

JANUARY-FEBRUARY 2009



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Digital Content Enters Governance Challenge **14**

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14 cover STORY

Digital Content Enters GOVERNANCE CHALLENGE

By Syed S Kazi

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PUBLISHED FROM

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Content sails Governance

Greetings!

Post 2008 Internet Governance Forum (IGF) meet in Hyderabad (India), many of us, either through explicit or implicit means have tried to make commitments to the already concerted efforts in addressing key aspects of governance having Internet and content implications. Developed or developing countries, more so for the latter the commitment finds or ought to find greater relevancy and resonance keeping in mind the diverse and increasing needs for quality services delivery and better governance for its citizens having support through universal Internet access either in-home Internet access or public access. This not only calls for a concerted dialogue, but also action-oriented measures at intra and inter levels in terms of policy design and implementation and public participation, resource mobilization and utilization, content creation and distribution and such crucial steps.

There are already visible signs of commitments and action plans emerging including in Less Developed Countries, particularly in Asia. Programs have been kick started to support universal public access to services through the World Wide Web in India, Sri Lanka, Philippines and Bahrain. There are policy responses for "mission to be accomplished" in hard and soft issues in Internet based governance machinery and service delivery. Laying down Internet Infrastructure, according a level playing field for ISPs, addressing issues like cyber security, data safety are on the loop. So far so good.

However, there is a situation somewhat more complicated than that appears to be in the governance @ Internet domain. Countries have instances of facing the real challenge of creating and delivery of user content that is readily available,

acceptable and affordable. The understandable fact is, content drives governance through the Web and the larger issues in Internet Governance are hollow without putting content on the centre stage. Rather than the "mission being accomplished", the forces at work may not actually move at all until the topical areas in digital content is considered with significance.

Ignoring such dimensions is akin to back retreating from the commitment to the larger objective of universal digital accessibility in a democratic set up, ability to engage and connect with every citizen household with content for services delivered electronically.

The larger picture of digital content reflects the democratization of the Internet itself. The challenge has arisen in meeting digital content needs for those at the margins-the elderly, the women, the disabled citizens, cultural minorities-those who lack not simply the financial means to access the necessary knowledge but also social and cultural denial for many for democratic participation in an otherwise traditional restrictive environment.

What still remains a fundamental proposition is looking into the soft issues in digital content for development and governance. Governing the Internet is governing the content flow and traffic in legality and authenticity, in content monitoring and regulation and privacy and safety of course

Regards

Editor

Kongu Community Radio

www.kongu.ac.in

Radio is one of the easiest communication tools that can reach the target groups. Being a relatively less expensive medium, poor, down-trodden and marginalized sections in rural Indian society are prime beneficiaries. They generally are not aware of human health aspects and nutrition needs. The most affected in this respect are the women folk. With these facts in mind, Kongu FM Community Radio was launched on April 14, 2007 by Kongu Engineering College, Perundurai, TN. to catalyse and support a project called "Science for Women's Health and Nutrition". According to Prof. K. Thangaraj, the chief coordinator of Kongu FM and a faculty at the Department of Physics at the College. "Kongu FM is a platform for the local community to voice their needs, share their aspirations, ambition and abilities". In March 2008, Kongu CR organised a listeners' meet, the first of its kind in Community Radio history which was highly successful in terms of community participation as listeners also programme development. The Kongu FM Community Radio has won the best community radio award, Radio Duniya 2008 Award, competing against 27 community radios.

For the last one year Kongu Community Radio has been broadcasting programmes for 20 to 30 minutes every day on health and nutrition particularly for women and this programme is repeated thrice in a day at different times. Apart

from broadcasts, it also organises Health camps, awareness programmes, workshops and competitions, in the form of song, skit, programmes on health tips & nutrition, interview and interaction with experts and advice from knowledgeable people etc. Through various ways, people who are not easily reached are also reached and their needs are addressed by Kongu Community Radio.

Kalanjiam Samuga Vanoli Community Radio

The production for AIR-FM Karaikal was planned as a part of documenting the various development interventions that was taking place along the coast of Nagapattinam district after tsunami; there by create awareness among the community on disaster and the coping-up mechanisms for overcoming such impacts of disaster. Accordingly programmes on Disaster Risk Reduction, rebuilding livelihoods, overcoming trauma-stress & rebuilding lives and other interventions after tsunami were recorded and broadcast in the weekly socially establishing the community radio Kalanjiam Samuga Vanoli. For producing the content local talents of high school to higher secondary school qualified community volunteers were trained in doing audio production works, editing, handling digital voice recorders, etc. For Dalit and marginalized community this Radio is playing important role such as it create rights awareness, educate at their access, streaming

with mainstream institutions (financial inclusion), provide information on development schemes, create health awareness, give information on employment opportunities and legal awareness, give platform for their culture and practices and bring out the issues they face in their lives.

Ticketvala.com

www.ticketvala.com

Ticketvala.com is a portal for convenient bus ticket booking through phone and internet. Over 70% of travel in India is



by road, yet road transport has remained untouched by the benefits of the giant technology advancements leveraged by other modes of mass transport. Ticketvala.com's aim is to bring the benefits of internet-based technology to all members of the bus travel eco-system: Efficient business management software and hardware to the bus operators and convenient bus travel booking to the people who travel by road. They provide live seat inventory, complete journey details, maps, seat maps and price comparisons so that Indians anywhere can make an informed choice for their travel needs. The service is available through Toll Free phone and the Internet. The network covers the whole country from Jammu to Thiruvanthapuram and over 300 bus services. No registration is required and there is no extra charge on the price of the ticket. Travelvala.com is headed by Haranath Lokanadham, a 20-year management veteran in IT, ship-

ping and travel technology with vast global experience. Interestingly, over 1 million tickets are processed through the Ticketvala.com system as it boasts of a truly pan-India network. And it is the first to introduce fully mobile phone based 'paperless' bus tickets. It is very easy to operate, search for bus route and book ticket via online, mobile or cash payment, even home delivery is available in select locations. Just a phone will do.

Mobile Information Services (MobIS)

MobIS is a solution to provide convergence for access of citizen centric data by making information available on the mobile platform. MobIS has been developed pertaining to the large scope of requirement for the availability of information on readily basis. It envisages the integration of services pertaining to citizens, visitors, and officials of the city and renders them at their fingertips. It provides the information needed at once. MobIS allows browsing, lodging complain and availing services. The project is build up on the scale of rural area to municipal corporation and metro for their required services speedily. Having an Ideology "provide cheapest and efficient solution with available resources for better inter face of citizen". The project had started with the municipal corporation of Surat city. It maintains a website to give information about its working, general city info, contacts, important updates and complaining facilities. This project has won the first

prize at Microsoft's Competition "Student to Business" and was highly appreciated by government officials.

Business Portal of India

www.business.gov.in
The Business Portal of India is an exclusive portal that imparts extensive information related to business and its diverse aspects. The portal



provides a single window access to business related information that are vital for any entrepreneur, as well as those engaged in small and medium firms. www.business.gov.in, empowers its readers with a step-by-step guidance on starting, developing and sustaining a business not only in India but also overseas. With this, it also endows its audience with the entire lifecycle of a business. The portal provides authentic, accurate and vital information on topics such as How To Set Up A Business, Growing and Managing it, Incentives offered by the government, Doing Business Abroad, Taxation, Infrastructure of the Indian Economy, Workplace Issues, Laws and Legislations making it a perfect business almanac for those who wish to set a business in India. In a nutshell business.gov.in, provides an easy access to all aspects of business in a user-friendly manner.

Hand Held device to speed up courier delivery

A new hand-held device test

run by a courier company may be saving them as much as 16 hours a day. What happens is that when a courier



delivery man knocks at your door with the packet, instead of pulling a sheet of paper for you to put your signature on as a proof of delivery, he takes out this hand held device where you put your signature with any pen and it is registered. So, the clerk in the courier office doesn't have to copy so many names and put them from one register to another. And all this is online. So technology is saving a tiny but irksome practice of an obligatory signature for you and helping your courier company to deliver another packet faster in your neighbourhood. Talk of technology for the aid of people.

Audio-book in Marathi proving popular

Game for a Marathi audio-book in a CD costing Rs 120? 'Drishti' written by Marathi writer Anant Samant and narrated by Marathi Poet Sandeep Khare with the purpose of spreading Marathi literature to the fast paced or illiterate audiences is proving quite popular if we go by the audio book's sale, more than 1000 copies already have been sold. The writer risked his

own money in this new format. As opposed to reading a book this can be enjoyed even while working. This experiment has already been tried in Kannada & Tamil besides English but with the old cassette format. It is an interesting way to popularize native books among a wider audience in increasingly fast-paced lifestyle. Now you should be ready to listen a story while on a long drive!

Yahoo to launch India specific social networking site

Yahoo is planning to launch an only-for-India social networking site to be called MSpot. Yahoo who is second only to Google when it comes to Internet search felt that an application where web and mobile can merge could be best bet for success in India considering that India has traditionally been and still is in, large parts, an oral society. It is worth recalling that social networking sites such as Google's Orkut and Facebook are extremely popular here in India. Obviously Yahoo wants a slice of this large pie. Currently it has no social networking site though Yahoo Messenger is there.

Pre-paid card for e-tuition launched

After mobile and DTH TV industry, now it is time for e-tuition providers to launch a pre-paid Smart Study Card. Online education providers Extramark.com has taken the initiative and gone ahead with the innovative idea of cards of as low a denomination as Rs. 100 which has been made available at local

retail stores for student's convenience. Anyone can pay for a pre-paid card, log on and benefit from the vast expertise that the portal provides. It's a new innovative idea for sure in the burgeoning online education sector. The portal currently boasts of a registered users' base of no less than 4.16 lakhs. Interestingly, it charges Rs 1200 per year for providing expert guidance to its students. Next pre-paid card may come for...keep guessing and watching this space.

India Water Portal (Hindi) launched

India Water Portal's Hindi version has recently been launched on 18th Nov' 08 with the portal's vernacular version website



(<http://hindi.indiawaterportal.org>) going LIVE on the internet in which Digital

Empowerment Foundation also was an invitee. Earlier the English version went online in Jan' 07. The website has almost every water related fact on its pages and as Rohini Nilekani, President put it on the occasion, "it might inspire others to start water portals in other Indian languages too. If the portal doesn't reach ordinary person it has no meaning." Recently, India Water Portal (www.indiawaterportal.org) won the Manthan Award South Asia 2008 for popularizing e-Science and environment in India.

IGNOU plans dedicated science and technology channel

Indira Gandhi National Open University is planning to start a dedicated channel devoted to science and technology to give fillip to this important tool for overall development for society at large. Initially the programmes are to be transmitted in English and Hindi. There has been a long felt need of such a channel from different quarters amidst some reports suggesting that the number of students interested in pursuing science and technology at a higher level is dwindling in comparison to earlier times. So, IGNOU has taken the lead in rectifying the imbalance. The test transmission has already begun from Dec 23 '08 during 8pm to 10 pm timeslot.

Nokia-Siemens to foster ICT education in India

Nokia Siemens Network has entered into strategic partnership with three organizations to foster ICT enabled education under its 'Uniting Communities' programme. Under another of its programme, called 'Bridge the Gap', Nokia Siemens has forged connection with New Delhi Municipal Corporation to help students learn the basic information communication technologies so that they keep up to date with opportunities that await them in coming years. So many organizations are coming forth in spreading ICT literacy in India of late. Digital Empowerment Foundation is also doing its bit in spreading ICT awareness by establish-

ing Community Information Resource Centres (CIRC) in various parts of the country in conjunction with Intel India.

RComm starts Samachar

Reliance Communications, the leading mobile services providers, has started 'Samachar', news service on mobiles in Hindi and other vernacular languages. The service is being offered with content collaboration with www.webduniya.com. Instant even LIVE mobile updates are becoming increasingly popular these days. People are becoming quite dependent on their mobiles for many things and this offering to provide news content in local languages is in tune with the changing times and the need to know the latest on the go almost. Recently, we saw mobiles being used extensively to disseminate information during 26/11 Mumbai carnage. Other operators are also likely to follow suit and replicate the RComm model.

Send an SMS to buy train ticket in Mumbai

Standing in a queue to buy a train ticket isn't going to be necessity from January '09 in Western Railway's suburban lines as the railway authorities are experimenting with providing train ticket by simply sending an SMS to a specified number giving information about the origin and destination stations. Any commuter can thus now send the SMS even while walking towards his compartment in locals. The fare or the bill will be duly showing in next

mobile's bill or debited from existing pre-paid balance depending upon the type of connection, post paid or pre-paid. Interestingly, in UK too, a similar experimental service is just starting.

3G may make 500m by 2010 possible

The fast expanding mobile users' base in the country is expected to touch 500 million by 2010

aided by 3G services launched just recently in New Delhi. The figure stands currently at touching 400 m with 10m subscribers being added per month regularly as per TRAI figures. 3rd generation or 3G services facilitating seamless video rich content is obviously expected to be a major attraction to many Indians who might taste it first on their mobiles in coming months. Live streaming cricket can be a major factor in spread of 3G services here in India. Although similar experiences in other countries like South Korea is not so resounding as far as live TV on mobiles is concerned. The cost factor might determine its success here. Infra-structural facilities may also come into picture given the length and the breadth of our country. But it seems to have certainly created a buzz already in telecom circles in particular and general populace in general. We all will see soon.

AIR starts Bhojpuri News

All India Radio has begun a 5 minute news bulletin in the vernacular Bhojpuri language from its Gorakhpur station in U.P. at the 5:35 pm timeslot on popular demand. It will be relayed by Varanasi & Obra stations also. Bhojpuri is a major vernacular language spoken by a large population especially in the eastern part of the country who are sort of habitual immigrants to different parts of India and the globe making this unique language popular far and wide. www.bhojpuria.com, a website of the same vernacular won the Manthan Award for spreading e-culture in 2006. The bulletin is sure to prove popular among natives.

Indian tele-density is to touch 50% by 2010

Indian booming telecom sector is expected to see a broadband explosion soon on the back of a whopping investment of Rs. 1,30,000 crore by 2010 when the tele-density is expected to touch 50% from its present 34 per cent.

Digital Content new lifestyle now

People the world over has begun to accept & even prefer digital content in a way that reveals that their lifestyle habits are changing fast. It is the new reality according to a survey conducted by IBM recently. No longer are people satisfied with one day old newspaper when the TV in their house is transmitting LIVE developments and the internet has updates on this one day news plus latest happenings. Even the FM radio blares out the most important developments even as we



travel. And the mobile is a powerful tool in our hands which is keeping us all engaged all the time. So, digital content has not only invaded our lives but is definitely the new lifestyle mantra for many of us. And the tribe is growing doubly fast. So not only are our signals and gadgets getting digital, the whole lifestyle is making a digital metamorphosis.

Raw truth: Blogging, Internet scoring over radio/TV

New media tools like blogging, flickr, twitter are instantly scoring over the traditional media like radio/TV. It was again brought home rather strongly during the recent 26/11 Mumbai carnage where even before channels could put 'Breaking News', many inside the hotel had already updated others through twitter for example. Even simple SMS proved faster than most good old media. The word Mumbai was googled a record number of times all over the world to know the latest happenings proving the www's power like never before. So, though howsoever tragic and traumatic the events were, it also brought home a raw truth and rather starkly that new age media tools are here to stay and perhaps for ever. Traditional media tools radio/TV/newspapers, watch out you have stiff competition. And it is going to grow more. Cheers from dContent team!

Send SMS to Google

To increase the benefits of the Internet to about 100m SMS savvy people in India and

thereby bridge the digital divide, Google Inc has launched a service whereby by simply sending an SMS people can search something on the Internet. It potentially has huge significance in India where the mobile phone enabled population easily outscores the internet savvy population, who also are increasing at a much faster clip than net loving persons. Because of the composition of the Indian society such, this service enables a larger section to the benefits of the internet as far as searching is concerned. This area is sure to catch the fancy of the people as operators come up with more innovative ideas to ease the process for the general population. Right local content in return to one's SMS might be the key to its success here.

Broadband in all Gram Panchayats by 2012

In an effort to address the imbalance in urban and rural tele-density, the Government of India has planned to provide broadband connection to every Gram Panchayats, Govt. Higher Secondary Schools and Public Health Centres by 2012. These governmental efforts are aimed at bridging the vast digital divide inside India itself where the metro and big cities boast of high connections up to 3G level, in the rural parts a simple landline connection or at best a mobile represents their connectivity to the wider world. Having broadband connections in the grassroots' institutions like gram panchayats, schools and hospitals, the government is seemingly on track to address

this imbalance. The move is also in sync with over 1 lakh broadband enabled Common Service Centres being opened in different parts of the country mainly in hinterlands. All these efforts from the government and the NGO/corporate/private sector combined are likely to make every Indian feel 'Connected Indians' as Intel, a DEF ally, says in one of its similar programmes. Indeed that is the challenge for all of us digital enthusiasts.

