Nigerian businesses (owned by youths) that are making positive use of ICTs to render service or create value-adding products that solve challenges in the society.

Advocacy efforts are also being made to review the draft IT and cyber crime bills before the National Assembly and make recommendations to the relevant committees/agencies before the bills are passed into law.

PIN is co-partnered with the NAN ([www.cybreccrime.org.ng](http://www.cybreccrime.org.ng)) working group on cyber crime initiatives. Current work is ongoing on a mentorship programme to create a platform for young Nigerians to meet, engage, interact and discuss with seasoned ICT industry experts on developing an ICT career and running own business. Through this medium, PIN may cause a ripple effect and help at least one young Nigerian achieve his/her own dreams.

This year, the actualisation of a strategy document by public or private pressure groups on Youth and ICT4D may be seen which will set clear objectives and create a road map for the development of a critical mass of young Nigerians using ICTs to aid growth and bring social change to their immediate environs in the emerging Nigeria. Stalls are set high and though pragmatic, PIN seeks to achieve all that it dreams. ■

## Localisation research centre (LRC) in Malaysia

A memorandum of understanding was signed between the Universiti of Malaysia Sarawak (UNIMAS) at Kuching, and the Localisation Research Centre (LRC) at the University of Limerick, Ireland at Southeast Asia's premier International Symposium on ICT for Rural Development in Kuching, Malaysia in April 2006.

The two organisations made agreement to work jointly on the establishment of a mirror site of the LRC's Localisation Technology Laboratory and Showcase (LOTS), the holding of LRC – Malaysia events and training courses, and the initiation of collaborative research projects in the area of internationalisation and localisation.



This memorandum of understanding lays the foundation for the cooperation between Europe's and Malaysia's leading research centres. It is expected that combining UNIMAS' expertise in Southeast Asia's emerging ICT communities with the LRC's long-standing internationalisation and localisation research agenda will generate terrific opportunities for both the organisations.

UNIMAS and the LRC will play a central role in coming up with innovative and inspiring solutions in going beyond the mainstream localisation efforts to academic research, guided by social and economic needs.

# Serving immigrants - the digital way

Non Profit Organisations (NPOs) in Japan use ICT for their services and assistance for immigrants, sharing certain characteristics, such as presence of active staff who selflessly devote time and energy.



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As the number of people crossing national borders on a global scale increased, those migrating to Japan also have been increasing for the last 35 years. According to statistics of the Immigration Bureau of the Justice Ministry, the number of registered foreigners in Japan as of the end of 2004 stood at about two million. Because more and more people come to Japan for a longer period of time with their family members, problems and needs that they face in Japanese society are more diverse than before, and it is now one of our urgent tasks to establish effective services to fulfill the needs of this population.

## Newcomers in growing numbers

The term 'old comer' refers to people and their children who came to Japan from Korea and Taiwan, when they were colonised by Japan before and during the World War II. The term 'new comer,' on the other hand, refers to those people who have been started coming to Japan in the last 35 years. In the last half of the 1970s, first, female foreign workers from the Philippines and Thailand began entering the country, the majority of them were working at adult entertainment businesses. They were followed by returnees from China and IndoChinese refugees. The trickling of these newcomers became a larger flow during the so-called bubble economy in the last half of the 1980s. The number of students, corporate employees, and illegal migrant workers increased from Asia and Arabic countries, highlighting labour shortage in Japan and the role of the foreign labour force that filled the void. Amid this situation, the immigration control law was revised in 1990, allowing people of Japanese descent to engage in 'unskilled labour'. This revision has prompted an inflow of foreign workers from Brazil, Peru and other Latin American countries.

A growing number of these newcomers not only means more foreigners staying here and the greater diversification of nationalities, but also promotes their permanent residency. Most of those foreign students, corporate employees and illegal workers during the period of the bubble economy went home after staying in Japan for some time. This pattern does not exist among Chinese returnees as many of them come to Japan with the full intention of staying here permanently. People of Japanese descent often enter the country with their families, which encourages, whether they intend to do so or not, their stay in Japan for a long period of time.

## Obstacles being faced

Immigrants in Japan face three barriers or obstacles-language, social systems and people's mind. These barriers create many problems in their daily lives. First, the language barriers i.e. inability to speak Japanese, lack of opportunities to learn Japanese-impede psychological adaptation, employment opportunities, and economic independence. In Japanese society, language translation and interpretation services and information supply in languages other than English are often insufficient at government offices, courts of law, hospitals and other public facilities. As a result immigrants suffer many inconveniences. Besides language, cultural and religious differences often create problems in their lives and welfare-related areas, causing stress for them and making their social adaptation more difficult.

The obstacle of social systems means legal restrictions, based on the kind of residency permit and nationality, on the range of activities and services that are available to immigrants in Japan. For instance, while all Japanese can subscribe to the national health insurance system, no matter who you are,



immigrants must stay in Japan for at least one year to be eligible. Further, doors are virtually closed to them if they want to become public servants or engage in regional or national politics. But things began to change for better during the 1970s, when the growing refugee problems helped to establish international human rights conventions. Such developments and the efforts of many Japanese and immigrants have brought about significant improvements in social systems for foreign residents over the past 20 years. These improvements are not fundamental rather, they are remedial.

Perhaps more serious than these obstacles is the barriers among people's mind or prejudice among people in Japan. Prejudice and bigotry arise from the misunderstanding of or indifference to the lives of immigrants in Japanese society (for instance, many Japanese are unaware that immigrants pay taxes just like themselves). Lack of communication between Japanese and immigrants breeds misunderstandings and prejudice, creating unnecessary frictions over such matters as how bags of household garbage should be put out for collection. In an extreme case, a jewellery shop in Hamamatsu City in 1998 put up a sign saying, 'No foreigners,' an incident which led to a lawsuit.

### Diversifying problems

As the number of immigrants grows and the length of their stay becomes longer, their needs for daily living also diversify, ranging from childbearing and rearing to school education, medical services, association with neighbourhood Japanese, housing, income, and jobs. In particular, the issue of child rearing and education is getting increasingly serious because of increasing cases of entry into Japan with families and international marriages. At elementary schools and junior high schools, officials point out a growing number of students of non-Japanese parents, who refuse to come to school because of language and learning difficulties. There are some private institutes where these children can study, using their own mother tongue, but fees at such places are often beyond the means of many parents. These children getting out of school and bored, sometimes become delinquents.

As for medical services, it is not easy for immigrants to receive needed services because of lack of information and communication difficulties. Other issues regarding medical services include differences in personal value about informed consent and patient's basic human rights, and emergency medical service for those who overstay their visa. As for health insurance, many immigrants are without any coverage. While proprietors, who hire immigrants, are often reluctant to become providers of social insurance schemes, these foreign residents themselves are also reluctant to pay expensive insurance premiums for the schemes, packaged with the corporate insurance plan. Further, the government offices take a stance that workers should subscribe to social insurance, and not national health insurance.

Besides these insurance problems, migrant workers experience various frictions with their employers, such as wage nonpayment, absence of labour accident insurance coverage, engagement in dangerous work, and unlawful termination of work contracts. In the housing area, they are often refused to rent an apartment by landlords, subjected to unfair rent contracts, and often live in a sub-standard neighbourhood.

### Support for immigrants

Being consistent taxpayers, immigrants have no reason to be discriminated in any formal assistance. In principle, administrative support and services are limited to those non-Japanese people who are registered as foreign residents. Those, without this registration or stay, permit, are eligible for none of these services. For those without access to any formal assistance, informal support from private volunteer groups and non-profit organisations (NPOs) are the only resources for their various needs. These organisations provide a wide range of services such as medical counselling, telephone counselling, ethnic media support, child support, and Japanese language classes. These informal assistances are very helpful, and have become indispensable to foreign residents with limited access to public support and services.

### ICT use in informal services

Among these NPOs, some use ICT for providing services and assistances to immigrants in Japan. In Kobe City, the Takatori Community Centre (<http://www.tcc117.org/en/index.html>), which is made up of a network of 7 groups, is working to create a new community, where people with different languages, cultures, races, and nationalities can live together as equals. For instance, Tour de Communication, one of NPOs within the centre, make use of ICT services such as the creation of web sites, video and information material, computer classes, and computer maintenance in order to support citizens' activities, community activities and minorities' independence activities. With a Multi-Language Centre FACIL, another organisation at Takatori, and 16 nearby cities and international associations, the Tour de Communication made a Multilingual Living Guide (<http://www.hyogo-ip.or.jp/livingguide/index.html>), which includes necessary information such as in case of emergency, housing and removals, alien registration, health and medical services, welfare, education, tax, and so on, available on the net to support the lives of immigrants in Japan.

Another collaborative project called 'Re:C' of the Tour de Communication provides children of immigrant families, often isolated in school, because of differences in nationalities, languages, cultures, and religions, an opportunity to express their thoughts and experiences by using ICT. One of the video work, created by Japanese Brazilian girl, in which she expresses her ambivalent feelings about her ethnic identity (<http://tvf2006.jp/movie/index.php?itemid=14>), won People's Award at 2006 Tokyo Video Festival.

The Takatori Community Centre also have a community radio station FMYY (<http://www.jp.real.com/fm-yy/fmyy.ram>) which provides immigrants in the community with essential information on everyday needs in many languages and broadcasts its message of 'multi-cultural coexistence and humane community creation' in 8 languages.