Technology is seriously changing our lingo

With technology playing a bigger and bigger role in our lives, it is seriously affecting the way we converse in our daily lives. None of the words youth of today speak are generally found in traditional dictionaries. This digital intervention in our lives is making us adopt a new fast lingo for the common use and invariably it is bound to percolate down to the written word sooner or later. Already particularly in metros, elders are finding it difficult to fully comprehend in what language their grand children are conversing with one another. It has a serious ripple effect as people using the traditional good old English might be termed old fashioned by the emerging generation like some archaic words we come across in literature, no longer in general use. Is it digital content for development? Depends on your perspective and which side of the fence you find yourself on, old or the new.

27% more online Indians

than 2007

Amidst a 14% increase for Asia Pacific region in 2008 as a whole compared to the year 2007, 'Indians Online' grew fastest by 27%. As of now more than 28 million users are logging on in India to the world wide web.

PCO are fast becoming Past Call Offices

Amidst the ever falling mobile tariff rates, the Public Call Offices (PCOs) are fast becoming a thing of the past. PCOs once gave a huge fillip to Indian telephony sector, now as more and more find talking on the mobiles cheaper. One can randomly see how many PCO booths are being replaced with either mobile accessories and cards stores or given an altogether different business hub with mobiles becoming ubiquitous and with calling to other parts of the country, previously the main source of revenue for PCO booths falling to as low as 50 paise per minute, the business model is simply not happening for booth owners in these inflationary times. Even those STD booths in rural areas where the mobile penetration is not so high find borrowing a mobile and calling occasionally more prudent than going to the STD booth to call nationally. The sum of the matter is that like landlines, STD booths are for sure not so hot in these changed times and becoming more of a Past Call Offices.

WHAT is "governance" in the Internet?
HOW to represent netizen on the web?
HOW to internationalize the Internet?
HOW to keep the Internet in private sector?
WHAT to do on future IP address requirement?
WHAT to do on future domain name requirement?
HOW to handle intellectual property?
HOW to harmonize the Internet and E-commerce?
HOW to support multilingual domain names?
HOW critical is "physical infrastructure" the "code" and "content" layer?

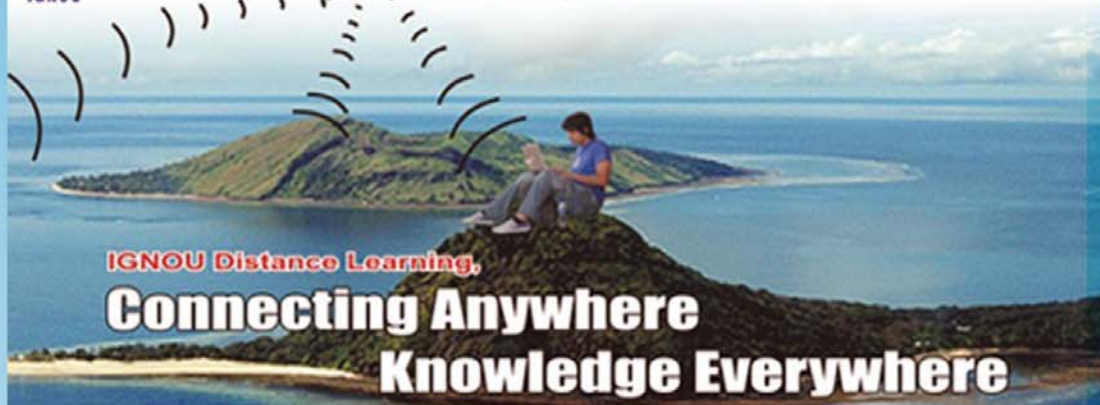
WHAT various layer of Internet governance than runs the global networking platform?
HOW democratic and participative is the functioning of the ICANN?
WHAT solution route to minimize controversy of Internet Governance through creation and control of generic top-level domains, the control of country-code domains, ICANN's budget and responsibilities, participation level of individual governments, and role of ITU / UN in Internet Governance?

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replies to
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Appreciation Course :

Appreciation Course on Environment.

Walk-in admission throughout the year. Prospectus can be obtained through post from the Regional Centres of IGNOU, Delhi or from the Registrar In-Charge SRD, IGNOU, Madan Garhi, New Delhi-68 by sending a sum of Rs 150/- through a Demand Draft drawn in favor of 'IGNOU' payable at the city of concerned Regional Center/ New Delhi or paying Rs. 100/- in cash at the respective sale counters. Please write your name and address on the back of the DD. An electronic version of the Prospectus is also available at IGNOU Website at <http://www.ignou.ac.in>. Application form can be download from the website submitted alongwith DD for Rs 100/- in addition to the programme fee

	Jury Session	January Session
Availability of Common Prospectus	ROUND THE YEAR	
Submission of Filled in application from at concerned Regional Centres	15th April to 15 July (Without late fee) 16th July to 3st July (with late fee of Rs 200/-)	1st August to 31 st October (Without late fee) 1st November to 30th November (with late fee of Rs 200/-)

Registrar In-Charge (SRD)

Internet Governance and the developing world

The Internet that is taken for granted by so many needs to continue its evolution around the fundamentals upon which it was founded.

RAJNESH SINGH

More often than not, a certain word or terminology in common use often means different things to different people. The term "Internet governance" is one such term. Depending on who you talk to and their background, Internet governance may mean technical and/or public policy issues around the Internet to "control of the Internet" to "control of the Internet's infrastructure" to a wide range of issues relating to the use, scalability and evolution of the Internet as a

communications medium serving the world at large.

The Working Group on Internet Governance (WGIG) produced this working definition of Internet governance as part of their final report (cf <http://www.wgig.org>):

Internet governance is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that

shape the evolution and use of the Internet.

This is a very broad definition, and one that allows great flexibility into what may constitute Internet governance. So why does Internet governance matter, and more so, why does it matter for the developing world?

Multifaceted Internet Utility

The Internet is now, for the most part, the communications medium of choice (in a great many forms) for a large part of the world. Why "great many forms"? Because the way we communicate, and the tools that we use to do so, have all evolved significantly since the Internet came into the public domain; and continues to re-define how we communicate. We have moved from an era of using the Internet to send simple text-based messages (email) to today where the same email is more a multimedia message and can contain pictures, video and voice, in addition to text. The Internet is also being used to make

"telephone calls" using Voice-over-IP (VoIP). Blogs, web portals, instant messaging and social networks are some more different forms of the way in which we have begun to use the Internet as a communications medium. The Internet has become an important tool to disseminate information and an advocacy tool. Even for politicians, the Internet forms part of their election campaign strategy, together with the printed media and television.

The Internet is also an important part of the world economy. The use of e-commerce is on the rise globally, governments are moving a lot of their services online to be able to better reach their citizens, and business large and small depend on the Internet as a tool in their daily activities. The Internet and its evolution as a global medium has also spawned some of the most recognised brand names in the world today. Google, Yahoo, eBay, and Amazon are just some of the names that probably would not exist were it not for the Internet.

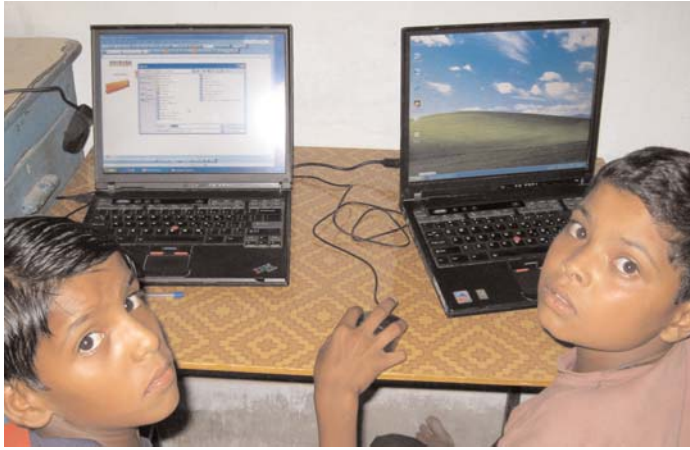
The Asymmetrical Issues

If the Internet is such an

Internet World Stats (www.internet-worldstats.com) reports that there are close to 1.5 billion Internet users today. comScore (www.comscore.com) an Internet research/analysis organisation reported in January 2009 that the global Internet audience (defined as 15 years of age and older accessing the Internet from home and work computers) has surpassed 1 billion users (note that the comScore

report excludes Internet access from cybercafes mobile phones and PDAs which probably represents the difference in numbers between the two reporting organisations). These numbers are growing rapidly and will continue to do so. The next billion and the billions after that will be online much quicker than the first billion; this then makes the Internet an important global public policy issue.

The Internet has become an important tool to disseminate information and an advocacy tool. Even for politicians, the Internet forms part of their election campaign strategy, together with the printed media and television



important part of (a large part) of the world, and because it will continue to be so as more users come online, then issues around the use and availability of the Internet are important for everyone, be they from the developed or developing world. The first billion Internet users have come predominantly from the developed world, and the next billions will come from the developing world. These next billions will have challenges and issues related to Internet access and use, and it is important that any discussions around Internet governance today take these into account to ensure an Internet that is for everyone, not only a select few.

The Internet that is taken for granted by so many needs to continue its evolution around

The Internet that is taken for granted by so many needs to continue its evolution around the fundamentals upon which it was founded

the fundamentals upon which it was founded. These fundamentals relate to the concept of user centricity, where the Internet user and how they use the Internet should be the primary focus of decisions and developments on the Internet. Another defining feature of the Internet's success has been the open nature

of its technical standards, and the innovation this has allowed. This innovation have been key to a large number of new technologies that have evolved out of the Internet, and it is important that this continues so that we keep finding new ways to do some of those old things cheaper, better and faster.

The Larger Picture

So what does Internet governance, as we know it today, cover? It covers the Internet today, and how it will evolve tomorrow. It covers a secure and stable Internet available to the world at large, and one which contributes to socio-economic development. Sometimes, Internet governance is looked at as laws enacted by Governments, however, it is important to note that Internet governance

We have moved from an era of using the Internet to send simple text-based messages (email) to today where the same email is more a multimedia message and can contain pictures, video and voice, in addition to text

is not limited to government activities - it is every Internet user's concern, no matter what their background. It includes social and cultural norms and must cover all sectors of society. Therefore, it is important that deliberations and decisions around Internet governance are transparent and democratic, and include input from all stakeholders.

I. Issues relating to infrastructure and the management of critical Internet resources

Telecommunication infrastructure, broadband, convergence, VoIP, technical standards, administration of names and numbers, root server system, international domain names (IDNs)

II. Issues relating to the use of the Internet

SPAM, cyber security, cyber crime, critical infrastructure protection, network security, national policies and regulation

III. Issues which are relevant to the Internet, but with

impact much wider than the Internet

Authentication, privacy, consumer protection, intellectual property, e-commerce, freedom of information and media, competition policy, dispute resolution, unlawful content

IV. Issues relating to developmental aspects of Internet governance

Cost of access, universal access, capacity building, national infrastructure development, content accessibility, FOSS, cultural and linguistic diversity, social inclusion

These deliberations and decisions also need to be forward looking and take into account the next billions of users and their needs and challenges. This is why it is critical that the developing world plays its part in deliberations and discussions around Internet governance.

Key Public Areas in Focus

A common question that is asked by some from the developing world is "But what exactly can I contribute to during Internet governance discussions? Where do I fit in?". If we look at the WGIG report, it identified four key public policy areas for further investigation and discussion. These are outlined below with some topics that fit into each of these areas. (See box)

The above demonstrates the wide nature of topics that fall under Internet governance,

and it is not hard to pick at least some topics of concern to the developing world. The topics presented are non-exhaustive and continue to expand as discussions during events like the Internet Governance Forum (IGF www.intgovforum.org) progress. The IGF meetings provide an annual forum for discussion and debate; however its best use can only come about if there is appropriate regional input. In the past, calls have been made to regionalise and localise Internet governance discussions. These can play a very important role in defining and deliberating on local issues of most concern, developing a regional position on such issues, and then submitting these as valuable regional input for consideration at global events.

Limited Participation of the Developing World

Thus far, holistic participation by the developing world has been lacking during global Internet governance discussions, however this is slowly changing. This lack of participation has been in part due to a lack of knowledge about the discussions themselves, part of it is perhaps due to a degree of uncertainty in what contribution to make, and part of it due to a lack of resources to be able to attend such meetings. Various organisations are now making a concerted effort to improve developing world participation at such events, and going forward perhaps further opportunities and resources will be made available for greater inclusion. Developing countries themselves can do much to help this along. One important step that can be taken is to

look at the range of topics under discussion globally, identify those that are of high priority to them, and initiate discussions around these at the local level. This prepares them for appropriate input to regional and global discussions. Another valuable step would be to try and ensure multi-stakeholder input into local discussions (government, service providers, private sector, civil society and user groups) so that the output from local discussions are balanced and representative of all sectors of society.

Rajnish Singh is an entrepreneur and Internet advocate, and is currently involved in establishing the Internet Society's Regional Bureau for South and Southeast Asia. The views expressed in this article are his own, and not necessarily that of the organisations he works for. He can be reached at rajnish.singh@gmail.com



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Digital Content Enters Governance Challenge

Governance of Digital Content in the era of Mass Participation is key to effective use of Internet and ICT tools in general. **By Syed S kazi**



The realm of Internet Governance is undergoing fundamental changes as it moves from a restrictive participation to an era of mass participation world wide. This emergence of Internet as the 'Vehicle of Transformative Change', is driven by the digital content, created by the multi-producers and consumed by citizen masses in the larger ICT framework. Today, there is unprecedented flow of content for usage with customised content for diverse and multitude user groups. There is flow of free content and protected content that co-exist. Countries have embarked on strategies and policies that recognise the criticality of digital content development.

Some are focusing on the power of digital content to transform social, economic indicators, while others are investing strategies and resource in digital content industry segment. There are others focused on digitization of culture and heritage and make it available for larger user audience. At national policy level the emphasis appears to be on the twin issues of- how government produces, procures and disseminates public sector digital content (including addressing demand in sparsely populated areas); and how government policies and regulations affect digital content markets i.e. encouraging infrastructure, content and service provision. At interna-

tional level such as OECD and WIPO, the focus is on thinking and policy around digital content and content standards, and is exploring issues related to social equity and the digital divide. For World Intellectual Property Organisation (WIPO) the stress is on Intellectual and cultural property as central

issues in a digital content environment.

However, in most of the cases in countries like India, the thrust in any Digital Strategy that provides for a framework and focus for the government and other stakeholders is missing in the digital content realm. Despite the greater emphasis on issues like telecommunications reform, copyright law, e-learning, e-infrastructure is taking a central attention, the key concern remains in the absence of a digital strategy that con-

Understanding Digital Content

Digital content is any content created, accessed, shared, used, or preserved in a digital format. It is changing the way we interact with one another, and demanding new delivery models for communities, business, and government. Digital content provides us with new abilities to discover and cherish our languages, cultures, histories and national identity. Digital content provides new opportunities to do business, work collaboratively and create innovative new products and services.

Digital content is 'intangible' rather than 'tangible', in that it takes up no physical space; it is not subject to wear and tear, retaining its original form regardless of how many times it is used; and it can be perfectly duplicated or reproduced a virtually limitless number of times for little cost. As a result, digital content requires a wholly different approach to its creation, organisation, distribution and preservation.

Source: <http://www.digitalstrategy.govt.nz/upload/Main%20Sections/Content/NATLIBDigitalContentStrategy.pdf>

verges on key aspects of digital technology and content. Achieving a right balance between technology and content is potentially more vital to achieving good digital outcomes for a country like India.

Why digital content governance has assumed importance?

Governing digital content in this Internet age is important for key reasons. Digital content has emerged as a key strategic enabler of the overall Digital Strategy for growth and development. creation of and access to content, including the applications that are vital for creating, using and sharing content, has become a compelling factor to digital connectivity, skills and security. The availability of unique digital content is driving demand for broadband and other key digital tools and platforms, improving the return on investment, and creating opportunities for social and commercial advantage.