As these examples show, more and more NPOs in Japan use ICT for their services and assistance for immigrants. These groups, however, share certain characteristics such as presence of active staff who selflessly devote time and energy, and the weak financial basis as they have to depend on private subsidies, donations, and membership fees. This situation makes it difficult for them to continue. Since Japan changed its immigration control policy in 1990 to host many migrant workers from outside, national and local government should either directly provide adequate assistance to immigrants or indirectly help them by providing funds to these NPOs. ■

APC REGIONAL CONSULTATION MEETING, 19-21 APRIL, 2006, DHAKA, BANGLADESH

# ICT policy in South Asia



The Association for Progressive Communications (APC) organised a regional consultation meeting on ICT Policy in South Asia from the 19th till 21st April, 2006 at BRAC Centre Inn, Dhaka. The meeting was organised by APC and was hosted by BFES in Bangladesh. Information and communication technology (ICT) experts, researchers, professionals and development practitioners from Australia, Japan, South Korea, Philippines and South Asian countries participated in the meeting. The objectives of the meeting were (i) to engage in surfacing ICT policy priorities and advocacy strategies in countries of Asia, particularly in South Asia, (ii) to exchange information on ICT policy related work, research activities, development agendas, innovative solutions etc., (iii) to explore new ways of networking and coordinating issues that can influence ICT policy research and advocacy in South Asia.

## Opening ceremony

The purpose of the workshop was described by Willie Courier, Communication and

Information Policy Manager, APC in his welcome address. Karen Banks, Networking and Advocacy Manager, APC mentioned about the main ICT policy issues to be highlighted and APC activities towards the goal of achieving the goal of effective ICT policy implementation. Dr. Mizanur Rahman Shelley, Adviser, BFES and Chairperson, Centre for Development Research, Bangladesh chaired the session and he described the important role of NGOs in Bangladesh in brief.

The chief guest, Dr. Kamal Uddin Siddiqui, Principal Secretary to the Prime Minister, Government of Bangladesh said that poverty alleviation and good governance can be taken care of by ICT implementation in the developing countries of the world. There is a national task force in Bangladesh headed by the Prime Minister of Bangladesh, he explained the significance of it. Also he mentioned about the digital divide problem in the developing countries and also the bad impact of this divide. He emphasised on the requirement of infrastructure for ICT. Also he gave

emphasis on the private sector initiatives to promote ICT in the development sectors.

Mian Mustaque Ahmed, Secretary, Ministry of Science and ICT, Government of Bangladesh, narrated the initiatives taken so far in Bangladesh to make Dhaka 'hi-tech'. He stated that ICT has gained importance in Bangladesh, but there is long way to go. Shelley concluded the inaugural session stating that our world is changing beyond recognition and the growth is being seen. Apparently there are changes of context and situation, but the problems remain the same and technology is a factor to serve the community to solve the problems. He stated that ICT could be used in a way as mentioned by Dr Siddiqui and it may solve many problems related to economy building with poverty alleviation and good governance. With the blog initiation by Dr Siddiqui the inaugural session was over.

## Open space sessions and presentations on 1<sup>st</sup> day

After the introduction to participants, the workshop methodology was introduced. There were open space sessions, on some interesting topics like 'CCTLD', 'Open Source Enabling Policies', 'ICTs for Peace', CCTLD, 'Importance of Knowledge Products', 'ICT Policy Advocacy for What', 'Localisation and FOSS', 'Human Rights Issues in Relation to the Internet', 'ICT Policy', 'Awareness Raising and Engaging with the Governments', 'Infrastructure, Asia ICT Policy/Governance Research Network', 'Integrating Gender in ICT's, Knowledge Sharing and Policy Implementation through Media', 'Liberate the Airwaves!' 'Pro-Poor ICTs and the Digital Divide'.

After that, the presentation sessions to exchange the experiences/advocacy strategies were held. Policy and regulatory issues were discussed by Rohan Samarajiva, LIRNEAsia, Sri Lanka, Rekha Jain, Centre for Telecom Policy Studies, Indian Institute of Management, Shahidul Alam, Drik, Bangladesh, Rishi Chawla, GIPI India,



There were presentations on 'Localisation, Free/Open Source Software and intellectual property rights issues' by Fouad Riaz Bajwa, FOSS in Pakistan, Bal Krishna, Madan Puraskar Pustakalaya, Nepal on simplified Nepalli Typing to the operating system in Nepali, Namita Malhotra, Alternative Law Forum, India on creative interrogation of intellectual property, Ravikant Sharma, SARAI, India on Indic Computings with experiences at Sarai. Shahzad Ahmed from Pakistan discussed 'ICT and Disaster Mitigation: Experiences in Pakistan' while talking in the panel on ICT and environment issues. In another panel on ICT and Peace initiative issues, Hilmy Ahmed, Young Asia Television, Sri Lanka discussed on ICT and Peace, giving examples from YATV initiatives towards peace initiatives in Sri Lanka.

### Last day of intensive interaction and discussion

Centre for Communications Law and Policy Research, India, Mahesh Uppal, Telecom researcher, India, Joseph Wilson, Lahore University of Management Science, Pakistan, Jeongwoo Kim PatchA, JinboNet, South Korea. There were presentations on Infrastructure and connectivity issues by Vickram Crishna, Radiophony, India, Dr. Anwar-ur-Rehman Pasha, FOSS advocacy in Pakistan, Lochan Lal Amatya, Deputy Manager, Nepal Telecom (IPP Computer Association of Nepal), and Monjur Mahmud, The Daily Star, Bangladesh.

### Panels and presentations on 2<sup>nd</sup> day

On second day of the meeting, the open discussion was held on piracy. Then the presentations were started in Panel 2. Mr. V.Chrishna from Radiophony talked about the wireless freedom and facilities. Dr. Pasha from FOSS Academy, Pakistan emphasised on the human resources for effective use of technology. He mentioned the latest research indicators in India and he emphasised on the need of integrating the higher education and undergraduate programmes through FOSS. ICT Scenario and Lessons Learned from IT Policy Formulation was the theme of the paper by Lochan Lal Amatya from Nepal. He described the ICT infrastructure in Nepal and e-Readiness of Nepal.

The Panel 3 consisted of the papers related to the media related issues. There were two presentations on the community radio initiatives in Nepal by Suman Basnet, AMARC Asia Pacific, Nepal and Kishor Pradhan, Panos South Asia, Nepal. AHM Bazlur Rahman, BNNRC, Bangladesh explained community radio initiatives in Bangladesh. Saswati Paik, i4d Magazine presented paper on media advocacy strategies for changing policy environments with special mention on the initiatives taken by Centre for Science, Development and Media Studies (CSDMS) India. Elle Rennie presented his paper on Community Radio Taskforce when he explained the role of community television, its programming innovations and advantages. Ahmed Swapan, VoiceBd, Bangladesh discussed on 'Communication Rights and/or Right to Information: Perspective of Bangladesh' on the same day which also focused on the media issues.

With the theme 'Advocacy and critical overview of ICT4D issues', the presentations on the third day were started. The speakers were Parminder Jeet Singh, IT for Change, India, Mridul Chowdhury, Research Affiliate, Berkman Centre for Internet and Society, Harvard University, Nalaka Gunawardene, TVE Asia Pacific, Sri Lanka and Al Alegre, FMA, Philippines. There were open space sessions for intensive interaction and discussion. In the panel entitled 'Economic implications of ICT tools and micro-credit issues', the speakers were Nazneen Sultana, Grameen Bank, Bangladesh, Abu S. Khan, telecom researcher, Bangladesh and Ayesha Zainudeen, LIRNEAsia, Sri Lanka. The last presentation session was on 'Education and capacity building issues' where Jehan Ara, Pakistan Software Association, Pakistan discussed 'Capacity Building and inclusivity for overall development' and Nazrul Islam, Schools Online, Bangladesh discussed on 'ICT and education in Bangladesh'.

The three day meeting highlighted some major issues which are as follows:

- Creating ICT infrastructure in rural areas is necessary so that people at the grassroots level can have access to education and knowledge;
- Poor and developing countries should concentrate more on developing knowledge-based products so that these can be utilised locally and sold in the global market, the meeting suggested;
- Policies should be formulated with the focus on local issues and local conditions and 'imported' policies should be discouraged, the meeting recommended, adding that civil society actors should try to feed policymakers with right solutions;
- ICT policies should not be only technology-driven but should encompass all other relevant areas, the participants observed that formulation of policies should not be a onetime effort;
- There is a need for holistic approach to infrastructure creation.
- Lack of reliable power is a major hindrance to deploying telecoms infrastructure in the rural areas.

This three day meeting has been able to raise some major issues on the policy advocacy and monitoring and the role expected from the citizens and the governments of various countries. ■



# Funding scientific open access

In order to reduce the knowledge divide, more OAJs are needed in all languages and scholarly subject areas.



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As of March 2006, the Directory of Open Access Journals (DOAJ) ([www.doaj.org](http://www.doaj.org)) contains more than 2000 quality controlled scientific and scholarly e-Journals that are freely accessible via the Internet. Of these, 48 Open Access Journals (OAJ) are in the field of Physics and Astronomy. These still represent only a small fraction (less than one percent) of the published research. The Public Library of Science (PLOS) being the first initiative that promoted open access to medical literature ([www.plos.org](http://www.plos.org)). OAJ uses a funding model that does not charge readers or their institutions for access ([www.soros.org/openaccess/read.shtml](http://www.soros.org/openaccess/read.shtml)).

An alternative approach is the one proposed by the Open Archives Initiative (OAI), ([www.openarchives.org](http://www.openarchives.org)) which encourages researchers and their institutions to establish repositories of research literature freely accessible on the Web as Open Access Archive (OAA). The OAI develops and promotes interoperability (Dublin Core, IEEE LOM) and metadata standards (PMH) to make articles' level content easily searchable. All of this started in the early 90s at Los Alamos with the first open physics pre-prints archive, now hosted at Cornell University: 'arXiv.org'.

## Supportive system

A distinctive OAA has been recently created to support scientists in developing countries (<http://leprints.ictp.it>). The repository allows scientists to upload their papers and CVs along with information about the region and country they operate in. In this way, scientists from developing countries may have a clue to who the other countrymen scientists are and what they do. Scientists may also now know what colleagues from neighbouring countries do or which have similar interests. This idea is ready to forge ahead, although it may tread slowly.

The benefits of adopting open access is to increase the visibility, accessibility, usage and impact of researchers' own findings among the scholarly community. Scientists in developing countries still have difficulty in publishing their work due to the lack of access to the network (<http://sdu.ictp.it/pinger/africa.html>) and to their institutional economic difficulties. Hence, OAJ can offer new possibilities as an alternative to subscription-based e-Journals in which institutions via Libraries (or sometime even authors themselves) pay for the publication charges, the so-called hybrid model. Anyway, either OAJ or OAA require a business model which needs to be profitable to survive.

Most of the OAJ impose charges on the published materials. For example, commercial publishers like BioMed Central ([www.biomedcentral.com](http://www.biomedcentral.com)) adopts this policy: authors from low-income countries or in a case-by-case basis can get waived charges, while authors do not have to pay the article-processing charge, if it is covered by their own institution or by a supporting entity. This publisher releases original research papers, using the open-access model.

Scientific progress in developing and emerging countries is greatly hampered by their inability to afford for essential journals. At the same time, research generated in these regions is missing to the international scientific community because of financial restrictions affecting its publication and distribution. In order to reduce the knowledge divide, more OAJs are needed in all languages and scholarly subject areas that exercise peer-review or editorial quality control. To finance all costs to run a scientific e-Journal, there is reason why to sell advertising space within an OAJ by associating ads to given key words within every article. The proliferation of freely



accessible OAA and OAJ provides a very valuable supplement of scientific knowledge to the existing types of published scientific information (books, journals, databases etc.), ([www.doaj.org](http://www.doaj.org)). The technology to implement an OAA or a OAJ is mature and low-cost. Today more than 200 repositories are based on the Southampton University open source software 'EPrints'.

### Financial sustainability

OAJs are more expensive to sustain financially than OAA due to higher running costs, such as referee process, editorial and secretarial board, article processing, etc. Advertising can communicate an effective message to the targeted scientific audience.

Serving ads that are relevant to what is being read on-line is not new. 'Ads by Goooooogle' (<http://services.google.com>) is an example of this implementation. Just as a search on Google connects to the information one is looking for, 'Ads by Google' provides links to products and services that are relevant to the search results. It uses technologies that grasp the nuances of language and closely matches or targets ads to the specific content of web pages. 'Ads by Goooooogle' has been adopted by some OAJ: the Free Software Magazine ([www.freesoftwaremagazine.com](http://www.freesoftwaremagazine.com)) in the technical area and AmericanScience ([www.americanscience.org](http://www.americanscience.org)) in the scientific field.

Funding Scientific OAJ within our proposed approach is different. Each article could carry an advertisement within its layout related to its contents not a generic Google Ads. The ads can be dynamically created advertising some related products, events like conferences, instruments, scientific services etc. A charge is to be levied to the advertiser and not to the author or its institution. The payment received from these targeted ads could well be used to fund a Physics OAJ. To the best of the knowledge such an approach has not yet been adopted by any of the available on-line scientific scholarly e-Journals ([www.doaj.org](http://www.doaj.org)). Multiple benefits is meant for all. Authors can get the possibility to publish their results for free

after the referee and editorial acceptances. In turn, institutions may reduce their expenses, publishers of OAJ can make profits, and advertisers themselves can reach a bigger scientific market, bringing readers to their websites.

### Target specific advertisement

To implement these ideas, it is necessary to have an appealing way to get advertisers to pay for the advertising of single scientific articles. To set out, how to get advertisers, is in the nature of doing science itself. Advertising to a scientific audience, which is notoriously exclusive and therefore difficult to reach, will persuade advertisers on the benefits from placing their ads. Most companies not only buy ads for competitive reasons, but also to communicate something. The later implies to potential product or to let scientists know about new services provided for doing research. Even more important advertisers can advertise to help a community of scientists to save some money.

Advertised OAJ offers to companies more exposure and most cost effective forms of (targeted) advertising to the right audience. For example, in doing experiments and measurements, trusted information sources are needed, as well as updated information and technical advice on the right scientific instruments and products.

Scientists are not random, but very specialised readers. Thus the advertising must be selected for their relevance to each published article. The number of advertisements on a scientific hot topic may guide to set the prices of advertisements. The ultimate goal is to contribute to foster advanced studies and research, especially in developing countries. In particular, the main achievement would be to help overcoming the scientific divide in Africa. The establishment of OAA and OAJ, that is now underway by a rapidly growing number of institutes, opens opportunities for true global knowledge exchanges ([www.scidev.org](http://www.scidev.org)). ■

## TDIL on technology enabled languages

VishwaBharat@tdil is a unique journal on language technology published by Technology Development for Indian Languages (TDIL) coming under the Ministry of Communications and Information Technology, Government of India. It serves to deploy the information service to the public on development in the field through articles and write-ups.

Department of Information Technology initiated the TDIL (Technology Development for Indian Languages) programme with the objective of developing Information Processing Tools and Techniques to facilitate human-machine interaction without language barrier, creating and accessing multilingual knowledge resources and integrating them to develop innovative user products and services. Government is all set to provide the following products and solutions in public domain over the next one year.

- Free fonts (TTF and OTF) and word processors in all Indian languages.
- Optical Character recognition (OCR) in all Indian languages for information extraction, retrieval and digitisation.

- Speech Interfaces for Systems such as Railway Information, Healthcare, Agriculture, Disaster Management and other public utility services.
- Internet access tools for Indian languages like Browsers, Search Engines and email.
- Online translation services tools amongst Indian languages and English. It will help people to translate content in English and any Indian languages to target Indian language of their choice.
- The products/services are being made available through TDIL Data Centre with online helpdesk.

The government is on a mission, and time bound by an activity plan for TDIL-DC (Language Technology Utilities Distribution Channel) to boost research, productisation, deployment and support through-

- Opening developed technologies to the market,
- Upgrading or refining technologies to formulate products,
- Developing need based new technologies.

Source : [www.ildc.in/introduction.htm](http://www.ildc.in/introduction.htm)



## ICTD Project Newsletter



### Workshop for review of ICTD projects

United Nations Development Programme's (UNDP's) country programme for India has set as its priority 'the goal to work towards promotion of sustainable human development and elimination of human poverty and inequalities'. Along with Ministry of Communications and Information Technology (MoCIT), Government of India, UNDP conceptualised the project ICT for Development (ICTD) for the period 2003-2007, laying emphasis on the vital role that ICTs can play in achieving Millennium Development Goals (MDGs).

Thirteen pilot initiatives are being funded through this project under four themes, namely - Integrated Citizen Services, Rural Livelihoods, Governance and Women Empowerment. These pilots are being implemented by project partners like state governments and non-government organisations.

The National Institute for Smart Government (NISG) is responsible for project management and monitors the progress of these projects. To find out

possible gaps between targeted goals and those achieved so far, a review workshop for project partners was conducted at the Indian School of Business (ISB), Hyderabad in Andhra Pradesh on May 8-9, 2006. The workshop was attended by senior officials from MoCIT, Government of India and UNDP, along with representatives from each of the project partners.

#### ICTD pilot projects: Status and Issues

In the inaugural session, on the first day of the workshop, Ashok Krishnan, Vice President, National Institute for Smart Government (NISG) welcomed all the participants and highlighted that the key objectives of the workshop were to present the current status of projects, indicate the challenges encountered and identify potential solutions to overcome those challenges.

A brief summary of various projects presented at the workshop, their key discussion points and outcomes have been enumerated below.

#### Project Ashwini, Andhra Pradesh

P. K. Madhav, Director, Byrraju Foundation along with his colleague P. Ramgopal, presented the status and progress of Project Ashwini, which seeks to enable a platform for multi-dimensional interaction between experts and service providers in towns/cities and the defined target segments in thirty two villages in West and East Godavari districts of Andhra Pradesh.

The project aims to empower rural population by providing timely access to an array of high quality services such as - healthcare, education, agriculture, livelihoods training and e-Governance to the chosen villages.

Currently, Ashwini is operationalised in 17 centres, of which 6 centres were virtually inaugurated by A P J Abdul Kalam, H.E. the President of India on January 09, 2006. Robust broadband wireless connectivity across the Ashwini villages has been established to facilitate virtual delivery of services. These services are being delivered to the Ashwini centres through studios at Bhimavaram and Hyderabad. Inter-village community interaction is also achieved between the villages paving way for virtual market exchange and enhanced utilization of resources among the various rural communities.

Some of the major challenges faced in the project include - optimum utilisation of the infrastructure, lack of adequate content, low level of literacy in the community and technological problems due to existence of unfriendly terrain (humidity). By the end of July 2006, the Ashwini centres will be opened in all 32 locations.

A concern was raised regarding lack of a clear business model for project sustainability. It was advised that a partnership be developed with Taraahat to make use of the rich content that Taraahat has generated for rural India.



## Village Information System (VIS), Gujarat

Village Information System (VIS) - a project undertaken by Gujarat Informatics Limited (GIL) and the state government of Gujarat was presented by Shashikant Chudasma, Deputy Director, Office of Development Commissionerate, Government of Gujarat and Anand Barot, Executive, Gujarat Informatics Limited. A detailed presentation was delivered on the progress and current status of the project, which targets the rural population of Gujarat to infuse five 'E's of good governance, namely - 'ease', 'economy', 'efficiency', 'effectiveness' and 'ethics'. The project aims to achieve this objective by establishing rural kiosks and integrating services of other similar projects such as e-Gram, e-Dhara, Mahiti Shakti and Gyan Ganga, through use of Gujarat State Wide Area Network (GSWAN). VIS will provide services such as - issuing of birth and death certificates, BPL (Below Poverty Line) certificate, caste certificate, income certificate, along with providing other information services like that of property taxes, e-Dhara (land records from village panchayats), telemedicine, education, agriculture, village panchayat accounting systems, etc.