Digital Content Challenges

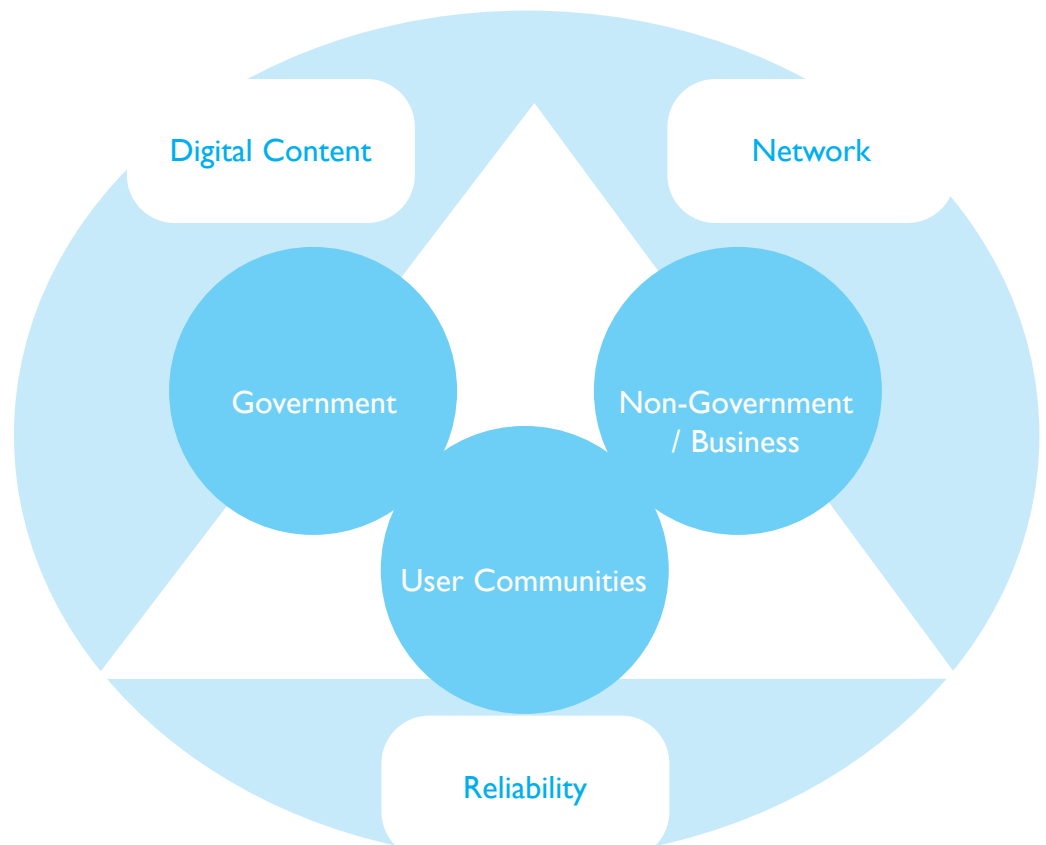
The identified challenges in digital content are many:

Adjusting to virtual demand and supply chain for digital content across multiple distribution channels in sync with reasonable bandwidth connections; Supporting and retaining digital innovation in terms of promotion of innovative digital content products and the skills and talent ; Building up demand for digital content through appropriate mechanisms like making familiar content services available on the Internet; This

"Digital content and digital delivery of content and information are becoming ubiquitous... Network convergence and widespread diffusion of high-speed broadband has shifted attention towards broadband content and applications that promise new business opportunities, growth and employment."

- OECD, September 2005

The major task for a nation is to understand and act on the full potential of digital content in creating its digital future.



There is the need for a national strategy in those which lacks one such that promises to make a country visible and relevant in a connected digital world, and ensure that the country is oriented in being innovative, informed and capable as a nation in creating its digital future with a assured and confident digital ecosystem with a content-rich digital environment that facilitates its user citizens in engaged creating, discovering, sharing and using content in a digital form for varied fulfillment.

calls for development of broadband and digital spectrum based content applications made with specific users in mind ; Digital convergence that requires new models for creating, distributing and earning income from content, and ensuring that right conditions are fostered for the transition; Actual control of digital content in the hands of creators the way they want their content to be controlled, protected and shared ;

Protecting indigenous cultural property and knowledge through appropriate digital content strategy; Optimising digital content for search ; Maintaining content quality and relevance by making content affordable, easily searchable ; National priority in digitising content of national relevance ; Adding value to creative digital content works at both Commercial and public creators domain so that content gets richer by day;

Making public information more available for access and reference ; Creating a national network of connected digital programme of key institutions for rich digital experience ; Exclusion of communities from digital content purview and their eventual inclusion ; Adopting open interoperable standards and formats that overcomes the limit in migration of content and accessibility by different hardware and software ;

Having a licensing regime that nullifies the loss due to difficulties associated with managing rights. This calls for licensing methods that are cost effective and encourage use throughout the life of digital content ; Identifying national repositories for generating and preserving digital content and recognising their roles in content collection, preservation, access, management; Deepening engagements and raising awareness

Framework for digital content governance

Greater Visibility

An alternative framework for digital content strategy is about making the critical areas visible and relevant in a connected digital world. The issue areas have to be ensured that the current approach in governing digital content for development are innovative, informed and capable in handling hard and soft issues in Internet Governance including vital aspects of digital content keeping in mind diverse cultures and needs and yet vast scope in the digital future.

To that end, an important starting point for any digital content governing strategy is recognising that the value of content is in what it delivers and enables for end-users. The strategy must enable that the key digital content influences on the user environment is based on apt analysis of specific and generic digital content issues, and the digital content challenges that a society face.

Need for a Digital Content Strategy

The development of a digital content strategy as a key action of a government's Digital Strategy is must. This including the creating of greater scope for the citizens to enjoy the benefits of the digital world through instant access to knowledge resources (whether cultural, scientific, heritage, archival, broadcasting or community); the economic benefits that flow from higher productivity; and government services that are customised to individual needs. The strategy must include for a successful digital future - Connection, Confidence and Content. While connection facilitate provision of high-speed broadband and digital platforms that will enable the transmission of larger amounts of more complex digital content, Confidence must ensure to use skills and a secure on-line environment and provide capability to engage in a digital world. The availability of user oriented content will help drive demand for broadband and digital television, improve the return on investment in capability, and create opportunities for community and commercial use.

National Policy Documents

There is need for a set of national policy documents that govern digital content activities related to overall national digital strategy. Such a policy emphasis must outline how the institutions are going to handle the digital subject within its ambit and relevancy. Such a policy framework must have provisions:

- >> To develop a digital content strategy
- >> To plan coherent digital programmes
- >> To ensure and reinforce digital content traffic and accountability
- >> To demonstrate that specialised funds can and will be used responsibly and consistently in digital content promotion, outreach and safety
- >> To ensure that digital materials are made available for current and future use
- >> To assist public and non-governmental agencies in designing digitization programmes
- >> To make a comprehensive policy statement on the digital content and strategy
- >> To provide content security measures that ensures the protection of digital content during use and transactions.



among stakeholders in digital content matters, its relevance, necessity and preservation.

Governing Issues

The key issues in digital content governance have been reemphasised time and again in recent times. There is still the hammering out efforts in scoping out the exact role of technology policy and strategy in regulating access to digital content. There are hurdles in digital technology and content protection measures and digital rights management without compromising the rights of the consumers and users to exercise legitimate rights, such as the user privacy, by giving content producers and generators legal protection for their activities. This raises the point of assigning the role of deciding such cases whether in the hands of the government agencies or an independent non-partial entity

without the feel of gradual privatization of the government's role in protecting intellectual property rights and in setting technical standards for digital content generation and exchange.

Lack of effective policy mechanism has to do with complexity in governing the digital content ecosystem via the Web. Often there is the lack of right policy documents to govern digital content activities within the institution. What is missing is policy thrust that outlines how the set of identified institutions are going to handle the digital content subject within its established domain and accountability. This includes measures to address the increasing security issues to ensure the protection of digital materials being operated, exchanged and transacted. This also includes the policy distinction in public and pri-

vate generated content.

Currently, the policy thrust in countries like India is very little on giving a small within the larger space in ICT and e-Governance framework. In other digital initiatives at non-public domain, it is not given the larger considerations as other aspects of ICTD are given. In many cases, digital content and governance are considered to be peripheral to any digital initiatives and thus in greater danger of being redundant. Overall, the gap in not having a digital content policy to bring considerations for digital governance up front and centre is largely evident.

Two Possible Approaches

Two possible approaches to the development of a digital content policy can be considered. The first is to have a policy that narrowly focuses on the steps to ensure accessibility to the existing digital content within

In many cases, digital content and governance are considered to be peripheral to any digital initiatives and thus in greater danger of being redundant.

Overall, the gap in not having a digital content policy to bring considerations for digital governance upfront and centre is largely evident

the overall digital strategy for development. The second approach is to have a more comprehensive policy cover areas including selection and licensing of content vendors, acquisition of digital technology and models to boost national digital content base, identifying national organisation to monitor and regulate content, creating a pool of content available with cultural specifics, taking care of content being accessed timely and with relevance and affordability.

Policy Commitment

Regardless of any chosen approach for the digital content policy, it is important that the policy be fashioned for actual implementation and allegiance. The policy need not have only general principles which will not be effective in actively achieving digital content objectives. Instead, the content policy must contain concrete actions



Then there is a need for a governance structure to coordinate the digital environment in order to ensure that digital information and content services are actually available and accessible to meet diverse ends.

and activities that the institution is committed to implement and achieve. One key consideration for the nature of a policy statement should be that it is measurable and worth to evaluate its success of the digital program and work as guide for any further policy refinement, given the evolving nature of digital ecosystem. Concrete actions that can be measured should be incorporated into the document and roles for each action should be identified with assigned responsibilities and accountability.

Leadership counts

As with any development initiation, any digital content

strategy and approach must be guided by relevant and required leadership. Activities surrounding the creation, access, and preservation of digital content calls for right leadership and governance efforts. For example, Canadian Heritage has a strategy to support and develop Canadian cultural resources on the Internet. Through the Canadian Culture Online program and the Canadian Heritage Information Network, Canadian Heritage administers funding programs, policy initiatives, and R&D activities aimed at developing a critical mass Canadian cultural content on the Internet.

Then there is a need for a governance structure to coordinate the digital environment in order to ensure that digital information and content services are actually available and accessible to meet diverse ends.

Leadership and governance supports right approach to the management of digital resources with scope for standards and practices and experiences to be shared across sectors. This also facilitates right data management, content management, content services, and web content traffic management in congruence. This facilitates inter-sector approaches where the management of digital content sector becomes integrated and concretised. This could overcome the generic trend of putting digital content issues concerning the creation, access and preservation of digital resources subsumed

under the overarching information technology area of a country. Appropriate roles and responsibilities for the management of digital content resources then become clear and properly organised.

Involving Multiple Stakeholders

Digital content segment must be managed with the involvement of multiple stakeholders. This means that decisions regarding access or preservation or setting policy stamp on digital content are derived after prior distribution of these policy matters across a number of different stakeholders with diverging interests. This assumes important as stakeholders are spread across diverse spectrums, with some concerned with commercial value, others in their generation, and others with access to and re-use of digital material.

India Needs a National Digital Content Strategy

This calls for a national vision or strategy for digital content in India. This is more so if India wants to maintain and preserve the already launched digital framework in various ICT and e-Governance strategies. Such a content strategy will augment the rudimentary move to have meaningful, cultural specific and quality content that contributes to national growth and prestige, and reflects greater digital inclusion. Strong leadership and key stakeholders is needed to navigate India in the ever expanding digital world.

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“Access is the primary objective to expand Internet usage and diversity is paramount in a country like India...”



In a conversation, **Mr. N. Ravi Shanker**, Joint Secretary (in Charge of e-Infrastructure, e-Learning & Internet Division), Department of Information Technology, Govt. of India, and CEO, NIXI, speaks about diverse aspects of ICT for development in India including e-Governance and Internet Governance to D-Content team of **Syed Kazi** and **Emmanuel Neisa**

What is the difference between e-governance and Internet governance?

E-governance is the visible point or the services available to the public through the Common Service Centers or the info kiosks. It comprises all the services available to the public: the train e-ticket, the ration card, pension or any other activity or service brought through technological means.

Internet governance is the activity behind the machine, it is the way we organize the functioning of the Internet. When you enter to Yahoo! or Google, you immediately type www.google.com. When we talk about the ".com" is when we enter in the Internet governance domain. ".com" is a generic Top Level Domain (gTLD). There are broadly 2 categories of top level domain: the gTLDs - .org; .com; .net- commercial organizations have chosen .com, educational institutions have chosen .edu; and then-ational Top Level Domains (nTLD), that assigns an identity to countries content (".in" for India; ".fr" for France; ".de" for Germany).

The country top-level domain started when countries began to worry about Internet governance and some countries give more importance to their top-level domains than others, it is a question of positioning and identification. As far as technology is concerned, there is no difference between gTLDs and nTLDs.

What kind of procedures and obligations does have a top country level domain implies?

Countries are obliged to come up with an organisation to run the national Top

Level Domain. In india, the ".in" is managed by the National Internet Exchange of India.

What is the role of ICANN on this issue?

ICANN (The Internet Corporation for Assigned Names and Numbers) is the principal body that manages the domain names system. It was created as a not-for-profit organisation and evolved out of academic organisations in the US. Its role is to delegate the management of the gTLDs and it is in charge of assigning the country-codes for the nTLD. ICANN also has a role in the assignment of the Internet Protocol (IP) addresses - that identify each machine connected to the Internet-.

Now what is happening is that in the Internet world, the concept of regions is emerging and ICANN has subdelegated the task of assigning IP addresses to regional organisations called Regional Internet Registries (RIR): LANIC in Latin America or APNIC in Asia-Pacific

Now, National Internet Registries are being created to carry the task of the RIRs at a national level. Only 5 countries in Asia have national Internet registries: China, Korea, Japan, Indonesia and Thailand. India is in the process of getting a NIR. NIXI (National Internet Exchange of India) was proposed by the Telecom Regulatory Authority of India to APNIC to become the NIR.

How can Internet Governance have an impact on common people's access to the web?

Today ".in" is in English and governe-

ment of India, through its representation in ICANN, has been pushing for nTLD in all official Indian languages. We have kept asking that to the ICANN for the last four years. During the course of the February 2008 ICANN meeting in New Delhi, we demonstrated to the ICANN community at large the importance of the development of technology in the Indian local languages. They were able to understand our multilingual society with 22 official languages and that all of them should be accessible on Internet.

Today, the web is available in English all over the world, but tomorrow, it will be available in Hindi or any other languages all over the globe.

What was the focus of the Internet Governance Forum held in Hyderabad?

The 2008 IGF's central issue was Internet for all. When we were in the preparation stage of the IGF, we were asked to focus on a particular field -in Brazil it was "critical Internet resources"-: as a multi-cultural developing country, in which the priority is bridging the digital divide, India decided to focus on Internet for all. Our broad approach is that Internet for All deals with the pillars of the IGF thought process: Access, diversity, Openness and Security.

Access is the primary objective to expand Internet usage and diversity is paramount in a country like India, where linguistic barriers have to be overcome. All our efforts needs to focus on transforming the Internet into a multi-cultural and multilingual platform and not an Anglosaxon one.

What were the three main IGF outcomes?

Access for all is a primary driver to break the digital divide and foster digital inclusion, including linguistic issues and physically challenged people. In this context, we are working with the National Association for the Blind and we are developing solutions to bring

web access for visually challenged. It is a big challenge for us to bring technology to that particular group and use it as if there were no longer challenged. Technology experts and administrators have to work together to achieve this immense task.

The second aspect deals with content development. Having technology access does not mean anything for the majority of the population. We are a young democratic nation and that is a very positive factor as content development will be essentially driven by youth.

I would say the entertainment world is another key driver to foster Indian content creation. Education and entertainment will blend together in the next years. I look at the future. Text and SMS are boring; people are looking for images and animations instead.

The third aspect deals with highspeed connectivity. The bulk of Internet services related to education and medicine will need broadband connections to be delivered in the right way. In fact, it is only through broadband connections that you can transmit video and high quality content. The department of Telecom is working to improve our connectivity and some projects are urgently needing it: The National Knowledge Network is an e-infrastructure project, coming from a recommendation of the National Knowledge Commission, that will allow 10000 educational institutions to be interconnected through a high speed network (1gb). Physical infrastructure like this will enable collaboration, exchange of information and joint researches between Universities. They will be able to broadcast their classes through the web, reducing the knowledge and resources gap between educational institutions

What is the key to include rural areas into these kind of projects?

Governments efforts have focussed on the implantation of infokiosks, with

shared Internet access under public-private partnerships. Government efforts will be successful only if the village entrepreneur in charge of the infokiosk understands both the technology and the needs of people. He has to provide solutions to people that do not understand technology. In fact, they have requirements in terms of information and services that need to be tapped. The private partner has to choose the right entrepreneur and that person has to deliver and offer useful services to the community.

The village-level entrepreneur has to see the customer as a source of revenue and create a business model for his kiosk. Kiosks have to offer value added services. Government to Citizen services can open the way but the only way for long-term sustainability is expanding the scope of Business to Citizen services.



"I would say the entertainment world is another key driver to foster Indian content creation. Education and entertainment will blend together in the next years. I look at the future. Text and SMS are boring; people are looking for images and animations instead"

Issues on Internet Governance

EMMANUEL NEISA

Internet has been associated to a space of liberty, where citizens from around the world are able to communicate and exchange freely without interferences. The cyberspace is seen as an unregulated and decentralized network that is almost impossible to control. As a consequence, people around the world take this communication facility for granted.

However, an insight into the mechanisms and organisations that shape the way Internet works is paramount to understand that clear rules have to be established for its operation and to anticipate the next challenges the web will face. These challenges include its continuous growth, its interoperability and other threads such as the protection of freedom of expression on it, cyberterrorism and illegal activities such as pornography and drug trade.

Internet does not belong to anyone in particular and its governance involves a set of actors comprising "governments, the private sector and civil society that have to agree on shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the web". The last Internet Governance Forum (IGF) held in Hyderabad gathered all these stakeholders to discuss about

the future of the Internet and how to expand its outreach to reach the next billion users. The two main issues discussed on Internet Governance deal essentially with the management of the network in technical terms to allow it to continue to grow (1); and with the legal regulation of its content and activities (2).

Technical matters with political repercussions

Discussions about the management of the network can seem very technical and this is one of the reasons why national governments and civil society lasted so long in

getting into this debate. It is said to be the 'narrow' part of Internet governance as it deals essentially with the internal functioning of the web.

However, technical matters on the Internet determine the way in which the system works and have political consequences as they determine the networks' openness and freedom.

As Internet was created mainly outside the sphere of national governments and grew very fast during the last 15 years, it created his own governance system where a variety of actors distributed among themselves the essential tasks and responsibilities for the networks' operation (see box 1). These entities are in constant interaction to guarantee the Internet operability and stability and the



main Internet governance issues regarding these technical aspects are:

>> The domain names system -www.india.com for example- is the central control node point of Internet. The task of assigning the suffixes as ".com", ".org", ".edu" and country codes such as ".in" or ".fr" are currently undertaken by ICANN. The Internet penetration in countries using other scripts than the Latin script is also a challenge. The domain names system will have to be adapted to a multilingual Internet to

Internet Governance Institutions (Box 1)

>> ICANN (Internet Corporation for Assigned Names and Numbers)

A non-profit corporation created in 1998 that and has an important impact on the expansion and evolution of the Internet. Its responsibilities include: Internet Protocol (IP) address allocation, protocol identifier assignment, generic (gTLD) and country code Top Level Domain name system management, and root server system management functions.

>> ISOC (Internet Society)

A nonprofit, non-governmental, international and professional membership organization that focuses on standards, education, and policy issues.

>> IAB (Internet Architecture Board)

An organization responsible for defining the overall architecture of the Internet, providing guidance to the IETF. It also serves as the technology advisory group to the ISOC.

>> IETF (Internet Engineering Task Force)

It is the protocol engineering and development arm of the Internet formally established by the IAB in 1986.

>> World Wide Web Consortium:

A membership organization composed by hundred of institutions created in 1994 to develop common protocols that promote Internet's evolution and ensure its interoperability.

open the way for all Internet potential users and let them use the network in their own language.

>> The Internet Protocol (IP) number, which is the identity assigned to each terminal connected to the network. This identification was designed to facilitate the recognition between machines and to track them on the web. This activity should be carefully realised as duplication of IP numbers can complicate the system operability.

>> The root servers, which are the facilitators, allow the domain name system to work. They match the domain names with the corresponding IP numbers and enable information to flow across the network.

>> The standardization and interoperability of Internet. With new devices accessing the network - such as mobile phones and PDAs - and constant technical



With the growing importance of the web for business, governments, international institutions and civil society, controversies have been raised over the functioning of these different bodies

innovations, some standards have to be established to ensure the network's cohesion and avoid any fragmentation.

With the growing importance of the web for business, governments, international institutions and civil society, controversies have been raised over the functioning of these different bodies. The princi-

pal target for critics of the way Internet governance is being practiced is ICANN (Internet Corporation for Assigned Names and Numbers), one of the principal institutions charged of the technical management of the network and United States influence over it (*see box 2*).

A fragmented decision-making over Internet content and activities

Regulating services and the content available on Internet is paramount as the web is gaining more importance, influencing the way people relate to each other, the way business is made and even the government's relations with their citizens. In fact, Internet's openness can also be used for illegal activities such as arms and drug trade; pornography, and new threats such as cybercrimes that are becoming more common. One of the main challenges is to maintain the security and safety of Internet without hindering its openness or users' privacy. Regulations over the Internet

One of the main challenges is to maintain the security and safety of Internet without hindering its openness or users' privacy

should also contemplate the protection of free speech, the business transaction security and issues relating to intellectual property among others.

These regulation tasks are given to national governments - in areas in which they have an historical role - that only have jurisdiction over their own territories. However, the activities that take place on the web are often difficult to track and countries are affected by actions realized beyond their boundaries, where they do not have legal authority. Therefore, national governments are not always able to take the necessary actions to counter illegal activities. It is not really surprising that until now, the international community has not been able to find common principles to regulate the web.

Nevertheless, and without any doubt, steps would have to be made in these direction if we want Internet to remain a safe place that can foster the development of nations and increase our understanding of each other.

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ICANN's controversy (Box 2)

ICANN is a private non-profit corporation that was created in 1998 and operated under contract with the US Department of Commerce. ICANN has the authority to manage the allocation and assignment of domain names and Internet protocol addresses. However, its ties with the US government have generated controversy and developing countries' governments accuse it of favourizing developed nations interests in the allocation of

highly coveted top-level domain names (TLD) and IP addresses. The dissatisfaction with ICANN played a key role in the development of a true multi-stakeholder approach to Internet governance that emerged from WSIS and that gave birth to the Internet Governance Forum (IGF). Some actors want its prerogatives to be given to a multilateral institution such as the International Telecommunications Union (ITU)

Is Internet narrowing our view?

Internet has given us the possibility to access to an overwhelming quantity of contents and to choose what we want to see. But does that mean that we are more informed?

EMMANUEL NEISA

Over the past years, Internet users all over the world have changed their way to 'consume' news, tending to retrieve the important information from a number of newspaper websites, blogs and other sites on the web.

Even if in 80% of the countries newspaper circulation has been stable or continued to grow last year, in developed economies, they are facing the worst crisis in their history. A strong decrease in newspapers' sellings has forced restructuring in diaries such as The New York Times -which has now debts for more than \$1 billion-. With the spread of the Internet, catching readers' attention is becoming more and more difficult as people can shift easily from a news source to another.

Internet is now becoming the hub for political information and discussions and the recent Obama campaign confirms its importance in shaping the public opinion. It is said to have brought openness into our world, allowing us to meet people

from diverse realities and opinions. However, communitarianism in the web seems to go in the opposite sense of that supposed openness.

The information shift towards the Internet is not without consequences and changes the way we perceive current news and form our own opinion. What is exactly happening with the public discussion and what is Internet changing?

The rise of different points of view

Jürgen Habermas talks about traditional media as consensus manufacturers. In fact, by reaching large audiences, public debates can clearly be exposed to the society and opinion trends can easily be traced. However, over the last ten years, with the lowering of the entry-costs in the media production, many players have entered in the media market.

This fragmentation of the media cake, boosted by the Internet, has multiplied the points of view, giving voice to groups that were neglected before, shaping new audi-

ences and stealing away the traditional power of large newspapers and TV channels as opinion trenders.

Everyone wants to be part of that adventure and a set of tools have been created to allow users to give their own feedback, express their own opinions and even to themselves become a media through blogging.

The egocentric power to choose

The facility in which the web can be fed makes that everything can be found in it, from Nazi groups such as the ones denounced in Germany last week, to pornography, birds' amateurs and Obama supporters. Everyone can have a place on the Internet and find like-minded people across the world. Thousands of communities have been created and it is worthless explaining here phenomena such as Myspace or Facebook.

Overwhelmed by the enormous quantity of information on the web, we are obliged to choose our "friend circles"; "our business circles" and obviously our "information circles". As a libertarian

Everyone can have a place on the Internet and find like-minded people across the world. Thousands of communities have been created and it is worthless explaining here phenomena such as Myspace or Facebook

space, the Internet gives us the entire responsibility to choose what we want to read, which video we want to see and who we want to talk to. With the power of controlling what we want to be told, we are rarely exposed to coincidences and 'out-of-the-track' information. This personalization of the web tends to be more efficient as targeting techniques-'buy similar books' in Amazon; 'friends in common' in Facebook- tend to direct our web experience.

A narrow vision of the world

In short, in our virtual life we are always fleeing away from disagreement. Instead of watching TV in our sofa and being exposed to programs that we are not keen to see or coming across articles in the newspapers that we do not agree with, we prefer to navigate through a friendly world in which our opinions and wishes are reconforted.

This voluntary isolation brings two main problems: we are hardly becoming aware of topics that are outside our normal sphere of interest -in TV there are often History documentaries, when was the last time you saw one on Youtube?- and we are less exposed to the arguments of people who think in a different way.

The American elections blogosphere

All of this can be exemplified with the American blogosphere during the 2008 elections. Presidential Watch is a website that tracks the most important Republican

and Democrat blogs and analyzes the links between them to know how is the opinion produced on the Internet. Evidence says that 91% of the links originating from either the conservative or liberal communities stay within that community.

In fact, people who use Internet to make their opinion have a much larger probability to not be exposed to the opposition party's arguments. This divide can be extremely harmful for democracy, as people are not getting all the necessary information to make their electoral decision.

I am not saying that Internet has brought this problem, as we have always tended to move in a certain sphere -and buying certain newspapers, and watching certain TV channels- according to our

opinions. However, on newspapers and TV, we are more able to be confronted to other topics and realities. Behind its curtain of plurality, Internet -or our use of it- could just be accentuating the intellectual segregation. The dream of a public sphere on the web where public opinion could be created by the confrontation of different arguments can thus be fading away in our faces.

As Internet is gaining importance in our daily lives, could we possibly go towards a model where people will be half-informed, even if theoretically they could get access to an inexhaustible source of information?

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should be read through these issues. As a user, one is of course concerned that one is not defrauded on the internet - whether through credit card fraud, identity theft etc. The increase in opportunity for such cyber crimes to be perpetrated makes people wary about transacting over the internet - whether that are online banking or purchasing goods and services. And I want to be confident that the companies I transact with on the internet can keep my data secure, and secondly will not share it or have it accessed and used without the proper authority (mine and/or theirs). The growth of the internet into more places and internet users mean the opportunity/ threat of becoming a victim of a cyber crime also increases proportionately.

A number of legal instruments have been drawn up to promote confidence in internet security and curb online criminality. The key issues here concern with these is whether and the extent to which they infringe - in their conception and practical implementation - on human rights, particularly the right to privacy, the right to freedom of expression, and access to information. The proliferation of these national laws and global conventions has developed legal means for states to effectively snoop on their citizens. In the post-9/11 period, it has been easier for states to put pressure on - in some violate - citizens rights, citing the "terrorist threat."

The main policy is how to balance the tensions between cyber security on the one

The growth of the internet into more places and internet users mean the opportunity / threat of becoming a victim of a cyber crime also increases proportionately.

hand, and privacy and openness on the other. Currently the dynamic is skewed towards increasing cyber security measures at the expense of human rights, with measures in place to collect unprecedented amounts of information about private citizens - with the ability to track physical movement, how the internet is used, consumer and life-style choices etc - without enough assurances that this information will not be abused by the very people who collect it (with state sanction). Another measure exercised by states - and also within other organisational structures - is the capacity to block content which it finds "threatens state security". One of the dangers of this measure is that the goal post of what is "dangerous" will shift to also include what is deemed "offensive" so that the morality of an elite group - with the power to make such decisions - is imposed on an entire population. State decisions to cut access to particular kinds of information more often than not infringes on the freedom of expression of large tracts of its citizenry.

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Internet Governance: Challenges in relation to cyber crime and laws

NATASHA PRIMO

My concern is mainly with advocacy on openness and maximising access to information and knowledge for (human) development and social jus-

tice. So my entry into discussions on cyber crime and cyber laws is filtered through an openness lens. My other main concern is data privacy. My interest in cyber-security

Syncing Security and Sinking Risks with Digital Technology

Digital technology enables us to tap the synergy of networking capabilities in the interest of individual, local, state, national and global security

DR. PRATEEP V. PHILIP IPS

Digital technology is a way and perhaps the best way for concerned and committed citizens across a country as big as India to connect on matters of national as well as local security. Below is a mail from one such concerned and committed citizen from another state, namely, Andhra Pradesh exhorting us on the need to spread the concept and movement called FOP or Friends of Police across the country in the wake of the terrorist strike in Mumbai (26-29/11):

*Dear Sir,
I am really happy to congratulate you for a such good initiative FOP in Tamilnadu. Please let that good concept spread all over INDIA.
Regards,
NagaSoundappan G*

The voicing of his sentiment and opinion was made possible by digital technology as he posted it on the website: www.friendsofpolice.net Friends of Police incidentally is a formula for sharing police power and responsibility with people at large. It is

based on what I call the power syndrome: when the power haves (read police..) do not share power with the people (the power have nots), they are hated; when they do share power with the people they serve, they are loved. A FOP acts as a bridge between the police (the Power haves) and the people (the Power Have-nots) just as Digital Technology acts as a bridge between the "Knowledge-haves" and the "Knowledge-have nots." It enables the police and the people to network and enter into a problem-solving partnership.

The idea of FOP was born when I was Superintendent of Police of a district (Ramnad in Tamil Nadu) and I asked myself the question, "How do I share the power that I have under the law and the mandate of the Constitution with the people to whom it truly belongs?" The answer came when the idea flashed in my mind, "FOP or Friends of Police." Every law abiding citizen is automatically a Friend of Police and he/she can enroll as a FOP in the limits of the police station

where he/she resides. Imagine a hundred billion plus Indians become Friends of Police; it will transform not just the security environment but will transform society and the nation. Friends of Police helps to crystallize the incipient goodwill for the police that exists in society. The idea is simple, universally applicable, holistic and comprehensive at the same time. It can be understood by the average policeman as well as the average citizen. The "penetrability" of an idea should be hundred per cent if it should prove efficacious, sustainable and fruitful. I decided in the year 1993 to launch it as a voluntary mass movement in community policing while I was Superintendent of Police of the then volatile but now rather docile district of Ramnad or Ramnathapuram in Southern Tamil Nadu.

Digital technology would enable citizens and police to connect in real time, to convey information, suggestions,



Imagine a hundred billion plus Indians become Friends of Police; it will transform not just the security environment but will transform society and the nation

complaints, feedback which will prove valuable in improving the quality of policing all over the country. Indeed, after 9/11 since citizens alone could bring down one of the hijacked aircraft before it hits its target, Citizens' Intelligence Network is considered more effective than even professional police intelligence since citizens and not the police are actually the first responders in most situations. Digital technology is the 'backbone of Citizens' Intelligence Network.

However, powerful an idea is, one needs a technology or a vehicle to carry the idea to all target areas. I started receiving mail like the one above from across the district and state borders to start FOP in other districts and states. This was around the time the Internet came into existence. I found the Internet a powerful medium to convey and disseminate the idea globally. Within a year, the roadmap I scripted for the Friends of Police movement was published on a home page of the Organisation of International Criminal Justice, University of Illinois, Chicago as the first and only international blueprint for community policing on the worldwide web. Indeed, ideas are borderless and the Internet helps one transcend and cross all geographical boundaries much like the Japanese monkeys who learnt to wash sweet potatoes before consuming it for the first time ever and soon monkeys all over the world were doing the same. Soon some police forces and citizen groups in places

across the globe learnt about FOP from the net and came visiting Tamil Nadu to study it first hand. Two large delegations came from Nairobi, Kenya, one delegation from China, some from UK and the USA. Many of the western visitors acknowledged that FOP went beyond their own concept and programs in community policing like the Neighbourhood Watch scheme. The unique aspect of FOP is that while it integrates the police and the citizens, it affords individual as against group affiliation or empowerment offered in schemes like Citizen Security Committees and Neighbourhood Watch. Some foreign police agencies like the Canadian Mounted Police have even started Friends of Police in their jurisdictions.

In 1994, the FOP concept and movement was extended to the whole state of Tamil Nadu with a Government Order. In 2002, the idea won the inaugural 15,000 pound prestigious Queen's award for Innovation in Police Training and Development out of competition from 55 nations of the Commonwealth. Incidentally, the theme of the competition, organized to celebrate the Queen's Jubilee, was harnessing technology to overcome lifelong barriers to learning. The prize money enabled us to further develop the website, organize a pilot training project and set up a state-of-the-art multimedia training center. At the time of writing, the FOP center in Chennai has trained a record number of 45,000 FOPs and 45,000 police personnel in more than 1000 multimedia

workshops across all districts and cities in Tamil Nadu in the concepts, methods and philosophy of FOP.

Today, the concept and movement is poised to be launched all over the country. 55 lakh security guards in all private agencies all over the country are eager to be empowered as FOPs. The national micro mission set up to transform Indian police in pursuance of the Hon'ble Prime Minister Dr. Manmohan Singh's vision has recommended the FOP model for adoption in all states and Union Territories. The groundswell support for the concept and movement is heard in the whispered wishes of citizens like the mail above.

We have also initiated an e-FOP network to connect cyber-savvy netizens and IT workers to assist the police in fighting cybercrime as well as other forms of crime and disorder at the street level. Truly, digital technology enables us to disseminate an idea, establish a synergistic network, tap human intelligence and overcome lifelong barriers to learning. Digital technology enables us to tap the synergy of networking capabilities in the interest of individual, local, state, national and global security.

Dr. Philip is serving in Indian Police Service as Inspector General of Police, Tamil Nadu and Founder Director, Friends of Police (For more details, read his book, *The Friends of Police Movement: a Roadmap for Proactive People Protection* available online on icfaibooks.org, google-books.com and amazon. www.friendsofpolice.net, google with Friends of Police.)

Bridging Mountains (through Wireless Clouds)



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We believe that affordable access to internet should be as readily available as are public facilities such as roads, electricity and water.

MICHAEL GINGULD

People interested in our (Airjaldi community network usually want to know why we do this, how we do it, what is it that we exactly do, and, most importantly, so what - what change does it bring to our area and to the rest of the world?