An eGram Mission Society is being established in Gujarat that will be responsible for the rollout of the project. Approval is still awaited from the Gujarat Government on criteria and procedure for selection of Village level Entrepreneurs. It was advised that the guidelines, which are proposed to be issued by the state government on e-Gram, must be in alignment with the guidelines of Govt. of India on the Common Service Centres (CSC) scheme.

## DRISTI, West Bengal

Decentralised Rural Information Services and Technology Interventions (DRISTI) is a project being implemented in the state of West Bengal. Ranjit Kumar Maiti, Joint Secretary, Department of Panchayat and Rural Development, Government of West Bengal, delivered an elaborate presentation on this project, which aims to provide an IT-based solution for all

major functions of Panchayats (village level administrative units), including micro planning at village level and providing updated information to all the stakeholders for promoting transparency and accountability.

The presentation emphasized the readiness for replication of this project in all remaining areas of Burdwan district, where the project was initially being implemented. While the project is on track, it was recommended that linkage with the e-Justice project might be established to provide additional services at the Panchayat level.

## i4d

Ravi Gupta, Editor, i4d magazine and Director of Centre for Science, Development and Media Studies (CSDMS) - a non-governmental research and advocacy organisation explained the activities associated with ICTD in i4d print magazine. i4d (the first monthly print magazine on ICT for Development) documents and disseminates national and international news and case studies on ICT projects and initiatives. As a part of the monthly magazine, i4d publishes 'ICTD Project Newsletter' under the technical guidance of NISG. The newsletter covers articles and information on various projects under the ICTD programme and acts as a space for sharing knowledge, experience and practices. The ICTD Project Newsletter is also printed as a stand-alone product for dissemination to specific audience, as suggested by NISG.

As a means for improving content quality of the newsletter, it was suggested that the articles in the newsletter must focus on horizontal transfer of lessons among projects rather than on individual projects. Surveys must be conducted at the project sites to gather feedback of citizens and other stakeholders and assess their satisfaction levels on the implementation of individual projects.

## Integrated Community Service Centres (i-CoSC), Himachal Pradesh

Integrated Community Service Centres (i-CoSC) is being implemented by the Department of Communications & IT,

Govt. of Himachal Pradesh in the district of Shimla. Rajeev Sharma, Manager, Dept. of IT, Govt. of Himachal Pradesh explained the status of the project and its objective of delivering integrated citizen services.

While discussing the challenges it was mentioned that unavailability of bandwidth for delivery of services is currently the major bottleneck, along with concerns about sustainability of the initiative. Delay in coordination with some departments was also cited as a major challenge for the project.

## Mahiti Manthana, Karnataka

The status of Mahiti Manthana, a project targeting women empowerment, being implemented in select villages of Mysore district in the state of Karnataka was elaborated by Gurumurthy from IT for Change - an NGO based in Bangalore. This initiative was designed in response to a felt need by Mahila Samakhyha that knowledge and women empowerment interventions need technology support, both for sustainability and for enhanced effectiveness. All possible ICT tools, such as radio, video, helplines and computers are being explored through participation of the community and workshops for meeting the objectives of this intervention.

Some major challenges mentioned by Gurumurthy included overcoming the initial hesitation in participation by the community and difficulty in finding suitable location for telecentres. It was felt by participants that linkages must be established with the Rural Digital Services project of Govt. of Karnataka and the e-Justice project for the benefit of the Sangha women.

## e-Krishi, Kerala

The project 'e-Krishi' - a market driven agricultural initiative through IT-enabled agri-business centres in the state of Kerala is being implemented by Kerala State IT Mission (KSITM). Anvar Sadath from the KSITM and Prof. K R Srivatsan, Director, IIITM-K reiterated that the vision of the project was to establish a connected farmers' community throughout the state of Kerala for providing them with information on market demand, prices,



agricultural practices, agricultural inputs etc. along with a robust technology enabled transaction platform that facilitates all their offline activities.

The challenges that the project faces include awaiting the contract farming legislation to be passed by the State Government, which will form a part of the Agricultural Produce Marketing Committee Act, for improving marketing efficiency and reducing transaction cost for farmers. The current system necessitates licensed middlemen to buy on behalf of the buyer.

The key recommendation made for e-Krishi suggested thorough involvement of the farmer and service provider community to improve project implementation process. Hereafter, the e-Krishi pilot will link and learn from the KISSAN project being implemented by organizations like IIITM-K and Kerala Agriculture University in Kerala and building on the content that has already been generated. It is also envisaged that a call centre for farmers will be established to connect farmers to agriculture experts.

### Enterprise Development & Support Service

Implemented by Development Alternatives, this project focuses on providing entrepreneurship opportunities to youth, women, self-help groups, landless and small land holders in the areas of non-traditional agriculture and natural waste recycling based manufacturing through TARA kendras. Ranjit Khosla and Shreyas Goyal from Tarahaat – an NGO based in Delhi, mentioned that this project is an ICT based solution for developing entrepreneurs, training them for setting up enterprises and helping them in their marketing initiatives.

Initially, broiler-based small-scale poultry farming and micro-concrete



ICTD project partners in the review meeting held on 8-9 May 2006 in Hyderabad

roofing are the two enterprises selected for training. Business support systems will also be a part of the solution to be provided (in form of FAQs) and connecting the entrepreneurs to subject experts. The major challenges faced by the implementing agency is in establishing financial linkages, competing with free/stipend offering of government programmes and setting up of an Open Source Learning Management System (LMS) in Indian local languages.

### Bangalore-One, Karnataka

Vipin Singh, Director, Bangalore-One, presented the status of the Bangalore-One project. Started in April 2005, this project has set up 14 one-stop centres for providing integrated citizen services.

Since the centres opened, the number of transactions has increased from the initial 20,000 in April-May 2005 to over 300,000 per month at present. The major challenge faced by the project was regarding opening up of additional centres to cater to the large population of Bangalore and also increasing the number of services offered at these centres. Vipin Singh mentioned that passport services would be offered at the Bangalore-One centres starting June 2006. The participants felt that the Bangalore-One centres could also be used to deliver more development related services especially targeting the urban poor, by providing them knowledge on the entitlement of government schemes.

### Mahiti-Mitra, Gujarat

Grassroots e-Self Governance is the theme of Project Mahiti-Mitra, being implemented by Kutch Nav Nirman Abhiyan - an NGO based in Gujarat. Manoj Solanki from Abhiyan highlighted the project objectives, targets, approach, strategy and implementation framework of the project. The expected benefits and outcomes include - setting up of 18 Setu Mahiti-Mitra across

380 village clusters; setting up a single window coordination centre; accessing the Setu Mahiti-Mitra by at least 25% of the district's Gram Panchayat members and video-conferencing facility between Gram Panchayats and Zilla Panchayats.

Manoj highlighted some challenges related to the process, technology, capacity building, communication and publicity. It was felt by the participants that the project has a strong grassroots focus but offered limited government services. A possible collaboration with the Panchayati Raj Dept and Gujarat Informatics Limited was suggested to enlarge the scope of the project.

### e-Procurement

The significance of the project e-Procurement was described as 'Collaborative procurement of goods, works and services, using electronic methods in every stage to bring efficiency and transparency'. Dr. Ram, Manager (Projects), NISG explained that the project was being designed as an end-to-end e-Procurement system comprising of various modules like Supplier Registration, Indent Management, Catalogue Management, Contract Management, e-Auctions etc and not e-Tendering alone. Providing the functional details of the project, the presentation explained how e-Procurement may act as the catalyst for procurement reform, enhancing transparency, monitoring and control in procurement process, bringing in



economies of scale through aggregation of demand, and reducing cost of doing business for both government and suppliers. It was mentioned that the Govt. of Karnataka has floated an RFP and a vendor will be selected by the end of June 2006.

### e-Justice, Andhra Pradesh

The project 'e-Justice', initiated in April 2005 and implemented in the districts of Mahabubnagar (one of the least developed districts) and Krishna District (one of the progressive districts) of Andhra Pradesh state, was presented by P. K. Mohanty, Director General, Centre for Good Governance and his colleagues V. Madhusudhana Rao and Venkat Yeleti. This project aims to generate awareness among rural and semi-urban citizens about legal provisions, roles and responsibilities of government functionaries, legal support agencies and groups and their activities. This project is taking the help of legal experts for simplification of legal language into easily understandable local language. Currently, the simplification of legal language has taken place for laws related to land, women, labour and some general laws. The first e-Justice kiosk was launched in January 2006 by the Chief Minister of AP and more such kiosks will be established in the coming few months.

The major challenge faced by the implementing agency is that the citizens approaching the kiosk are expecting a final solution to their problem rather than access to a solution or information. It was suggested that the backend linkages with the Legal Service Authority could be strengthened to help solve this challenge. Some participants felt that this model could be used in other similar initiatives and in Common Service Centres projects in other states of the country.

### eGovWorld

The presentation by Piyush Gupta, General Manager (CB&KM), NISG, focused on eGovWorld - a comprehensive knowledge portal on e-Governance. This project has the objective to provide anytime, anywhere

access to knowledge and learning on e-Governance, along with providing knowledge base in categorised form to enable easy retrieval, capacity building through e-Learning courses, building platform for sharing ideas and best practices through discussion forum and to provide the opportunity to learn from experiences of e-Government champions through their web blogs. The discussions revolved around the content available currently on the portal and pricing of services that was yet to be determined before the launch of the portal for public use.

### Major challenges for ICTD projects and proposed solutions

The Workshop also involved separate brain storming session on the challenges and issues faced by the project partners during implementation of their projects. The common challenges identified through these discussions highlighted three key aspects, viz., the significance of community participation, integration with government departments and people related issues for effective project management. Some solutions that were proposed to overcome these challenges are as listed below:

For effective community participation, solutions proposed are as follows:

- Selection of local people as part of the project team
- Building and learning from other NGOs that are working closely with the local community,
- Demonstrating 'Proof of Concept' based on the need to demonstrate usability
- Showcasing the proposed benefits of the project through localised mechanisms like folk drama, etc.

For integration with government departments, solutions recommended include:

- Aligning interest with administrative and political leaders' needs,
  - Creating awareness workshops with involvement of leaders
  - Introducing need assessment exercises for government employees and creating government interest
  - Aligning with existing CSC initiatives.
- During the discussion on people

related issues and solutions, the points raised were as follows:

- People want everything 'free',
- Mindset of people needs to be changed,
- Tackling literacy issues associated with the types of services,
- Issue of fair-equity in service delivery,
- Retention of 'e-Champions' for fixed tenure.

During the discussions, all the participants felt that effective project management is critical to the success of any project. The key management challenges identified during the discussions were related to management of time, finances and human resources. Unforeseen circumstances (such as elections), government approvals, ground level improvements (incremental), risk analysis, lack of a contingency plan are the factors that affects the timeline of any project. Issues such as, project performance (in terms of innovation and value creation), service enhancement and increase of geographical scope of these projects were stressed upon.

The recommendations emphasized that it may be advisable to work out a project plan in the backward direction i.e. from outcomes to outputs and from outputs to budget. It was felt that a Results Based Management System would be the best way of tracking project progress for development projects. The last session of the workshop urged all the representatives to come forward and join hands together to make ICTs truly work for people across all the boundaries. This workshop has paved the way to analyse more on the progress of the projects and it may show the way to achieve goals more effectively. The workshop concluded with the decision to monitor the projects by setting up a Result Based Management System that will assess for project outcomes and impact on society rather than only on outputs and activities. ■

*NISG and i4d reserve the right to reprint articles produced for the ICTD section of the i4d magazine and website, with due credits to NISG and i4d. Please write to the editor for any request of reprints.*

# A democratic channel of expression



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Source: [www.bnnrc.net/](http://www.bnnrc.net/)

## What is the historical background of BNNRC?

Bangladesh NGOs Network for Radio and Communication (BNNRC) is a national networking body working for building a democratic society based on the principles of free flow of information, equitable and affordable access to Information, Communication Technology (ICT) for remote and marginalised population.

BNNRC is a changed name of Bangladesh Coastal NGO Network for Radio and Communication (BCNNRC). This change in name has been formalised on 5 April, 2003 considering the fact of all members urged to have national converge. It is a network of nine coastal non-government organisations (NGOs) with lead initiatives from COAST (Coastal Association for Social Transformation) Trust formerly ACTIONAID-Bangladesh Bhola project.

BNNRC is registered with the Ministry of Law, Parliamentary and Justice Affairs, as a trust and NGO Affairs Bureau, Office of the Prime Minister, Government of Bangladesh.

## What are the objectives of the BNNRC initiatives?

To create mass awareness on ICT use and its correlation to poverty alleviation and

institutionalisation of democracy, to create a ICT resource base and young student catalyst, especially in coastal area who will consider ICT as a basic human right to promote critical civil society in providing alternative policy options in view of ICT not as mere privilege to provide support, training and technical assistance for piloting or action research on promotion of amateur radio, community radio, citizen band radio, low cost appropriate technology in power generation, radio communication among the fishermen and launch in riverine communication, and Internet and computer practice among the disadvantage community and in outreach areas and to establish and maintenance of disaster radio network for coastal area and a rapid disaster communication deployment force.

BNNRC now strives for following core interventions to achieve Millennium Development Goals (MDGs) WSIS Action plan and PRSP through its project on Promoting Appropriate Technologies and Policies to Uphold the Value of ICT as basic Human Right: awareness on correlations of ICT, poverty alleviation and institutionalisation of democracy and Right to Information (RTI), establishment of ICT resource centre and promotion of radio listeners club as primary ICT catalyst in remote rural areas, advocacy and campaign for bridge the digital divide/information divide/knowledge divide through community radio, piloting of ICT4D projects at rural areas to show case examples for greater multiplication through rural

knowledge centre, establishment of Radio Amateur Civil Emergency Services (RACES) for disaster risk reduction.

## How much area has been covered so far by Radio Network in Bangladesh?

In Bangladesh, the public service radio operator (Bangladesh Betar) is the sole organisation, actively present in air spectrum. Programmes broadcasted by this national broadcaster can be received virtually from every part of the country. Currently, under BNNRC's technical supervision, there is an amateur radio network that encompassed four districts Dhaka, Chittagong, Barishal, Bhola. Currently we have around 150 Amateur radio operators in Bangladesh. A draft of broadcasting act has also been formulated that makes the operation of Public Service broadcasting, commercial broadcasting and community broadcasting, community radio agreeable. Now the only impediments, we are facing is the enactment of the law.

## How it is strategically located for the benefit of community, especially for socio-economically weaker section?

Due to different socio-cultural and legal constraint, the above mentioned networks are unable to perform in full swing. More directly, they rarely can put any significant impact on community benefit. Still, in time of disasters, these networks can add noteworthy value to safeguard the life and wealth of socio-economically weaker populace. For example, in a recent garment

ablaze in Chittagong, our network member YPSA's Citizen Band (CB) radio network proved to be very effective in gathering assistance and conducting rescue operation.

### **What is the relevance of communication your organisation holds in purview of development?**

Our organisation believes, communication as not a privilege, but as a basic human right. Access to voice, information and knowledge is now seen as vital to the achievement of development goals. Without access to voice, poor people are unable to participate in debate or to express their opinions on public policies that affect them directly. Without access to information poor people are unaware of their rights and entitlements, are unable to challenge decisions and lack the knowledge to take effective action to improve their conditions.

Effective and efficient communication process helps to reach the world's poorest communities. Alternate communication system such as community radio in particular puts the tools of communications into the hands of communities for cultural expression, news and information, dialogue and development. It provides a common platform to discuss all these interrelated issues too.

### **How can technology enabled information and communication enhance development in Bangladesh and in what way BNNRC is contributing towards its mission?**

In recent years, there has been a shift in the thinking of development professionals, and development institutions, from an excessive emphasis on market driven economic growth and technology transfer to a more people-centred discourse.

BNNRC does like to see the rural people has the easy, quick and low cost access to global communication so that they are enriched and updated by knowledge. 'Communication is not a privilege it has become a basic human rights'. This trust organises strategically important activities, studies, advocacy so that the population of the rural areas will have easy, manageable and low cost communication facilities.

BNNRC is striving to raise critical awareness among civil society on ICT4D. Every year, we try to gather public opinion

to enhance the budget allocation for ICT4D. Currently, member organisations of BNNRC (e.g. YPSA, Speed Trust, Dwip Unnayan Sangstha, COAST Trust) are pursuing different ICT activities like establishment of community multimedia centre, rural knowledge centre, participatory video and other ICT4D piloting.

### **How far the youth population has been mobilised to ensure their participation in movement in Bangladesh?**

Youths are the blood of every movement. Youth Policy has to be implemented comprehensively. ICT movement in Bangladesh is also not an exception. As the whole campaign has started not until very recently, so a very integrated and keenly directed approach is yet to be organised. But, in Bangladesh, we have some ten thousand radio listener's clubs, all consists of hundreds of local youth.

BNNRC is now using this listeners club as catalyst in her own programme implementation. Cumulative voice needs to be raised to integrate ICT with Youth Policy. Now, our member organisation YPSA is using cable casting which is a type of narrow casting for their own developed local contents.

### **How do you ensure that your radio reach the masses in remote interiors?**

Due to legal framework constraints, we have not yet succeeded to operate any radio station for broadcasting programs. So, at present, we can't reach the masses through radio receivers. Now we are using alternative approach. We use point to point radio transmission (HAM operation) for sending messages to the field office. From there, volunteers carrying Citizen Band radio (wireless radio operation) disseminates the messages and maintain continuous contact with the message receiving point.

Since a coastal network you may also have a fore-sight in disaster mitigation. Please elucidate with special reference to HAM radio.

During disaster, effectiveness and efficiency of using alternate communication media is unquestionable. Well, radio network like every other networks, definitely can't do a lot in reducing disaster propensity, but it extends real assistance when preparedness and relief/rescue comes up as an issue.

During disaster, when all the regular communication disrupts, radio communication can provide the solution as it never gets stuck. You can maintain continuous contact with the base station. You can report accordingly and ask for assistance wherever it is felt obvious and urgent. HAM operators operate point to point radio communication and, they can reach any where of the world. So, besides reporting central disaster cell regarding recent status, they can also contact other country to update the situation and ask for assistance, wherever it is felt necessary.

### **In what way do you think radio can be a pathway to development, promoter of peace and integrity and remain candidly confrontational against terrorism?**

I already have given some indication on this issue. Actually radio is the most widespread electronic communications device in the world and a unique means of reaching the world's poorest communities. Community radio in particular puts the tools of communications into the hands of communities for cultural expression, news and information, dialogue and development.

Community radios can play an important role in building participation and opinion sharing, improving and diversifying knowledge and skills and in answering to health and cultural needs. Radio is the best vehicle to reach communities who live in poor areas, where there are no phones. It reaches people who are not able to read or write. Radio penetration is very important all over the world.

### **Do you have any suggestion/message to ICT4D community workers?**

I have four distinct messages to everyone though I would not prefer those termed as suggestions. firstly, we have to practice to do real work. Secondly, every practicing organisation has to main-stream ICT4D with their ongoing development initiative. Thirdly, an open culture has to be developed to share best practices and failure stories honestly among the practitioners and finally, every upcoming ICT4D activity must be planned for addressing community need.