So, imagine yourself panting along with me, climbing up a hillside towards one of our nodes which interconnects some 10,000 users in and around Dharmasala. We sit down, open our laptops and log onto the (secured!) network. After we've checked that all is well with the network and beyond ("Hey, a new friend request on Facebook!"), after I've made you a cup of tea on my stove

and after you've fought off the monkey who wanted to steal your biscuit, we begin: "Why do you guys do what you do?"

Why?

This question is asked more often than one might imagine, and in various forms. One of my favorites is a variation on the following theme: "Aren't you afraid you'll end up bringing in the Silicon Valleys of P. Anderson instead of..." the ... to be filled with an allusion to something useful/beneficial, etc.

Seriously, the "why" question is indeed an important one, because in many ways it dictates the way in which one goes about one's work. I

believe that knowledge is one of the most important resources available to humanity. Moreover, it has the wonderful qualities of being non-rivalled (we can consume as much of it as we want to without depriving others), it encourages synergy (more of it and more of us engaging in consuming it usually results in more of it) and... well, it's almost a public good, right?

For us, the task of providing internet access to rural areas (and we will also deal with what exactly, in our minds, this consists of) is ultimately one of reducing the excludability issue. No, we do not believe that connectivity could presently be provided free of charge. We do believe, however, that we can greatly increase peoples' access to affordable and viable connectivity services, thereby contributing in time to making the internet a ubiquitous piece of infrastructure - just like roads, water and electricity.

Main constraints to making this vision an every day reality

Our experience (and others') to date points to the following set of constraints:

- >> Expensive supply vs. low demand - most readily-available technologies for providing broadband access are too expensive for deployment in rural areas where the users tend to be physically dispersed and few in number.
- >> Problematic supporting infrastructure - any equipment one decides to deploy needs to be powered. Power supply in rural areas tends to be erratic - it does not always

flow through the grid, and when it does, wild fluctuations can challenge the best of power supplies. Many a piece of equipment has not survived these conditions, or needs to live with/behind expensive protection and backup devices.

- >> Problems in securing needed local resources: networks need to be managed and maintained. Finding and keeping skilled and suitable workers for these tasks is a challenge in rural areas.

How?

The problems are all well known. What you do, then, is to basically just find ways to overcome these constraints, in order to provide internet to rural areas in an affordable manner, right?"

Yes, basically correct, I reply, but getting this right requires adhering to two basic principles: common sense and sensible practices. In other words, finding the right technologies and then making them viable and accessible. Let me try and elaborate on these without being too technical.

Our networks, in particular our largest network in Dharamsala, extend existing Internet broadband services (often available only in cities and towns and their close vicinity) by interconnecting wireless "nodes" (routers, antennas, power supply) to form a network that provides coverage and internet access to a given area. Our network in Dharamsala, for example, presently covers a radius of about 70 km.



CC-AirJaldi

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The basic principle for creating these nodes and the network is rather simple and straightforward: go forth and find, modify and deploy equipment that together creates networks that are:

- >> Physically durable - able to withstand the extreme weather conditions and equally extreme power fluctuations that typify many rural areas.
- >> Technically viable - by viable we mean platforms that can provide broadband traffic to many users in a satisfactory and secure manner. Halfway solutions, such as ones that provide limited bandwidth to a small number of computers, tend to be bad ambassadors for connectivity, as their limited capabilities and high costs do not encourage expansion nor enable it, and surely do not demonstrate the full capabilities of connectivity to users.
- >> Affordable - remember, we are trying to serve relatively few customers. We cannot go overboard with expensive equipment that will not enable us to return our investment and turn our network into a viable enterprise.

We look for alternatives. Following intensive searching and testing, we fit selected hardware platforms with power supplies and charge controllers capable of handling wide power fluctuations. We ensure that each node is supported by a battery backup and, in places where electricity supply is erratic or non-existent, with a solar charger. We use a variety of antennas to enable significant extension of the nodes' range and area of coverage. Often, the original software of the routers is replaced, or enhanced by firmware that greatly expands the nodes' ability to optimize traffic, recover from various problems or enable remote trouble-shooting. We also ensure that our nodes are fitted with high-level network encryption.

The router and other components are mostly mounted on low masts placed on rooftops or high places. The easily installed nodes are small and unobtrusive and their low emitted radiation and power requirements make for a very low ecological footprint.

The network is centrally controlled by a management and

support system, which allows operators to manage the network and maximize its abilities, as described in the table below.

"OK, this is the common sense part, what about sensible practices?" .As for sensible practices, what we mean by this is having the ability to take the geeky developments and make them accessible to people like most of us here, who have some basic knowledge of the ways of holding a spanner and configuring a router, but don't often submit patches to the Linux Kernel.

Doing this is the task of our training and capacity-building team, who develop simple and well-practiced deployment and network management methodologies, and deliver these through practical, hands-on courses given at our AirJaldi Network Academy.

What?

Our networks provide internet to rural areas in an affordable manner. "Is there anything else to it apart from that? Any difference from other offerings 'out there'?"

Our network delivers broadband internet connectivity: a typical user will get an RJ45 connection to their premise, which is basically the point where the wireless backbone becomes wired again. They can then choose to connect one or more computers to it, and extend it further inside their premises. There are places where our connection is the only broadband connection available, and there are places where it is a reli-



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able and trusted alternative to other offerings.

In addition, we provide our users with a range of additional services, such as Intranet conferencing capabilities (VoIP solutions for STD calls are technically easily implemented, but which we do not use at present for legal reasons), off-site storage and file-sharing, local and network-wide hosting facilities, and various security features.

We are also in process of installing additional services our local server in Dharamsala, including large knowledge repositories and

locally-hosted community/group webpages. These will be easily accessible to all connected users of our networks.

However, you need to remember that our main focus is on providing viable pipes -connectivity. The possibilities for what flows through these pipes are numerous - from the data of environmental sensors to live relays of public events, to a review of the latest good math book out there.

So what?

"So, at the end of the day, are you aspiring to turn this into a local version of Silicon Valley? What changes do you bring to rural areas? Will or can these changes be beneficial, or will they just create wider gaps?"

To some extent, it all depends on what and how one implements networks, and no less important, on WHY one engages in provision of affordable broadband networks.

We believe and can prove that broadband connectivity can be provided with relatively simple technology one that does not necessitate huge investments huge towers and a huge customer base to cover these investments.

We believe and can prove that broadband connectivity can be provided with relatively simple technology one that does not necessitate huge investments huge towers and a huge customer base to cover these investments. If knowledge is indeed one of the most valuable of human assets, then our

efforts to make it accessible stand a good chance of narrowing gaps.

We believe that affordable access to internet should be as readily available as are public facilities such as roads, electricity and water. Like these, access to it brings with it a range of possibilities and influences. One deals with these influences not through prevention of access to resources, but rather through increased e access.

So we do hope that in hindsight, our work will be marked not by bringing silicon implements to new places; maybe it won't make areas reached by our networks new Silicon vallies; it might nevertheless help to lower some mountainous barriers and bring closer the days when, as the prophet said "... The plowman shall overtake the reaper, and the treader of grapes him that soweth seed; and the mountains shall drop sweet wine..." (The Bible, Amos, 9:13).

As you sway in your bus rushing down the steep curves towards the plain, we hope you take with you at least some of our enthusiasm for making all of this a reality.

For those of you who want to continue this tour, to talk or maybe even to visit: good places to start are:
www.airjaldi.com
www.tibtec.org
www.tcv.org.in

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Elections on the Net: Let's Bring Politics to Internet!

Given the history and DNA of the election commission and the imperative need to make more and more use of technology - especially since the size of the electorate is growing

SUBHO RAY

In 1952 India had her first general elections based on universal adult suffrage. Two things at that first election determined the DNA of the election system of India: a) elections were based on universal adult suffrage, an understanding quite uncommon at that time across the world that all adults irrespective of caste, colour, creed, education and wealth, were competent and enlightened enough to choose their representative. It was actually a very bold idea at that time; b) the elections were to be conducted not by a government body but by a constitutional body called the election commission. As we now know, both these concepts had a revolutionary impact in establishing and maintaining India as a democracy for the last 60 years!

The first Chief Election Commissioner of India was a self-effacing bureaucrat Sukumar Sen of the Indian Civil Service. He served between 1950 and 1958 overseeing the first two general elections. Interestingly, he

also served as the first election commissioner of Nepal and Sudan! [I got this information from the Wiki]. He was so self-effacing that he has hardly left behind any papers to enable historians assess his remarkable contribution to the election process in India. As the first Election Commissioner, he also determined the DNA of the Election Commission. While the successive Election Commissioners have not necessarily followed Sen's streak of self-effacement, they have unequivocally maintained the election commission as an independent statutory body, over the years making it one of the most efficient, effective, unbiased and progressive bodies not only in India but the world over.

If you were a senior citizen, who has participated in many elections over the years, you would not help wonder at the progress that the election process has made over the years in terms of shortening queues, better booth management, safer voting environment, ease of casting vote and

above all else introduction and use of high technology in the election process.

Election Commission and Technology Usage

It is quite a pleasant surprise to know how tech-savvy the working of the election commission is. Electronic voting machines are the most visible gadgets on the tech side. But the whole process of listing, weeding and maintaining voters' lists and issuing voters' identity cards is an enormous task given the size of the electorate and the constant stream of newly eligible voters in each successive election. Of course, it would be fair to assume that there was perhaps no alternative before

hand to carry out their functions as long as they have produced the desired results: conducting the elections more efficiently.

Bringing in 'Internet Voting'

Given the history and DNA of the election commission and the imperative need to make more and more use of technology - especially since the size of the electorate is growing, there is demand for more fair and efficient elections, there is need to bring more and more new groups into the election process; I think it is time that the Commission takes the next logical step and seriously considers the concept of 'internet voting'. This simply



the Commission but to embrace technology fully and efficiently given the enormity of the task and the streamlined nature of the commission. In the last 8-10 years, the Commission has therefore by design or default or by a judicious mixture of both, has chosen some of the most IT savvy civil servants to head its IT function who fortunately have been given a free

It would be fair to assume that there was perhaps no alternative before the Commission but to embrace technology fully and efficiently given the enormity of the task and the streamlined nature of the commission



As a postscript and from a narrow personal perspective, I may also add that 'internet voting' will give a new thrust to internet use in India and help in higher internet penetration

means that registered voters should be given the option of casting votes on the internet. The task prima facie sounds daunting and it is so. But we can rely on the historical efficiency of the Election Commission to implement the project on one hand; and on the other, the number of benefits it will bring to the country on the whole.

On the first issue of the Commission's capability, needless to say, it is important to get the Commission to think in terms of internet voting. Once the thought is accepted seriously by the commission, I am sure, it will not be too difficult for the Commission to implement it - just as it has so smoothly and efficiently implemented electronic voting machines. Of course, in the case of internet voting there is no global precedence, just as there was not precedence of electronic voting machines on such as

large scale. So there is the opportunity to set a global benchmark.

Key Advantages in Internet Voting

On the second issue of benefits, one can safely state that they are far too numerous and important. I will just mention three top issues that can be resolved: a) Literally, millions of so called middle classes who do not come out to vote since they consider the process to long and boring will come out and vote from the comfort of their homes thus possibly changing the whole demographic challenge that elections in India face; b) It will be much safer for people to vote and not be intimidated and c) finally, due to a drastic cut down on physical arrangements such as setting up booths and deploying security forces, the government will save considerable time and money. If these are not compelling reasons, I wonder what are?

As a postscript and from a narrow personal perspective, I may also add that 'internet voting' will give a new thrust to internet use in India and help in higher internet penetration - something that successive governments have failed to achieve, may as well be achieved through the good offices of the election commission. This I would say would be the best "collateral" achievement of the whole exercise.

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Financial Inclusion and Net Banking Solutions- Regulatory issues

With bottlenecks coming in by way of excessive licensing and discouragement experimentation with new technology suffers

AMIR ULLAH KHAN

In the modern context, it is imperative that a large number of people who do not have access to capital are brought into the organised sector. Especially in rural areas, with rising incomes and shifting agricultural practices, there is an increased demand for credit, the supply of which is abysmally low. On the demand side, there are problems with financial illiteracy, lack of awareness, fear and cost of approaching banks, inflexible products and liquidity problems. It's not just the banking exclusion; the poor also do not have access to financial products such as insurance, time deposit facilities and housing loans. The role that Information Communication Technology can play in bringing about financial inclusion has been discussed in various forums and is arguably the best way forward.

Technology Innovation and Banking Solutions

The Information Technology

Act governs electronic banking and therefore brings a narrow focus into regulation. For example, it only recognises what is known as the asymmetric crypto system and the hash function. At a nascent stage of development and in the interests of innovation, this aspect should have been technology neutral. Internet banking, which works on digital signatures, requires certification and certifying authorities. Banks ought to have been allowed to apply for a licence to issue digital signature certificates and function as certifying authorities. This again would reduce time and costs. Innovation would allow rural banks to offer tele-banking facilities that work with automated voice recognition systems and voice response systems to allow those with telephones to access banking facilities without having to be literate or travel to the bank. Touch screen banking allows this too, but will need to be far less capital intensive to



reach larger numbers of customers. Technology up gradation and reform could also pave the way for Home banking services, especially for rural areas with rich pockets. The Department of Telecommunications has issued guidelines for registration and operation of 'Other Service Providers'¹. As per OSP Guidelines, any entity wishing to engage in the provision of Application Services would require a license from DoT. Here is the similar problem that plagues all innovation. With bottlenecks coming in by way of excessive licensing and discouragement, experimentation with new technology suffers.

Many Ways to Simply Banking Services Using ICT
The Income Tax Act mandates that payments greater than Rs 20000 be made only through crossed cheques and demand drafts.² ATM's face similar restrictions under the Banking Regulation Act and therefore cash withdrawals of large amounts are not permitted. Also cash dispensation is restricted to certain denominations and therefore does not allow flexibility among small account holders to withdraw fractions of money as required. In addition is the need to allow electronic cheques. If electronic cheques were allowed and could be

written out, bill payments become much simpler and cheaper.³ The RBI is understandably cautious on pre paid payment mechanisms. Non-banking entities issuing pre-paid payment instruments need to maintain an escrow account with their banks to the extent of outstanding balances in the cards issued by them.⁴ Pre-paid payment instruments can be used for transfer of funds online or through mobile phones. The schemes which facilitate such transfers do require safeguards against misuse. Therefore only banks are permitted to issue such cards. This obviously has a debilitating effect on using this scheme to ensure financial inclusion in a specific village. The RBI also prohibits companies from providing 'internet based electronic purse schemes'.⁵

Internet Banking and key Regulation Matters

Internet banking in India is governed by RBI which aims at regulation and supervision of the internet banking activi-



ties of the banks. The banks are now permitted to offer internet banking facilities based on the board-approved internet banking policy and no longer require prior RBI approval. The Internet Banking Circular lays down



technology and security standards to be observed by the banks offering internet banking services and also the legal, regulatory and supervisory issues in relation to such operations. The products can be offered only to account holders and cannot be offered in other jurisdictions. The RBI's 'Draft Operating Guidelines for Mobile Payments in India' regulate mobile banking to ensure appropriate safeguards and security of financial transactions. The Draft Guidelines lay down technology and security standards to be observed by the banks offering mobile banking services. They also address the legal, regulatory and supervisory issues. Only those banks that are licensed and supervised in India and have a physical presence in India are permitted to offer mobile banking products. These services can be extended by banks only to their own account holders. The banks are required to have a system of registration before commencing mobile based payment services to a customer. Banks that have already started offering mobile payment services are required to review their position and comply with the guidelines within three months of the notification of the guidelines.

Finally, the discouragement to small players comes about largely because of imposing the same transaction cost on small players as on the big ones. Therefore, small payments, small savings and localised financial transactions become unviable. The foremost example is that of interest rate caps and floors for lending institutions. This implies that small loans become unviable for banks and other financial institutions. The first regulatory issue therefore that comes in the way of any attempt at financial inclusion at a village level is the interest rate cap that kicks in whenever small credit or priority sector lending is discussed.

In villages, where liquidity is a serious concern and cash is required almost immediately, there is a trade off between low interest loans and faster credit access and it is but obvious that farmers and labour would prefer higher interest loans available immediately to low interest credit that comes with a delay.



Similarly, mandating interest rates for savings accounts (at 3.5 per cent now) also comes in the way of allowing viable savings institutions that are unable to offer this for small amounts of money collected in poor neighbourhoods.

There is enough argument for doing away with this floor, as the customer would again prefer small savings with very low interest if it comes with an ease in withdrawing money on one hand and depositing small and marginal amounts on the other.

Amir Ullah Khan is Director, India Development Foundation. He can be contacted at amir@bmaindia.com

¹ These OSPs are companies providing 'Application Services'. 'Application Services' are been defined as provision of services like tele-banking, tele-medicine, tele-education, tele-trading, e-commerce, call centre, network operation centre and other IT Enabled Services, by using telecom resources provided by authorised telecom service providers.

² This can easily be extended to include electronic transfer too, a recommendation made by the S R Mittal Working Group on Internet Banking.

Examples of such solutions exist with Microsoft "Money" or Intuit's Quicken.

³ The amount has to be kept separated from the working capital and other funds of these entities. The use of such funds by companies for

any other purpose other than settlement of claims is prohibited.

⁴ The Electronic Purse Circular states that these activities are in the nature of acceptance of deposits which are repayable on demand and therefore in violation of the provisions of the Reserve Bank of India Act, 1934. The RBI has advised banks against associating themselves with

such schemes.

⁵ The RBI, in July 2008, had asked banks to keep their mobile payment services on holds until final guidelines are issued. However, mobile alerts for credits and debit, balance enquiries and other services in the nature of providing information can be continued.

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Addressing Departmental Woes: The Gujarat IWDMS Initiative

e-Governance can never be complete without integrating the citizen centric delivery processes with the back end processes within the Government

DR. NEETA SHAH

Most of the works done by Government departments in Gujarat in Western India is workflow-intensive; that is, there is a lot of information flow in the form of files. Some of this work necessitates the creation and maintenance of databases that hold data that is critical to the decision-making process. The nature of tasks performed in the workflow are predominantly, creation of documents, adding notings / comments / views / approving documents based on collective opinion & delegation of powers, and finally publishing documents for general public or the concerned entities in the Government. The Integrated Workflow & Document Management System (IWDMS) project was thus conceptualized by the Gujarat Government to improve upon the Accountability, Transparency & Effectiveness in Government administration.

Why IWDMS

IWDMS project was conceptualized to overcome the fol-

lowing departmental governance problems faced by the administration:

- >> Personal dependency and difficulty in tracking and tracing of files and correspondence
- >> Lack of timely availability of relevant reference documents like Acts, Govt. Orders, Govt. Resolutions, Reports in required format and so on
- >> High proportion of establishment work and problem of Inter-divisional Consultations in some cases
- >> Review and approval cycles consuming a lot of time and repetitive performance of manual tasks causing delay and tiredness
- >> Multiplication of file population and problem of prioritization of files
- >> Time consuming process for manual preparation of reports

Problem Areas in Implementation

The major challenges involved in IWDMS project

implementation were as follows:

- >> Ensuring availability of requisite infrastructure consisting of personal computer and network connectivity for all users
- >> Overcoming Initial Employee Resistance as most of them were not computer literate
- >> Ongoing Training & Support to large number of users with little computer knowledge
- >> Having a modular design for easy maintainability
- >> Backlog and data migration

Strategy Adopted

The strategy adopted by Government of Gujarat was to follow Top-down approach. IWDMS was thereby implemented in Secretariat to set example and ensure continuous support from top leadership at all levels. Implementation at Secretariat was considered critical due to its vital encompassing areas including Policy Formulation, Allocation of Budgetary Resources, Monitoring and Supervision. Moreover, Secretariat is also directly

The users of the system have been provided with the necessary resources. They have been provided training in basic computer usage, in typing of Gujarati Indic and in IWDMS usage. Specialised training has been provided for usage of department specific applications also

accountable to Legislative assembly.

A phased approach was used to roll out the IWDMS solution across the Secretariat and in HoDs. There has been a steady increase in the number of users taking services through IWDMS. In the first phase, twelve departments and the offices of the Chief Minister and Chief Secretary were configured on IWDMS. This comprised of approx. 1500 users of these departments and offices. The system was then rolled out in the remaining 13 departments of the New Secretariat. This increased the total users configured by approx. 1500 users to take the total to approx. 3000 users. Subsequently, the Government Resolution dated 5th October 2006 has approved to extend IWDMS to HoD's located in Gandhinagar and Ahmedabad. The HoD users have been configured steadily since then.

The users of the system have been provided with the necessary resources. They have been provided training in basic computer usage, in typing of Gujarati Indic and in IWDMS usage. Specialised training has been provided for usage of department specific applications also.

Information and Analysis

Gathering information regarding the existing processes and systems within Government Secretariat was considered a very crucial foundation for the envisioned system. Considerable efforts were made in gathering requirements from all the lev-

els and analyzing the same to find out patterns for standardization and bring simplicity for the end users.

With this analysis done, an Integrated Workflow and Document Management System for automating the functions at all levels of the administrative hierarchy of any Governmental department was envisaged which provides Document Management, Workflow Management, Collaborative Environment and Knowledge Management in an integrated fashion and delivers an Electronic Workplace. The major components identified were as follows:

- >> Core, Common & Departmental Applications
- >> Knowledge Management System
- >> File Management System
- >> Workflow & Organization Model
- >> Security & Access Controls
- >> Dashboard
- >> MIS

Human Resources Focus

The crucial role played by Human Resources in the success of IWDMS was realised as well as the need for capacity building of Government employees. The employees at all levels were involved in the project, especially the core users consisting of Class I, II and III employees. The users of the system have been provided with the necessary resources such as computers, printers and scanners for using the system. They have been provided training in basic computer usage, in typ-

ing of Gujarati Indic and in IWDMS usage. Specialised training has been provided for usage of department specific applications also.

Process Management

IWDMS implementation team well understood the bottlenecks in the Governmental processes that lead to delays in the decision-making at various levels. One of the major reasons for the same is the movement of files across the hierarchies for approvals and sanctions.

The workflows were standardized and simplified making the movement of files, based on subject matters and organizational hierarchy. IWDMS facilitates to eliminate several steps required right from in-warding a physical correspondence till creating a file from it. It provides a central numbering system for all correspondences and files.

Through automation of routine tasks and office procedures in IWDMS major time in manual processing of documents has been considerably reduced. For example, with online leave application the current leave balance as on date are available to the approving authority and hence processing time is reduced to few seconds. On approval of leave the latest leave balance is then updated again.

Advantages

IWDMS has helped in increasing the productivity of Government employees in following manner:
>> IWDMS provides Document Management,

IWDMS has provided user convenience to the Govt. of Gujarat employees by providing the following:

1. A single-click facility to send documents including files and correspondences to multiple users.
2. Easy traceability of various documents within and across departments.
3. Facility of level-jumping within hierarchies for sending Files or Correspondence.
4. In-built communiqué monitoring system.
5. Built-in Dashboard providing holistic view of work distribution implemented on me and my down-line concept.
6. As on-date reports readily available through reliable Decision Support System.
7. Single and unique repository of GOs, GRs, Circulars, Orders of various departments with built-in feature of search on Keywords.

Some of the major process improvements through IWDMS have been in following :

1. Electronic Files and Correspondences creation and considerable reduction in physical movement of files.
2. e-Budget - saved paper by eliminating several draft versions of the budget book for each department from being printed.
3. Reduction in establishment activities e.g. Leave balance verification from service book eliminated.
4. Auto generation of service book.
5. Centralized repository of government documents created including GRs and GOs, which can be accessed instantaneously for reference.

The key benefits due to implementation of IWDMS have been as follows:

- >> Efficient monitoring and control
- >> Building a knowledge base consisting of various Government Documents
- >> Less Paper office
- >> Automates routine tasks - Work flow / Business rules / Processes
- >> Automatic generation of file number and tracking
- >> Work / Task prioritization with Reminders to officers
- >> Standardization of common process
- >> Enable environment for efficient administration
- >> 24x7 access
- >> Pictorial dashboard - Provide a holistic status with drill down facilities

Workflow Management, Collaborative Environment and Knowledge Management in an integrated fashion and delivers an Electronic Workplace which results in productivity improvement in a Government organization.

- >> Commuting time for sending physical files across departments is reduced to fraction of second in electronic format.
- >> Publishing of GRs, GOs, Circulars and Orders could be done quickly in IWDMS and is available for view to all employees in IWDMS which reduces the time required to send physical copy. Also it reduces the cost of paper

by eliminating photocopying of these documents for distribution across the departments.

- >> Various registers such as Inward, Outward, etc., are automatically maintained

Thus, there is productivity increase due to automation of several processes in IWDMS. Less manpower would be required for tasks such as movement of files. This can be deployed in other more useful activities. Moreover, time to search for files and reference documents will be minimized thereby.

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Glocalisation et al



Toeholdindia.com by ToeHold Artisans Collaborative Ltd. is a unique example of how local artisans have harnessed the power of the internet to make their lives better. A small hamlet in Karnataka, India, called Kolhapur, famous for Kolhapuri Chappala, one can experience the full supply chain of procurement, tannery, designing, and making the entire series of products available through website and all revenues reaching directly to the artisans. Largely enabled and implemented by ASCENT - Asian Centre for Entrepreneurial Initiatives, ToeHold is a collective of many Self Help Groups

Governance through better Network Infrastructure: The Trend in Jharkhand

Successful implementation and sustenance of e-Governance programmes for the State will depend on support, guidance and direction at the policy and Implementation level

SUNIL KR. BARNWAL

After the creation of a new State the Government of Jharkhand has given high importance to improve the socio-economic situation of its people, educate them and familiarise with ICT towards information society. Among others, the use and implementation of Information Technology is recognized as a strategic importance for its people and society in this context in the ICT age. Keeping in mind the point of maximum public interface the Government of Jharkhand is investing towards ICT infrastructure in the State at various levels and areas which include the areas of infrastructure, Internet based applications, establishing new institution and policy formulations. One latest policy step is setting up Common Service Centres (CSCs) across the State providing Internet and other ICT based services.

So far, the State Government has taken regular initiatives in major areas such as human resources, infrastructure, policy regimes, investment cli-

mates etc. In this respect government has been setting new institution and doing computerization of its major departments by rolling different applications regularly on pilot basis in the district with the view that once it stabilizes in pilot district, the State will roll it in each district to reach to its people with minimum hitch.

There are key issues on board. Expanding the IT infrastructure network, quality human resource development, scaling up of projects already implemented, ensuring sustainable outcome of various interventions, and reaching out to the last mile with services are some major challenges.

Key Initiatives

>> Currently in Jharkhand many improvements in IT applications and deployments are underway. Unlike earlier ICT applications, many current applications are web interactive and paper handling is minimal.

- >> Process standardization and simplification by dividing the manual process in logical modules of the application software.
- >> Jharkhand Agency for promotion of Information Technology along with Jharkhand Space Application Centre working in the areas of GIS and software development activity. Some pioneer work has been done by JSAC like Village Information System, Geographical Information System, Space Communication, Urban and Infrastructure Development, Land Records Computerization
- >> Facilitating investment flow with the use and application of ICT with single window clearance
- >> State portals playing important role in regular departmental information dissemination and services like tender information, results of examination
- >> State Wide Area Network Connectivity through Jharnet made available for data, audio and video applications up to block level. Jharnet success will encourage more & more application available at Citizen Service Centre for better service to village people.
- >> Opening of Indian Institute of Information Technology will take care of manpower requirement of the Industry in the State in field of Information Technology. IT Park will create investment climate for software companies.
- >> By encouraging the Public and Private Partnership business Model in ICT activities in public service delivery. For instance involving various State Level Agencies in the State Wide Common Service Centre programme
- >> For State level e-governance projects a provision of a supplementary budget has been provided in the State. A high level committee has been formulated to review the project proposals prepared by PeMT for adherence to State priorities.
- >> Most importantly the State information on Portal will save time and money of citizen which they used to spend visiting different State offices all these days is now available to them which they can further use in other social and self development.

State information on Portal will save time and money of citizen which they used to spend visiting different State offices all these days is now available to them which they can further use in other social and self development.

Initiative towards Network Infrastructure
Jharkhand Government is

taking extra effort in enabling Network infrastructure across the State in no sooner time. Already the State has been implementing the national

JAP-IT
Jharkhand Agency for Promotion of Information Technology was conceptualized to accelerate the growth of Information Technology in Jharkhand and implement the policies of the State Govt. in the area of IT. The broad objectives are to provide IT inputs to Governments Departments, Agencies and to assist them in computerization and networking, to co-ordinate with investors and industry, trade organizations and financial institutions in public and private sector.

programme of State Wide Area Network (SWAN) which is a statewide high-speed communication backbone to ensure voice and data connectivity at all blocks & villages, and high speed internal gateway. Under this Jharkhand State Wide Area Network (JHARNET) the State Government is promoting speed and ease of governance.

Purpose of the SWAN is to leverage Connectivity Benefits; delivery of e-Governance Applications; better monitoring and evaluation; seamless flow of information; availability of Information to people; efficient delivery of services; internal computerisation and

information flow. Overall, the State ICT infrastructure is focused on four key components: Data Centre, State Jharkhand State Wide Area Network (JHARNET), Block to Panchayat Connectivity (BPC) and Common Service Centres (Pragya Kendras).

Since 2005 Jharnet is being implemented across the State to modernise the government's communication network to act as a information superhighway. In this direction a state of the art State Data Centre is being built by the Government of Jharkhand to ensure the security, integrity and availability of data with all government departments through a secured centralised data hosting facility. The network is implemented on the modified Build Own Operate and Transfer (BOOT) financial model for a period of 5 years.

Jharkhand takes the pride of being the first State in the entire country to implement the scheme of Common Service Centre (CSC). Steps have been taken to set up 4,562 CSCs throughout all the panchayats in the State in first phase and 872 CSCs in second phase to provide e-Governance and other value added services. These CSCs, named Pragya Kendras in Jharkhand, seek to transform rural areas through the use of ICT and web based applications and deliver all hosts of government and private services to the rural people at their doorsteps.

Leveraging ICT for Sustainable e-Governance
The introduction of ICT to

government presents an opportunity to provide government services to a wider audience at a lower cost of availing services. This enables provisioning of satisfactory services to a larger number of people without the need to open more physical offices and recruiting more staff thereby improving efficiency and productivity of government. The savings thus made may be ploughed back into the welfare and development activities of the government.

The Jharkhand Government has undertaken a wide ranging and well thought out roadmap. Instead of ad-hoc computerization, the state has leveraged cost benefit analysis to prioritize the revenue generation and citizen interfacing departments for e-Governance initiatives so as to maximize the returns on the money spent on e-Governance and build support for e-Governance by showing tangible results. Some of the successful initiatives are listed below:

- 1. **Common Service Centres (CSCs):** Jharkhand is the pioneer State in the country to set up 4,562 CSCs throughout all the panchayats in Jharkhand to provide G2C and B2C services.
- 2. **JharNet (SWAN):** JharNet

is the backbone network for voice, data and video communication throughout the State of Jharkhand.

- 3. **Jharkhand Portal:** A single point entry portal for the State of Jharkhand for providing government information and services to citizens and businesses.
- 4. **FileTracker:** Its main objective is to replace the manual record keeping system with a more efficient paperless automated system.
- 5. **Digitization of Khatiyans and Register:** Unicode-based application software has been developed for the Land Record Computerization in the State. The pilot project successfully completed
- 6. **Integrated Online Commercial Taxes System:** Dealer information system, Tax accounting information system, Assessment information system, Return processing system, & other departmental functions
- 7. **Tender Information System:** An internet based application has been developed and deployed that enables publishing information about tenders, sending the information on tenders of interest to registered private play-



ers, uploading of tender documents etc.

8. **Employment Exchange computerization:** An online system for registration and renewal of registration at employment exchanges has been developed.
9. The state has planned to train at least 25 to 30 e-governance Champions amongst State officials and to make them responsible to implement the e-governance roadmap of Jharkhand.

Identifying key challenges

There are concerns that connectivity issue is holding back key networking based governance applications. Developing quality human resource is a challenge. Until and unless the State has put greater efforts in education and information literacy it would be difficult to bridge digital divide in the State and facilitate development. The challenge is to reduce gaps in poor access to computers and information and communication technology amongst

large section of the State population who are living in the periphery of the State's social and economic set ups. Then there are the content barriers in terms of facilitating local language digital content in meeting information and communication needs of the local population.

Successful implementation and sustenance of e-Governance programmes for the State will depend on support, guidance and direction from the top staff of various

state departments. The need was felt to train officials occupying decision making levels and managerial posts who will be trained as 'e-Champions' to be equipped with necessary skills to lead the successful implementation of e-governance projects in the state.

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CASELET

Digital Inclusion



Digital inclusion of the marginalised is materialised with these muslim girls (all of them in burqa) at a basti in Hyderabad where till recently they were not even allowed to step out of their homes. Technology For The People (TFTP) is the organisation behind this effort. At the centre, muslim girls are taught animation on computers as shown in the photo above in addition being encouraged to regularise their normal education in schools. After the initial training they do fantastically well and at least 10-15 of them are employed at one animation company and earn Rs. 5000 to Rs. 10000 and prove that ICT offers a huge opportunity for the marginalised community to leapfrog into the mainstream

Harnessing ICT for Sharing Benefit with Primary producers

As the processing units become more organised and IT savvy it is possible to track each and every receipt. In any case for several product categories this is being maintained for reasons of quality

SANJEEV CHOPRA

When your columnist was the IT Secretary for Uttarakhand in North of India, (then Uttaranchal), he had always argued that unless the stakeholder departments 'mainstream' IT in their day to day operations, it would not be possible for IT to make any real impact. It became all the more clear when it comes to implementing special programmes which require precise tracking and benefit sharing arrangements. The proposition being made in this column is that benefit sharing of the 'value addition' done by agricultural exports can be transferred to the primary producers only by having a well designed IT system in place.