Therefore, I would like to request everyone to ensure active community participation in the whole process of programme development. ■



# Books received

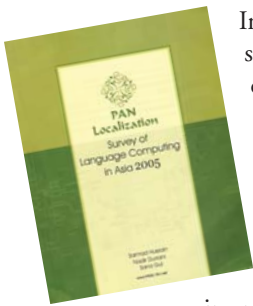
## Pan Localization: Survey of Language Computing in Asia 2005

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**ISBN:** 969-8961-00-3

**Pages:** 155



In an effort to document the state of localisation in rural areas of developing Asian countries, this pan localisation project has come forward to research and develop a process framework for local language computing development. This project aims to: conduct research into linguistics, computing and language processing for selected local languages, develop training material and provide training in local language computing, develop computer standards and software that enables local language computing, experiment with marketing strategies to promote the use of local language tools for content development, nurture a regional network of researchers, practitioners and policy-makers for collaborative learning in local language computing, consolidate a regional platform and voice on local language computing issues and contribute to the state-of-practice in local language computing through a rigorous research publication program. There are about 2200 languages spoken in Asia. Really it is a difficult task under taken through the project to document the status of all the languages. This survey covers computing standards and language technology. This project report signifies some important aspect of localisation and language processing in addition to technology.

## Producing Open Source Software: How to Run a Successful Free Software Project

**Published by:** O'Reilly Media, Inc.

**Edited by:** Karl Fogel

**ISBN:** 0596007590

**Pages:** 302 pages

Open source development is, by and large, a cooperative environment thriving with volunteers and the sharing of code, it is also mercilessly evolutionary. The book asks its readers to be familiar with very general software concepts such as source code, compiling, and patching. This book would also serve well as a primer for journalists, corporate personnel, and anyone else who interfaces with the free



software world. Although organising the free software development world's oeuvre was undoubtedly difficult, there is only occasional need for cross-referencing in the book. In any work that targets novices, organisation is of paramount importance, and here the book has succeeded admirably. The content is even summarised in the preface, much like any good technical reference, allowing readers to

concentrate on relevant chapters. Each chapter is written straight forwardly, and does a superb job defining the terms of art and jargon that may be well known to experienced open source developers, but less so to novices. The clear, concise style Fogel uses is sufficient to establish and describe concepts and practices. The book condensed with all into a single volume for easy reference and valuable information.

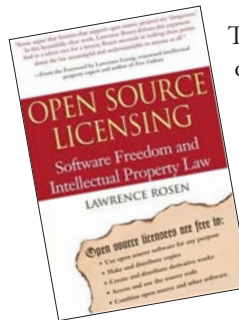
## Open Source Licensing : Software Freedom and Intellectual Property Law

**Published by:** Prentice Hall PTR

**Edited by:** Lawrence Rosen

**ISBN:** 0131487876

**Pages:** 432



This book is a complete guide to the law of open source for developers, managers, and lawyers. Now that open source software is blossoming around the world, it is crucial to understand how open source licenses work—and their solid legal foundations. Open Source Initiative general counsel Lawrence Rosen presents a plain-English guide to open source law for developers, managers, users, and lawyers. Rosen

clearly explains the intellectual property laws that support open source licensing, carefully reviews today's leading licenses, and helps you make the best choices for your project or organisation. The book covers explanation of why the SCO litigation and other attacks won't derail open source, dispelling the myths of open source licensing, intellectual property law for nonlawyers: ownership and licensing of copyrights, patents, and trademarks,

benefits of open source, and the obligations and risks facing businesses that deploy open source software, choosing the right license: considering business models, product architecture, IP ownership, license compatibility issues, relicensing, and more, enforcing the terms and conditions of open source licenses, shared source, eventual source, and other alternative models to open source, protecting yourself against lawsuits. ■

## Debate of the Month

### 5 Critical Factors for Telecentres

Surbhi Sharma is running a telecentre in Bidai, close to Bangalore. He shared his feedback on critical factors to consider before setting up telecentres and readers shared their experiences in return.

'We have been running a telecentre called Tel-Nek in Bidadi, 40 kms from Bangalore, for the past 5 years. We have been serving 63 villages in and around the Ramanagaram taluk. Our centre was setup to curb Urban migration, provide better livelihood opportunities to women, train Children on Technology enabled learning, etc. In my opinion, the 5 critical factors to keep in mind before starting a telecentre are:

- The Community needs
- Content
- Connectivity
- Sustainability
- Inclusive policies

*Courtesy: Surbhi Sharma, groups.yahoo.com/group/bytesforall\_readers/message/7993*

## Events, Releases and Announcements

### Microsoft Research Centre in Indonesia

Based on an MOU, President of Indonesia Susilo Bambang Yudhoyono and Bill Gates agreed to open Research centre in Indonesia. [groups.yahoo.com/group/bytesforall\\_readers/message/8006](http://groups.yahoo.com/group/bytesforall_readers/message/8006)

### Amader Gram ICT4D Project

BFES initiated Amader Gram ICT4D Project is going to organize a knowledge sharing session in Khulna on 27th May, 2006 at 10 am at the Castle Salam Conference room (KDA Avenue, Khulna). Christine Lombardo, Information, Knowledge and Communication Research Fellow from the University of Lugano, Switzerland, will present her research findings.

*Courtesy: Reza Salim, groups.yahoo.com/group/bytesforall\_readers/message/8001*

### Forum theatre workshop seeks feedback

UNESCO supported community media initiative needs feedback on 10-day workshop about the production of Forum Theater. 'A group of 16 youths and adolescents from different rural sites of Sitakund Upazilla under Chittagong District are now going through an intensive training at Youth Community Multimedia Centre.

*Courtesy: Debobroto Chakraborty, groups.yahoo.com/group/bytesforall\_readers/message/8000*

### REA training in Pakistan

The World Conservation Union (IUCN), Pakistan in partnership with Church World Service-Pakistan/Afghanistan (CWS-P/A) is organising an REA Training during 15-19 May, 2006 in Nathiagali, Pakistan. World renowned REA Expert Mr. Charles Kelly from Benfield Hazards Research Centre, UK will be the resource person for this training. Rapid Environmental Impact Assessment in

Disasters (REA) is a tool for identifying, defining, and prioritising potential environmental impacts that arise immediately following disaster situations.

*Courtesy: Shahzad Ahmad, groups.yahoo.com/group/bytesforall\_readers/message/7992*

### Sanskritweb.net from Germany

<http://www.sanskritweb.net> is a private website maintained by Ulrich Stiehl. The Sanskritweb has a very simple design and uses only downwards compatible PDF formats. Its content is also accessible by people who cannot afford to buy latest computer equipment.

*Courtesy: Dr T. Matthew Ciolek, groups.yahoo.com/group/bytesforall\_readers/message/7981*

### Language pack for Marathi

Available with complete installation instructions here: [http://indx.cdacmumbai.in/janabhaaratii/page\\_gen.php?lang=en&body=/download/download\\_langpack.html](http://indx.cdacmumbai.in/janabhaaratii/page_gen.php?lang=en&body=/download/download_langpack.html)

*Courtesy: Priti Patil, groups.yahoo.com/group/bytesforall\_readers/message/7969*

### Empowering Indic Language Computing

Microsoft's website on Indic computing for XP and Windows products is live here: <http://www.bhashaindia.com/Community/CommunityHome.aspx>

*Courtesy: Nithya, http://groups.yahoo.com/group/bytesforall\_readers/message/7969*

### EngageMedia helps multimedia gurus

EngageMedia (<http://engagemedia.org/>) is currently in development and preparing for a public beta release. This will be a space for critical documentary, fiction, artistic and experimental works from South East Asia, Australia and the Pacific region focusing on environmental and social issues. It will create an online archive of independent video productions using Creative Commons licenses and form a peer network of video makers, educators and screening organisations. [groups.yahoo.com/group/bytesforall\\_readers/message/7968](http://groups.yahoo.com/group/bytesforall_readers/message/7968)

### Highly useful Urdu, Hindi links

Frederick Noronha shares a combination of links about Urdu/Hindi language computing.

[groups.yahoo.com/group/bytesforall\\_readers/message/7946](http://groups.yahoo.com/group/bytesforall_readers/message/7946)

### First Unicode version of Munir Keyboard

The very first Unicode version of Munir Keyboard Layout has been released at Ekushey.Org. Bangla-speaking community had a huge demand for this. You can find the Unicode version from <http://www.ekushey.org/projects/shadhinotalmunir.html>

*Courtesy: Omi Azad, groups.yahoo.com/group/bytesforall\_readers/message/7965*

## Professional Development Award

The Innovation, Policy and Science Program Area of IDRC, and the Centre's Regional Office for South Asia seek applications from qualified



candidates for a Professional Development Award beginning July 3rd, 2006. The awardee, based at the New Delhi office, will assist the IPS Programme Area in programme development in the region, particularly focusing on questions of Science, Technology and Innovation policies vis-à-vis development challenges in the region as well as the social, economic and public policy impacts associated with new technologies, especially biotechnology and nanotechnology. The closing date for receiving applications is May 31st, 2006. [http://www.idrc.ca/en/ev-96472-201-1-DO\\_TOPIC.html](http://www.idrc.ca/en/ev-96472-201-1-DO_TOPIC.html)

*Courtesy: Miraj Khalid, [groups.yahoo.com/group/bytesforall\\_readers/message/7961](http://groups.yahoo.com/group/bytesforall_readers/message/7961)*

## Berkeley to host ICTD2006

The 2006 International Conference on Information Communications and Development takes place May 25 - May 26, 2006, hosted by the University of California, Berkeley School of Information. ICTD2006 is a multi-disciplinary forum for researchers designing information and communications technologies for developing regions: <http://www.sims.berkeley.edu/ictd2006/>

*Courtesy: Melissa Ho, [groups.yahoo.com/group/bytesforall\\_readers/message/7936](http://groups.yahoo.com/group/bytesforall_readers/message/7936)*

## ICT4D

### Police go hi-tech but rules restrain them

IPS officers in the state of Jharkhand, India have all received laptops in an effort to make the police hi-tech. However, the officers aren't as happy as you would expect them to be. Apparently, each laptop comes bundled with dos and don'ts so the receiver understands this is only for official purposes. These regulations have irked many cops.