The ideas expounded in this column emerged at a seminar organised by the Kolkata Centre of CUTS International, an organization working in the area of consumer awareness and protection, trade and globalization issues, and the impact of WTO on the primary producers of interna-

tionally traded goods and commodities with special focus on agro products and handloom workers.

The subject under discussion was the impact of National Foreign Trade Policy on the livelihoods and incomes of the primary producers, and was under the GRANITE (Grassroots Network on the Impact of International Trade on Livelihoods and Employment). Fortunately, for your columnist, the project is underway both in Uttarakhand and West Bengal. The West Bengal project has produced some empirical studies, and it would be interesting to see how the ground level data compares with that from Uttarakhand.

My distinguished co-panellist was the Joint Director General of Foreign Trade responsible for trade promotion activities and the implementation of ASIDE (Assistance to States for Infrastructure development for exports) in the Eastern region, Sanjeev Nandwani. He highlighted the macro

aspects of trade policy in general, and also in the context of agricultural products. The fact is that gems, jewellery and software are the main stars on the Indian export firmament, and it is only recently that some attention has been given to agricultural exports. Because we are a nation which is among the top five producers as well as consumer of several agricultural commodities, our position on agro exports is often ambivalent. Thus when the farmers want to export wheat and rice, the government wants to ensure that the consumers do not have to pay too heavy a price. There are also times, when farmers clamour for the imposition of countervailing duties on a wide range of commodities - ranging from apple juice concentrate to

tomato pulp/puree, but the foreign trade policy is not very clear about how and when this should happen. To that extent, the farmers have always pointed out that the Foreign Trade Policy does not really take their concerns into account.

In the course of discussions, this columnist's attention was drawn to the recently introduced scheme of special



The proposition being made in this column is that benefit sharing of the 'value addition' done by agricultural exports can be transferred to the primary producers only by having a well designed IT system in place.

incentives to export of agricultural commodities and products made by rural artisans. Under this scheme, the exporter will get a reimbursement of 7.5% of the value of the exportable commodity. This incentive will however be given only when the export has been made. This columnist suggested that at least fifty percent of this amount should go back to the primary producer. After all, if the primary producer has no stake in the transactions

after he has sold the produce, the National Foreign Trade Policy means nothing to him.

IT and Incentives for Primary Producers

There will of course be some initial difficulties in implementing the scheme. The first of these relates to tracking the producer, and determining his share. As the processing units become more organised, and IT savvy, it is possible to track each and every receipt. In any case, for several product categories, this is being maintained for reasons of quality, and to meet the norms of the importing countries. The second relates to monitoring of the scheme, and a guarantee that the incentive will actually be transferred to the farmer. This columnist feels that this is best left to voluntary compliance, coupled with extensive information about the scheme, and some random checks with exemplary punishment in case of default.

The first advantage is that the farmer will begin to get involved with the export units, and will prefer to improve his product quality so that the produce becomes an export consignment. Secondly, this will actually lead to a transfer of resource to the rural areas, and strengthen the capitalization of primary producers. Thirdly, and not insignificantly, there will be an actual documentation of the primary producers who are engaged in the production of exportable commodities, and it would be easier to focus extension activities among them. They will also be the

more progressive farmers, and NABARD sponsored Farmers Clubs would also be anchored with the group that is involved in export, because farmers growing exportable commodities would be more amenable to institutional interventions than their (bucolic) colleagues.

The other point made by this columnist was that his process of consultation has to become much wider. A few weeks ago AgriMatters had drawn the reader's attention to the problems faced by the sesame farmers when all oilseed export (including palm oil and sesame) was banned by the Union government without any reference to, or consultation with the state governments. True, concessions were given subsequently when the state governments wrote the protest letters - but the point is, why not involve stakeholders before the problem, rather than reacting to the problem once it has crossed a certain level. If consultations with state governments is difficult and time consuming, at least the commodity boards, export councils and the farmers groups engaged in production should be asked to give their views. Else the National Foreign Trade policy is a policy of, by and for the exporters only

It is true that an exporter adds value in a way that is quite different from a normal consolidator, or middleman, but the question is - should the value thus created be shared equitably, or cornered by the exporter alone. If we

take a long term view, then the aspect of co-operation will rise to the fore, because where such trust is lacking, export orders may flounder if there are changes in market prices because of extraneous factors. Agro processing and export units will find it easier to build local alliances, create confidence within and among the communities in which they function, and leverage all the incentive schemes of the central and state government for export promotion. As the CUTS study in AEZ for lychee, pineapple and mango in west Bengal had shown, the primary grower is not really concerned or bothered about the outcome of the ASIDE scheme - for he asks - what is in it for me? Even as the percentage of India's share in global exports goes up from 0.7 % to 1.5% (no mean achievement), the farmer asks - how does it affect my income? How does it add to the sustainability of my operation? How does it make a difference for me if my consignment is exported, or sold in the domestic market? The farmers are now hoping that as the Policy is coming up for review in the next few months, it is time that the Ministry of Commerce addresses these concerns. Only then will the policy have some meaning for the grassroots.

Harnessing ICT Essential

The issues addressed above

are critical and require urgency in addressing them. As we know the occupational structure of India is still dominated by the "agricultural sector", equally critical are the key "Agricultural Challenges" that must be resolved sooner. ICT can play a leveraging role to promote agriculture outputs through technological interventions. Primary producers must get benefit using technology means through better marketing exposure and pricing, reduction of agricultural risks and enhanced incomes, and better awareness and information. Every State gov-



ernment must effectively look into the constructive and derivative role in facilitating better networking and communication services, online trading and e-commerce all for the cause of our agriculturist brethren. There is a digital divide that is hampering the productivity and capacity of the primary producers and this cannot and need not aggravate.

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Towards Village Information Entrepreneurship

One of the current problems is that there are few contents available that really suit villagers at the Bottom of the Pyramid

ASHIR AHMED

ICT today allows users to play active roles as information consumers, producers and owners. However, people at the bottom of the pyramid (BoP) have not been able to move much beyond the traditional role of passive consumers of information. Many of the efforts to resolve this problem focus on increasing villagers' access to facilities and on training in ICT use. One of the current problems is that there are few contents available that really suit villagers at the BoP. Villagers do not develop the actual contents they use, nor do they own or profit from them. Yet it is the villagers who have the most to communicate about their village, and it is they who should own and profit from the information.

The Grameen Communications Approach

Our project at GCC (Global Communication Center) aims to build a model of social information infrastructure (SII) where villagers can also be producers and owners of village information. Rather than using high-tech infra-

structure and training, our model shows how villagers—with their current skill set and their own devices—can generate and broadcast information. In order to bridge the gap between their capability and the capability of their devices, a "BoP adaptation layer" is introduced in SII model.

Recently GCC has conducted a series of surveys to understand the requirements of villagers in terms of using ICT. The villagers surveyed are Bangladeshis who are classified as belonging to the BoP (Base of the Pyramid). Among the findings of the survey, we observed that contents are a major vehicle to popularize ICT. However, at present, there are few con-



tents available that really suit villagers at the BoP. We can gain insight into why so few of the available contents really suit villagers when we look at the answers to three basic questions:

1. Who developed the contents?
2. Who owns the contents?
3. Who profits from the content business?

Unfortunately, the word "villager" cannot be used to answer a single one of the above questions. Yet it is the villagers who know more about their village than anyone else, it is the villagers who can update the village information earlier than anyone else, and it is the villagers who should naturally own and profit from the village information. The traditional explanation as to why villagers do not control their own information would probably be that they are illiterate and lack other skills. Training programs and literacy development should continue to be pursued, but does giving villagers a voice in ICT need to depend on villager literacy,

especially in this high tech century? Villagers need ICT to spread their voices. Indeed it can be argued that we need their voices as much as they do. At GCC, the various projects aim more efficiently to achieve the MDGs by seeing the villagers' world through their pictures and stories.

Our step towards finding a way for villagers to develop, own and commoditize information is the One Village One Portal (OVOP) platform (Fig.1). The platform is capable of handling 85000 portals for 85000 villages in Bangladesh. However, we envision OVOP as a prototype for other BoP villages around the world. While there are challenges to be faced before OVOP can be widely used, our research team continues working to find creative solutions to put, in Professor Mohammed Yunus' words, poverty and disadvantage in a museum.

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Low Cost Sustainability Access

Among many of the workshops that took place at 2008 Internet Governance Forum, Hyderabad, the workshop on "Low Cost Sustainability Access", was organised by Digital Empowerment Foundation and the Internet and Mobile Association of India, on December 5, 2008. The principal objective of the workshop was to provide a focused platform for a multi-stakeholder interactive meet on key areas of accessibility and involve participants from different sectors to discuss and put on table the recommendations. The workshop underlined the need for "low cost and sustainable access" to the rural poor, focusing on "connectivity", "devices", "content", "services", "commerce" and "business", and "policy" and "regulatory" matters

NIDHI SHARMA & EMMANUEL NEISA

Participants

The workshop, which was attended by more than 60 key participants, was presided by Mr. R. Chandrasekhar, Special Secretary, Dept of Information Technology (Ministry of Communications & Information Technology, Government of India and

moderated by Mr. Osama Manzar, Founder & Director, Digital Empowerment Foundation, New Delhi, India. The participants came from different backgrounds, representing civil society, corporate entities, international institutions, NGOs and government, were asked to join



one of the four thematic sessions to brainstorm their experiences and ideas.

'Low Cost Sustainability Access is paramount'

"There has been an explosive growth of the Internet. It shows that Internet has a meaning in India. Low Cost Sustainability Access is paramount if we want to talk about reaching the last billion," commented Mr. Chandrasekhar, Special Secretary, Dept of IT, Government of India, who presided the session on Low Cost Sustainability Access. During his speech, he made a picture of connectivity in underdeveloped countries,

Mr. Chandrasekhar raised the questions of availability of content in local languages and literacy - in languages and in computers - problems in developing countries and asked for short-term solutions to be addressed

giving concrete examples about India and raised interesting questions for the panelists of each group.

Lack of adequate infrastructure

Talking about India, he said that the "Picture in rural areas is bleak", and highlighted the problems that developing countries are facing concerning a lack of adequate infrastructure, a lack of awareness on the benefits of internet, an uncertainty of technology adoption by rural users and power shortages. He said that the advent of low power devices (like low-consuming chips) and the emergence of solar power and other alternative source of energy and power are essential to bridge the digital divide in developing countries.

Focusing on the economic viability of connectivity

In order to make the infrastructure sustainable, the number of users has to be maximised, aggregating the demand and lowering the costs. He said that shared access points, as Internet kiosks, make economic sense



Each group composed of 10-15 experts and other attendants were asked to brainstorm recommendations under the framework of "Low Cost Sustainable Access"

to entrepreneurs and to the final users and are thus one of the most viable ways to bring connectivity to the rural areas. "We are looking for a solution at the Base of the Pyramid where the market opportunity is amazingly vast. But at the same time the challenge and supporting infrastructure is pretty bare

bone. The users at this segment are clearly a VFM (Value for Money) market", he declared. Projects based on donor efforts have made a lot for connectivity in the rural areas but are unfortunately not scalable, and economic viability is essential for scalability. He also highlighted that the growing penetration of mobile telephony is another way to reach the masses and bringing them Internet and said that individual connectivity through the mobile is emerging as the preferred manner to provide connectivity to the population at large.

Importance of content
Mr. Chandrasekhar also

noticed that access is not just a question of equipment and there are many other barriers to connectivity. He raised the questions of availability of content in local languages and literacy - in languages and in computers - problems in developing countries and asked for short-term solutions to be addressed. Focusing on the meaning and utility of content for the final users he advocated the creation of services and said that adding value to those services is critical in order to spread Internet, making its access sustainable and beneficial the users.

Finding the right policies to foster Internet usage and connectivity

Finally, Mr. Chandrasekhar focused on regulatory side and said that even if Internet is bringing a lot of opportunities, for education, for example, there is a lack of mechanisms for the providers to give these services, giving the example of the IPR regulations. Regulations must be adapted to take all the benefits of Internet concerning financial inclusion and micro-credit.

II. Content & Services:

The role of content and services in Internet Governance is still an emerging as well as simmering challenge. This group session had to delve on the content and services framework in its technology, device, access, affordability focus.

Recommendations

- >> Standardize the means and medium to meet regional languages like standardisation of keyboards of all vendors;
- >> All citizen services have to be made also available in the mobile platform;
- >> Suggestion to insist on uniformity in formats across different states in the same areas;
- >> Translated content to be made available in regional languages;
- >> Prioritise and support use of open source software;
- >> Services and content has to be made available and accessible to physically challenged (disabled) people.

I. ACCESS, CONNECTIVITY & DEVICES:

The focus of this breakaway session was on areas of accessibility, governance around access, issues in network and connectivity and role of technology devices, gadgets and how all three aspects are critical in "Low Cost Sustainable Access".

Recommendations:

- >> Focus toward providing low cost devices to rural poor with cheaper access cost. These devices have to be multi-functional in order to take the most benefit out of them and have to be low-energy consuming;
- >> Increase the investment

- capacity of end users (micro-credit for example) and promote shared access to lower the costs;
- >> Increase human resource capability in using the devices and connectivity. Rural Empowerment on using of these devices and internet need to be focused;

- >> Focus on open source application and free software in order to lower the software and its upgrade cost;
- >> Awareness on visible improvement in livelihood of end users, to foster the usage of the devices and lower the individual-user cost.

III. Commerce & Business:

Commerce, trade and economic exchange is a critical component in Internet Governance framework. This breakaway session had to focus on why and how economics and trade is vital in governance driven by World Wide Web (WWW) including policy framework, inno-

vation, inclusion, transparency and efficiency drive.

Recommendations

- >> Need for a uniform policy for e-Commerce transactions and sites, including taxes;
- >> Uniform security standards for sites that adopt e-commerce transactions. This has to be

- made in order to improve user confidence and to engage more people to sell their products online;
- >> Low cost / Incentivised access to e-commerce sites and governmental promotion of e-commerce, especially in rural areas;
- >> Creation of Synchronous

e-Commerce models that facilitate following market interactions: Rural >>Rural; Urban >> Rural; Rural >> Urban; and Urban >> Urban transaction models.

IV. Policy & Regulatory Focus:

Policy areas constitute the most significant driving point in Internet Governance system that a country adopts and drives. This session had to delve on the types, pros and cons of having a regulatory friendly governance framework that can facilitate governance in social and

commercial contexts.

Recommendations

- >> Create a corpus fund like USOF (Universal Services Obligation Fund); in which each operator gives a part of its revenue to incentivise the connectivity in underserved areas;
- >> Ability to share and dis-

- tribute unutilised capacities and share infrastructure (for example: in wireless services, tower costs are very high) ;
- >> Right of Way policy;
- >> Demand side policy facilitating long term sustainability;
- >> Integrated or unified license for services for multiple services;

>> Spectrum regulation should reflect utility or public good.

Thematic Sessions & Recommendations

The thematic sessions were divided into four groups (1. Access, Connectivity & Devices; 2. Content and Services, 3. Commerce and

Business and (4) Policy and Regulatory Focus). Each group composed of 10-15 experts and other attendants were asked to brainstorm recommendations under the framework of "Low Cost

Sustainable Access", and focusing on their sub theme. The sessions were organized in a participatory mode, in order to bring more elements into the debate and enable all the participants to take active part of it.

the decision making process even if some of them require more work to be actionable and to be translated into specific steps, and that home work could be taken by Digital Empowerment Foundation, being the principal organiser.

Conclusions

Post Session presentations, Mr. Chandrasekhar delivered his concluding remarks encapsulating the recommendations in one. He said that despite the small span of time, the recommendations were "extremely useful and insightful". He said that many of these recommendations would be plugged into

"This workshop has been a good initiative where the vital issues of internet access, affordability of internet for the common man, especially rural lessons of India, were discussed". - Jatinder Kumar, NIXI (National Internet Exchange of India)

Workshop report compiled by Nidhi Sharma and Emmanuel Neissa, Digital Empowerment Foundation, New Delhi, India. DEF can be contacted at defindia@gmail.com



Digital Content trends in South Asia

The region as a whole has a long way to go in ideating and implementing qualitative and impact oriented ICT and digital content interventions. This is evident from more than 300 nominations that came to Manthan Award from the South Asian countries

PRITAM SINHA

The digital gaps within and across societies is largely evident from the existing digital content trends apart from other indicators. This divide is a 'revealing' one in entire South Asian region.

Despite the region having diverse interventions in ICT and digital domain, the focus on digital content, that drives the whole of digital trends, is missing at policy and advocacy levels. However, there are few emerging trends in this domain meeting user standards, expectations and satisfaction. This was demonstrated during the 2008 Manthan Award South Asia conclave held in last quarter. The Award platform provided a useful ground to undertake a content analysis in South Asian countries. The following is a brief on the findings that emerged out of the nomi-

nations and winning practices with key recommendations that emerged out of the 3 days consultation process in end quarter of 2008:

Analysis Findings

The following is a country specific brief account of the trends in ICT and digital content as reflected through the process. The findings are classified under various heads of the Manthan Award platform.