*Courtesy: Frederick Noronha, [groups.yahoo.com/group/bytesforall\\_readers/message/8005](http://groups.yahoo.com/group/bytesforall_readers/message/8005)*

### Digital mapping driving the future in China

Futuristic cars of tomorrow come loaded with digital maps which guide cars to turn or find gas stations. The Chinese have already taken to these digitally mapped cars. These maps can be accessed from vehicles and mobile phones and are an indicator of the country's future mobile lifestyle.

*[groups.yahoo.com/group/bytesforall\\_readers/message/8002](http://groups.yahoo.com/group/bytesforall_readers/message/8002)*

### Women power email forum

Systems is a private email forum for women who are university students or working in the technical side of computing. We are a community for technical women in computing that began in 1987 as a small mailing list for women in 'systems'. It was founded by Anita Borg. <http://athena.systems.org/mailman/listinfo/systems>

*Courtesy: Frederick Noronha, [http://groups.yahoo.com/group/bytesforall\\_readers/message/7938](http://groups.yahoo.com/group/bytesforall_readers/message/7938)*

### Kerala's Malabar opens up for computers

The government-sponsored Akshaya (Bridging the digital divide)

project in Malappuram has made the district 80 percent e-literate, becoming a model for the overwhelmingly Muslim Malaysia. Within just a year, close to half a million of the district's population became e-literate up to a basic level, learning through computer games.

*Courtesy: Frederick Noronha, [groups.yahoo.com/group/bytesforall\\_readers/message/7996](http://groups.yahoo.com/group/bytesforall_readers/message/7996) Frederick Noronha*

### Landmark moment for Open Office

The International Standards Organization has approved the standard file format to be used worldwide for the storage of files produced by Open Office software. Software users will be guaranteed that they will be able to use their data in any compliant software package, both now and in the future.

*Courtesy: Russell John, <http://linux.org/bd>*

*[groups.yahoo.com/group/bytesforall\\_readers/message/7995](http://groups.yahoo.com/group/bytesforall_readers/message/7995)*

### Get OpenOffice.org

One week after 'World Intellectual Property Day', OpenOffice.org announces a new campaign: "Get legal - Get OpenOffice.org". A new website <http://why.openoffice.org> - explains how to escape from Microsoft Office licence costs and compliance worries - for good. Webmasters and bloggers worldwide are encouraged to display the campaign banner to help promote the campaign.

*[groups.yahoo.com/group/bytesforall\\_readers/message/7990](http://groups.yahoo.com/group/bytesforall_readers/message/7990)*

### Embedded Operating System

Writing in the April 2006 issue of CSI Communications Aman Moudgil and Nishant Taneja present an article titled 'Overview of the Embedded Operating Systems'. Besides offering an introduction and a listing of required-features of a good embedded OS, the article also looks at some widely-used embedded OSs.

*Courtesy: Frederick Noronha, [groups.yahoo.com/group/bytesforall\\_readers/message/7997](http://groups.yahoo.com/group/bytesforall_readers/message/7997)*

### Developing world is a Digital dump?

A large proportion of the old computers exported from advanced nations to developing countries can no longer be used and end up on informal rubbish dumps in poor countries, posing a threat to people and the environment. Each month, some 400,000 old computers and monitors arrive in Nigeria, where BAN conducted research.

*Courtesy: Frederick Noronha, [groups.yahoo.com/group/bytesforall\\_readers/message/7978](http://groups.yahoo.com/group/bytesforall_readers/message/7978)*

**Bytes for All:** [www.bytesforall.net](http://www.bytesforall.net)

**Bytes For All Readers Discussion:** [http://groups.yahoo.com/group/bytesforall\\_readers](http://groups.yahoo.com/group/bytesforall_readers)

**Bytes for All Summary Archive:** <http://www.bytesforall.net/Summary/>

**Bytes for All discussion summary compiled by:** Zunaira Durrani, Bytes for All, Pakistan



THE MED-E-TEL 2006, LUXEXPO, LUXEMBOURG

# Exposition of health care technologies



The Med-e-Tel 2006 edition took place on 5-7 April at Luxexpo, Luxembourg. It was host to 400 decision makers from 48 countries and featured a world class conference programme, opening up windows to a multitude of ICT applications in the modern healthcare environment.

The opening plenary conference session presented and discussed some key activities and organisations that serve as reference points for the state of telemedicine and eHealth in the world today:

The World Health Organisation's (WHO) Global Observatory for eHealth, and the needs of the member states for ehealth tools and services was presented by Yunkap Kwankam, eHealth Coordinator, WHO.

The European eHealth action plan, which is concentrating on making the most of health ICTs and a better integration of a range of eHealth policies and activities was presented by Illias Iakovidis (Deputy Head of Unit, ICT for Health, DG Information Society, European Commission).

The Telemedicine Alliance's vision for eHealth implementation was presented by James Kass (European Space Agency).

The role of the International Society for Telemedicine & eHealth (ISfTeH) in the advancement of telemedicine and eHealth through interaction and cooperation among national and international stakeholder groups and associations was presented by

Frank Lievens, Board Member, ISfTeH.

Industry viewpoint on the relationship between public and private sector to develop sustainable eHealth programmes was presented by Pramod Gaur (President & CEO, Viterion TeleHealthcare).

A returning topic at Med-e-Tel 2006 was on 'eHealth for Developing Countries'. The session attracted once again a large number of stakeholders from developing countries and was chaired by World Health Organisation (WHO), International Telecommunication Union (ITU) and International Society for Telemedicine & eHealth (ISfTeH) representatives. Also the role of satellite communication and space-based technology applications in healthcare, especially for developing countries and for remote and isolated areas, was explored in a session coordinated by the United Nations Office for Outer Space Affairs (UNOOSA).

Extensive focus was placed throughout the conference on homecare and health/disease management, covering topics such as medication compliance, telemonitoring of vital signs, fall detection, video communication, and more. Home telehealth offers affordable and sometimes even necessary solutions to face the challenges of early hospital discharge, an increased ageing population and the associated rise in chronic conditions, and a predicted nursing shortage. Keeping patients-at-risk at home, or keeping the elderly living longer independently in their own home, will considerably relieve the current healthcare system and healthcare budgets.

On a related subject, the International Initiative for Ubiquitous Healthcare (uHealth), presented its views on how collaboration between countries and the use of broadband and wireless mobile technologies can help to provide healthcare to people anywhere at anytime. The

initiative was conceived as part of the future activities of IEEE Healthcom, which brings together academia, industry, healthcare and information technology professionals to facilitate collaborations for the development of humanity's future good.

According to the uHealth Initiative, the world's increasing ageing population necessitates concentrated research and action on healthcare paradigms beyond the current hospital-based healthcare regime because the hospitals (which are already stretched to limits) will not be able to handle the increase in ageing population. Current partner countries in the initiative include Australia, France, Greece, Korea, Taiwan and USA, with more to join soon.

Aims and results of various current European eHealth projects were also presented. Among them Healthware, a standard and interoperable satellite solution to deploy healthcare services over wide areas as one. Application domains of the project include medical training, second opinion (interactive video-communication between medical experts/specialists/doctors and sharing documents), and teleconsultation (interactive video-communication between patient and doctor).

The above conference sessions were complemented with various additional sessions on the topics of tele-education, disease surveillance, electronic records and data transmission, healthcare challenges, telecardiology and practical telemedicine and eHealth applications in several other medical disciplines. ■

*Report by Frederic Lievens*

*Programme details can still be found at [www.medetel.lu](http://www.medetel.lu), or contact [info@medetel.lu](mailto:info@medetel.lu) for more information. Med-e-Tel 2007 is scheduled for 18-20 April 2007 in Luxembourg.*

# What's on

## Australia

2 - 4 August 2006  
VoIP World Australia 2006  
Grand Hyatt, Melbourne

[www.terrapinn.com/2006/voip%5Faul/index.stm](http://www.terrapinn.com/2006/voip%5Faul/index.stm)

2-4 October, 2006  
The Australian Computers in Education  
Conference 2006 (ACEC 2006)  
Cairns, North Queensland

[www.acec2006.info](http://www.acec2006.info)

## Austria

12-14 July, 2006  
10th International Conference on  
Computers Helping People with Special  
Needs (ICCHP 2006)

University of Linz  
[www.icchp.org/](http://www.icchp.org/)

27-29 September, 2006  
Interactive Computer Aided Learning  
(ICL), Villach

[www.icl-conference.org/](http://www.icl-conference.org/)

## India

23-25 August, 2006  
Indian Telecentre Forum 2006  
The Taj Palace, New Delhi

[www.i4donline.net/indiantelecentreforum](http://www.i4donline.net/indiantelecentreforum)

23-25 August, 2006  
Digital learning India 2006  
The Taj Palace, New Delhi  
[digitalllearning.in/dlindia/](http://digitalllearning.in/dlindia/)

23-25 August, 2006  
e-Gov India 2006  
The Taj Palace, New Delhi  
[www.egovonline.net/egovindia/](http://www.egovonline.net/egovindia/)

5-8 December, 2006  
The 2nd International Conference on  
Digital Libraries  
India Habitat Centre  
New Delhi-110003  
[static.teriin.org/events/icdl](http://static.teriin.org/events/icdl)

## Italy

25-27 October, 2006  
1st World Congress on Communication for  
Development, Rome

[www.devcomm-congress.org/worldbank/](http://www.devcomm-congress.org/worldbank/)

## Malaysia

6-9 July, 2006  
10<sup>th</sup> Pacific Asia Conference on Information  
Systems, Malaysia  
Universiti Putra  
Kuala Lumpur

[www.pacis2006.com.my](http://www.pacis2006.com.my)

## Mozambique

09-10 August, 2006  
The Mozambique National ICT  
Convention  
Maputo

[new.aitecafrica.com/node/125](http://new.aitecafrica.com/node/125)

## Nigeria

4-5 July, 2006  
Telecoms and Investments 2006  
Ladi Kwali Hall,  
Sheraton Hotels & Towers, Abuja

[www.telecomsandinvestments.com/](http://www.telecomsandinvestments.com/)

## Norway

12-14 June, 2006  
Tromso Telemedicine and eHealth  
conference (Ttec06), Tromso  
[www.telemed.no/index.php?id=196385](http://www.telemed.no/index.php?id=196385)

## Rwanda

19-21 July, 2006  
The Second Rwanda National ICT  
Convention, Kigali

[new.aitecafrica.com/node/116](http://new.aitecafrica.com/node/116)

## Singapore

19-23 June, 2006  
The EUSEA2006 Conference and  
Exhibition, Shangri-La Hotel, Singapore

[www.eusea2006.org](http://www.eusea2006.org)

20-23 June, 2006  
Communic Asia  
Singapore  
[www.communicasia.com/show\\_statistics.htm](http://www.communicasia.com/show_statistics.htm)

## South Africa

31 August-2 September, 2006  
Community informatics for developing  
countries (CIDC2006)  
Cape Town

[www.risi.za.org/cidc2006/](http://www.risi.za.org/cidc2006/)

4 - 8 September 2006,  
Innovation and strategy for 21st century  
telcos Cape Town International Convention  
Centre  
Cape Town,

[www.terrapinn.com/2006/telecomza/](http://www.terrapinn.com/2006/telecomza/)

## Spain

25-27 October, 2006  
eChallenges e-2006 Conference  
Barcelona

[www.echallenges.org/e2006/](http://www.echallenges.org/e2006/)

## Tanzania

10-12 July, 2006  
IEEE 4th International Workshop  
on Technology for Education in  
Developing Countries, Iringa

[www.cs.joensuu.fi/tedc2006/index.htm](http://www.cs.joensuu.fi/tedc2006/index.htm)

## Thailand

6-8 June, 2006  
Asia Commons: Asian Conference on the  
Digital Commons  
Bangkok

[www.asia-commons.net](http://www.asia-commons.net)

## United States

19-22 August, 2006  
The Second International Conference  
on Environmental Science and Technology  
(IC EST 2006)

Houston, Texas.

[www.aasci.org/conference/env/2006/topics.html](http://www.aasci.org/conference/env/2006/topics.html)

24-26 July, 2006  
World Congress on Computers in  
Agriculture (WCCA 2006)  
Orlando, Florida

<http://www.wcca2006.org/index.htm>

Get your event listed here: [www.i4donline.net/events](http://www.i4donline.net/events)

# Internet use by linguistically diversified people

## Linguistic diversity index scores by region

Region	Languages	Diversity Index	Proportion of world total
USA	170	0.7809	0.0020
North America (including USA)	248	3.3843	0.0086
East Asia	200	4.4514	0.0112
West Asia	159	26.1539	0.0659
South Central Asia	661	29.8093	0.0752
South America	930	30.5007	0.0769
Europe	364	32.4369	0.0818
South East Asia	1317	37.6615	0.0949
Oceania	1322	46.5653	0.1174
Africa	2390	185.6836	0.4681

NOTE: The above table present figures for this entropy-based diversity measure for different regions of the world, based on the 7,639 language population figures presented in the Ethnologue ([www.ethnologue.com](http://www.ethnologue.com)), and ordered from lowest to greatest linguistic diversity. In statistical terms, entropy is a measure of variance. Entropy is calculated from the estimated proportion of the country population for each language by multiplied it by its natural logarithm and summing all the entries for a given unit (country, region). The final index value is 2 times this sum.

Source : Ethnologue

## Top ten languages used in the web

Top ten languages in the Internet	Internet users, by language	Percentage of all Internet users	World population 2006 estimate for language	Internet penetration by language
English	312,757,646	30.6%	1,125,664,397	27.8%
Chinese	132,301,513	13.0%	1,340,767,863	9.9%
Japanese	86,30,0000	8.5%	128,389,000	67.2%
Spanish	80,593,698	7.9%	429,293,261	18.8%
German	56,853,104	5.6%	95,982,043	59.2%
French	40,974,004	4.0%	381,193,149	10.7%
Korean	33,900,000	3.3%	73,945,860	45.8%
Portuguese	32,372,000	3.2%	230.846,275	14.0%
Italian	28,870,000	2.8%	59,115,261	48.8%
Russian	23,700,000	2.3%	143,682,757	16.5%
Top ten Languages	828.621,965	81.0%	4,008,879,867	20.7%
Rest of world languages	194,241,342	19.0%	2,490,817,193	7.8%
World Total	1,022,863,307	100.0%	6,499,697,060	15.7%

(\*) Notes: (1) Internet top ten languages usage sates were updated on March31, 2006. (2) Internet penetration is the ratio between the sum of Internet users speaking a language and the total population estimates that speaks that specific language. (3) The most recent Internet usage information comes from data published by Nielsen//NetRating, Intenatioanal Telecommunication Union, Computer Industry Almanac, and other reliable sources.(4) World population information comes from the world gazatteer website. (5) For definations and navigation help, see the Site Surfing Guide.(6) States may be cited, stating the source and establishing an active link to Internet World Stats. Copyright 2006, Miniwatts Marketing Group. All rights reserved.

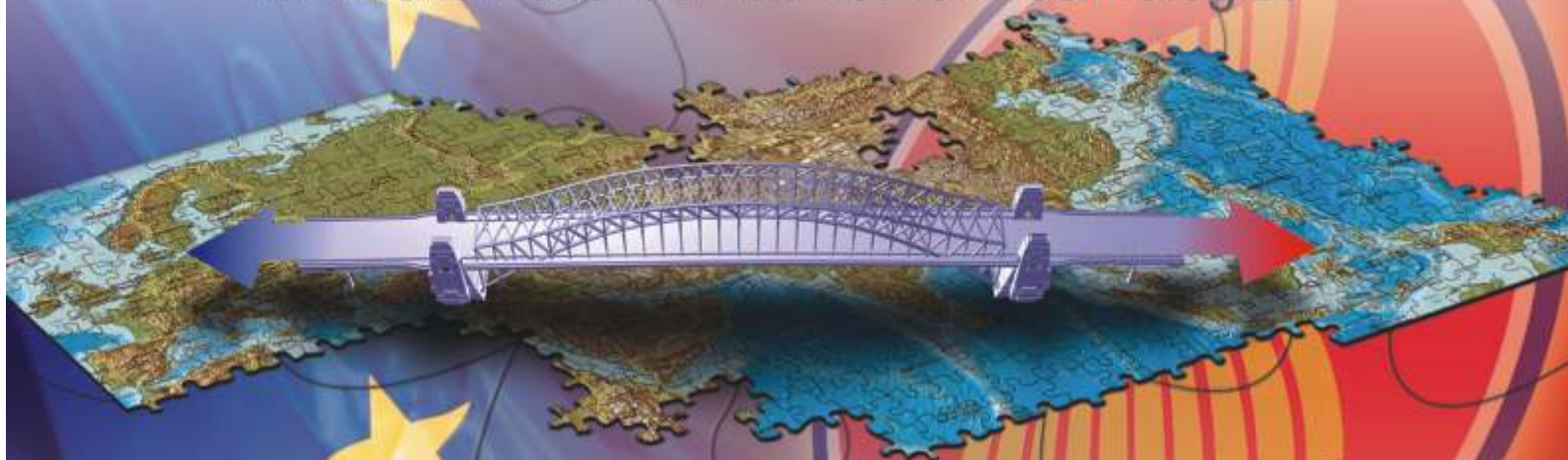
Source: <http://www.internetworldstats.com/stats7.htm>



# **Euro-Southeast Asia** 19th-23rd June 2006 Singapore

[www.eusea2006.org](http://www.eusea2006.org)

An international cooperation forum between  
**Europe** and **Southeast Asia** in the field of  
Information and Communication Technologies



From 19<sup>th</sup> - 23<sup>rd</sup> June 2006 in Singapore, EUSEA2006, an open ICT co-operation platform for European and Southeast Asian ICT Players. EUSEA2006 will foster business, research, policy and regulatory collaboration, as well as creating ICT exposure between participants from government, industry, academia and research.

Organised by the European Commission in collaboration with ASEAN, the event will be officially opened by the European Commissioner for Information Society & Media Viviane Reding.

Attending EUSEA2006 plenary & parallel sessions, ICT training, networking meetings will give you a unique insight into technological advances and future ICT landscape of the two regions.

Register Today at [www.eusea2006.org](http://www.eusea2006.org)  
or contact [info@eusea2006.org](mailto:info@eusea2006.org)  
Participation is free of charge.

The Euro-Southeast Asia 2006 event is funded by the European Commission, Information Society & Media DG and organised with the support of the Association of Southeast Asian Nations (ASEAN)



European Commission  
Information Society and Media



"Tell me, and I will forget

Show me, and I may remember

Involve me, and I will understand"

# Get Involved

**digital LEARNING**

**India 2006**

The ICT and Education Conference

23 - 25 August 2006

Hotel Taj Palace, New Delhi, India