@ Afghanistan

The need to spread internet literacy and that too in local language in Afghanistan is a need felt reality. The lone Afghani nomination entitled 'Sea Monkey' - font developed in local Pashto language is a reflection of this. This is an indication that as English language is not popular, there is an urgent need to spread computer literacy and the local Pashto language as a

chosen language vehicle to spread ICT and digital content in the country even in remote areas.

@ Bangladesh

A look at the nominations from our Eastern Neighbour and the instant comment could be - 'Bangladesh is a country of innovations despite constraints'. A testimony to this is the quality of nominations from the coastal country. The nominations spread across categories from e-education to community broadcasting and livelihood. The impressive point is six out of the 13 nominations from Bangladesh emerging as winners, making the country's success rate almost 50%.

All might not be winners, but Creative Canvas, Win Corporate and World Net, and Cell Bazaar all drew admiration for their e-content practices. Mention must be made of Cell Bazaar, the practice being lauded for its mall concept inscribed in the mobile applications for buying and selling. Overall, the diverse nominations and winning practices from Bangladesh is an eye opener to the fact that ICT and digital content could work wonders in a country like Bangladesh, besotted with multiple challenges in social, economic and political frontiers. This shows that the more difficult the living con-

ditions are, the better the human mind and efforts get directed towards surmounting the hardships.

@ Nepal

Nepal sent 3 nominations which were in the categories of Community Broadcasting, E-Localisation and E-Culture and Development. Out of those, Equal Access won in the first category because of its inclusive approach to make information available wherever the end user might be staying. The work being done by the other two nominees is also commendable. The nominations from Nepal is expected to scale up by next year, once the country settles politically and is better positioned to use ICT and digital content innovatively. Otherwise, Nepal desires more of ICT and digital content interventions beyond the Community radio networks to have a multi-pronged approach towards technology facilitated development.

@Pakistan

Pakistan is a country that would require a wholesome approach in ICT and digital content practices. The country is still to have qualitative as well as quantitative practices in ICT. For Manthan Award there were two nominations from Pakistan in e-health and e-Culture and entertainment. This could be a point to demonstrate that the country

Despite the region having diverse interventions in ICT and digital domain, the focus on digital content, that drives the whole of digital trends, is missing at policy and advocacy levels.

However, there are few emerging trends in this domain meeting user standards, expectations and satisfaction

has vast scope to ideate and experiment in ICT and digital content practices to address its own social, economic and governance challenges. An integrated approach towards development in Pakistan must have technology and digital inputs as fundamental elements of holistic and all round growth for the communities.

@ Sri Lanka

The nominations from Sri Lanka gives an interesting picture of a country making hard hitting efforts in deployment and usage of ICT and digital content tools and applications despite political and social turmoil at times. The island nation had the maximum number of nominations with the count of 18. Three of these won in different categories. It must be brought to notice that most of the nominations, as far as their work is concerned, were in some way or the other linked to the ethnic violence that has engulfed Sri Lanka for long now. Other issues of development have also affected the ICT and digital content initiatives. The winners, be it Gemidiriya Foundation, Dambadeniya Development Foundation Community Radio or Information Accessibility for the Print Disabled, have taken excellent initiative to improve the lives of those in need with the help of innovative means. The

other nominations also deserve praise for its efforts to bridge social, cultural and economic gaps.

@ Bhutan

Although the Himalayan kingdom of Bhutan was represented with a single e-News nominee, the landlocked country has a long way to go with more development work and innovative use of technology. www.Bhutannewsonline is a good effort by Bhutanese citizens in the USA and yet more needs to be done to facilitate ICT and digital practices in the Himalayan Kingdom to overcome geographical, social and economic divides.

@Maldives

Maldives is a typical case of a country with little ICT and digital practices. There was only a lone nomination from the Oceanic country. Maldives is a challenging case for the entire ICT fraternity as to how to facilitate and connect the island country and its citizens into various ICT and digital networks and activities for greater intra and inter information and communication framework

@ India

India's diversity is equally reflected in its various ICT and digital content practices. The Manthan Award for four years now have witnessed to diverse ICT and content prac-

tices from India, the Award so far was India specific. For this year, there were 226 nominations out of which only 22 nominations were short listed and considered for recognition, placing the success rate at roughly 10%. This indicates the difficult and quality testing of nominations by the Grand Jury of the Manthan Award. This also reflects the fundamental point that despite numerous ICT and digital content practices, the quality interventions can only provide the much needed input in giving out result and impact oriented output.

Long way to go

All ICT and digital content interventions in South Asia are nothing but recent trends of one - two decades in experimenting and experiencing in old and new technology tools and applications to meet diverse and multiple challenges across communities in one of the most underdeveloped regions of the world. The outcomes are equally diverse in terms of its impact and utility in meeting expectations of the common man in addressing their day-to-day needs. In this, the role of the public, private and the civil society agencies have been active in enabling and facilitating technology tools towards development and empowerment. In all various ICT led development efforts, the challenges have been

What is desperately required is a multi pronged approach at all levels including at policy levels leading to a desirable and result oriented ICT and digital content interventions

equally glaring and hard. The turmoil witnessed is in social, political, cultural and economic domains all of which have contributed in slowing down various technology approaches.

Irrespective of all these, the region as whole has a long way to go in ideating and implementing qualitative and impactful ICT and digital content interventions. What is desperately required is a multi pronged approach at all levels including at policy levels leading to a desirable and result oriented ICT and digital content interventions. On top of this, involving the stakeholders is a must with the needs and voices of the communities taking the centre stage in designing and implementing any ICT and digital programme. It is ultimately the communities who really decide on what and how of technology must determine their fate and needs.

Content analysis done by Pritam Sinha, Research Associate, Digital Empowerment Foundation, New Delhi. He can be contacted at pritam@defindia.net

All ICT and digital content interventions in South Asia are nothing but recent trends of one - two decades in experimenting and experiencing in old and new technology tools and applications to meet diverse and multiple challenges across communities in one of the most underdeveloped regions of the world

Digital Content Recommendations

Digital Content for Development, was the name of the international conclave that was organised by Digital Empowerment Foundation, late last year on the occasion of Manthan Award 2008. During the three day deliberation, more than 1500 participants from 17 countries participated across 13 categories of subjects to discuss various aspects

and implications of digital content and how the content and services delivery through different ICT tools could be the focus, if the developing countries have to look at economic development. Following are some of the major recommendations that came through which were also sent to line ministries for proactive consideration.

E-Content for Learning & Education

There are visible challenges before the nation which concerns the twin processes of e Learning and e-education. The issues to be addressed here is convergence of the Internet and learning, or Internet-enabled learning, the use of network technologies to create, foster, deliver, and facilitate learning, anytime and anywhere. It is also about delivery of individualized, comprehensive, dynamic learning content in real time, aiding the development of communities of knowledge, linking learners and practitioners with experts.

Recommendations

- >> The focus has to be on spreading awareness, increasing interaction with the rural strata of society, and making technology more accessible
- >> The approach should cater faithfully the urban and rural populations
- >> There is need to promote e learning in the field of medicine and healthcare. There are benefits in programmes like digitized MBBS curriculum and making it available on websites and CD's
- >> Streamlining the methods of teaching through videos and live demonstra-

tions through the use of net is important

- >> There is need for new and effective ways of teaching for quality education, especially in the rural areas of the country. There is need to channelise the vast untamed talent of the educated youth
- >> Content should be presented in such a way so as to empower, engage and excite the teachers; content should be rigorously aligned with the curriculum and should be easy to understand. Content should be developed after audience analysis, should be cross medium and available anytime, anywhere
- >> Learning outcome and objectives to be defined and evaluated. Evaluating the content will require validating /evaluating the technology. There needs to have a scope for research in development and delivery of content
- >> ICT based content has to be capable of being LAN enabled, suitable to be TV broadcast, suitable for ITV and other new and emerging technologies with a stereovision
- >> Content should be child/ student friendly, scalable, culture specific, flexible, empowering the teachers, based on local context, and cost effective. Digital contents shall be taken from

the local surrounding, should be interactive

- >> Content needs to be interoperable, there has to be some mechanism of interaction between teachers and student on the digital content
- >> Standards should be defined taking the slow learners and students with special needs into consideration; e.g. W3g content is compliant for people with disabilities
- >> Following the constructivist approach, digital content should, be absorbing and, engage students and teachers to create their own lesson plans
- >> Content should be an enabler in vocational education, open software should be available to be dubbed in regional language. Skill reinforcement should be reflected in the content and its usages
- >> Content should be made bilingual- a common language and regional language
- >> Assessment needs to be evolved; therefore it should be continuous, frequent and comprehensive. Assessment should be as non-threatening as possible. While determining the assessment standards, various innovative tools should be employed e.g. portfolio based assessment, self assessment, peer assessment, etc.

Community broadcasting for addressing information content gaps

Community radio has tremendous potential as a type of radio service catering to the vast informational and entertainment needs of local communities. It has great scope in a country like India to promote democracy and transparency in the administrative system. It is one such bottom up ICT tool that can really bring community revolutions if used efficiently.

Recommendations

- >> There is great need of involvement of local people in this process
- >> Keeping the recorded content in the libraries for open access for all
- >> Emergency community radio schemes in times of natural disasters
- >> Technology to be user friendly
- >> Accessibility over the content for people with disabilities

Digital Content in Localisation and Inclusion

Technology cannot claim to have solved its purpose if it is unable to reach the local level and include as many in its fold as it can. Therefore, it has to break barriers which block its path of reaching out to as many as possible. There are many who are working towards the goal of making technology accessible to as many.

Recommendations

- >> Localisation has to become a priority for the government and e-governance initiatives
- >> Efforts towards dispensing education to physically handicap through recorded cassettes and other ways must be promoted
- >> Creating website in languages other than English is critical as there are large populations that do not understand English. For example, there are more than 2000 dialects and more than 40 million Internet users in India. There are various methods of creating e-content in local languages.
- >> There is more need of devising ways and means to include philanthropy activities through online platform for any person who wants to donate for a social cause.

Digital Panchayats and Constituencies

In a country where most of the population resides in villages, one cannot ignore the fact that empowering the villagers would lead to a developed India. Digital panchayats could be viable platforms to that end.

Recommendations

- >> Task of preparing the data base for villages should be done by the villagers themselves
- >> Emphasis must be laid on how connectivity and interaction among panchayats is necessary to share knowledge and experience, and how Internet is the most convenient media.
- >> The problem of transaction in regional languages must be addressed squarely
- >> Efforts should be extended to make a wish list for the development projects and making use of available funds with the help of a existing software like PLANPLUS which is available free of cost.
- >> A citizen data base should also be prepared for development planning. Here IT would come to help.

ICT for Water and Sanitation Management

Availability of water has become a matter of concern today and it is not for reasons not known to us. And so is the importance in devising ways and methods to address key water and sanitation issues using informative and communicative technologies. Here, the real issues are in assessment of ICT training needs for water practitioners and communities; innovative ICT applications for water and sanitation sector that can be delivered through ICT kiosks and mobile platforms; challenges is in Field testing; mechanisms for ICT enabled social audit of Govt.'s Water and Sanitation Programme including inputs from citizens.

Recommendations

- >> Use of local language in such areas should be adopted

- to increase local participation
- >> Data collection to be given most importance at the grass root level as this data is the base for macro analysis
- >> Knowledge updation is very essential
- >> Explaining people that use of technology would not end their work but will only assist them
- >> Improvement in the field of pilot projects required
- >> Objectives for which the data is being collected should be predetermined for better data management
- >> Use of sign language could be developed in this field
- >> Create more computer literates to spread awareness among the masses and provide computer and internet access to various villages
- >> Devise a data which compares the government's reports of work done and ground reality which exists

Digital Content in Culture and Entertainment

Technology can give a stimulus to efforts in the area of culture and entertainment. There are examples as to how ICT tools and digital content can help remote local culture and also provide entertainment to large sections of society. There are examples like those in Sri Lanka as to how ICT tools and digital content are being made use of for promoting culture.

Recommendations

- >> The already developed cultural web portals could be shared with UNESCO for possible support and sharing.
- >> It is now necessary to have a Local Area Portal which can be accessed by all. There should be amalgamation of all contents produced by the participant organisations and individuals for the common purpose of preserving and promoting different cultures.
- >> There is a need to develop a portal wherein the information about all Community Radio programmes at the South Asia level could be uploaded, including the content, so that it can be shared, listened to and modified according to the local needs. The portal will also highlight the common practices, experiences in sustaining the community radio, training modules and other relevant information/knowledge in relation to the CR initiatives.
- >> Local initiatives could be documented and shared across the globe so that the local innovations could be replicated. The Manthan Award platform is doing the same, but it can provide a platform wherein all these initiatives could be shared on a regular basis.
- >> The involvement of children in the process of gathering information about culture in which they are surrounded by is very important. This is in order to inculcate the sense of preservation in them since childhood. This idea has been very successful in Sri Lanka.

Digital Content in News and M Content

Digital content has a great role to play in news services delivery and mobile applications usage. Content can facilitate efforts by organizations in providing real time information to user customers and build a strong communication network between customers and sellers through the use of internet and mobile explain the relevance of such innovative technologies.

Recommendations

- >> Content on blogs must be relevant and must be capable of being understood by the layman in his language
- >> Bringing news to the people is not an easy task. There are various stumbling blocks in the path of making information reach the masses and bridge the digital divide
- >> ICT practice like spoken web must be promoted. This is an initiative to use the World Wide Web in the telecom sector. Service delivery is done to the rural population through a phone. The initiative voice website has been started because audio does not suffer from the bias of literacy.
- >> Efforts to break communication barriers between the government and citizens is must as it is very important to ensure communication between the two in a democracy
- >> Technology, if used in the right way, will not just provide news and information to large populations, but create a situation where people will have unlimited scope for being informed anywhere, anytime. We just need to make use of the high level of mobile penetration and make content through computers more accessible.

Digital Content in Health and Environment

The importance of ICT and digital content in health services delivery with affordable quality and accessible content and services is increasing each day. At the same time, the need is felt on overcoming time, geographical, economic and social limitations. Information Technology has the potential to improve the quality, safety, and efficiency of health care in today's times. There are needs and goals that have to be achieved and also need to address the barriers that are hampering quality health services delivery.

Recommendations

- >> There should be sharing of database to enhance the functioning of the various organizations

- >> Government's funds can be saved by questioning the organizations on their working and informing the government about the progress in the work.
- >> Expenditure gets doubled when different organizations are working on the same problems. There can be some co-ordination to organise the working in a better way
- >> Money should be spent on creating awareness about health issues and a better environment
- >> There should be copyright of the data of the hospitals
- >> Very importantly, there should be negotiation with the vendor (in these cases corporate) to reduce implementation cost.
- >> The role of public- private partnership should be admired. Efforts should be made towards leveraging the potential in the private sector in telemedicine

Digital Content & Governance and Business

Governance and business go hand in hand and are the two most important driving forces for any country. ICT and digital content applications and methodologies have a key role to play in facilitating governance and business processes and in promotion of social entrepreneurship.

Recommendations

- >> Digital trends must address key governance challenges like geographical and physical distances in service delivery while narrowing down the gap between governing and governed
- >> Key areas of focus be on education, health, and administration
- >> Digital practices must enhance the efficiency and effectiveness of agriculture extension programmes, trade and dissemination of best practices
- >> Digital innovations must cater to the marginalized groups like those people living in forest like making them aware of their rights
- >> Such initiatives must have firm linkages in bringing about good e-governance with the purpose of promoting democracy, decentralization, electoral reforms, clean politics and accountable government
- >> Internet must be made innovative to create tremendous opportunities for a layman to become entrepreneurs while viewing the Internet as a fabulous market place, connecting buyers and sellers, and more effectively removing the middle players
- >> ICT enabled social entrepreneurship must serve rural people, even those who are unable to read and write with information regarding health, education, agriculture, etc. and provide low cost solution to many problems.
- >> ICT Social entrepreneurship must have scope to provide vital digital content services in agriculture and in overall primary sector
- >> Innovative ways is required in this domain like platform for people to book their bus tickets through online
- >> There should be more of E-bays, a platform which can help a layman turn into an entrepreneur with the help the Internet, Cell Bazaars, where the millions of users of mobile phone in Bangladesh can purchase and sell even their old products just by using the mobile, and ngpay.coms, India's largest mall on the mobile came as social entrepreneurial eye openers
- >> The challenge as to how technology can revolutionise lives by putting to use entrepreneurial abilities in combination with serving social causes

d-CONTENT
CASELET



Digital Madarsa

In bridging the digital divide, this ICT enabled madarsa in the heart of Jaipur in Rajasthan, has helped the girls become technology savvy who also create digital content

Internet Governance — Challenges and Lacunae

During IGF 2008, with the participants from hundreds of countries, there was no dearth of opinions, wishlists and suggestions.

NIDHI SHARMA

"There are various concerns as far as the code of good practice for reform of Internet Governance and its successful implementation is concerned. Governance in 21st century has to become more participative. Resources and access to them is a major challenge because most people do not have do no have access to them. There has to be a systematic issue of access to Internet. And the best measures to solve these are regulation and information. The problems are not only related to cost."

With these words, Mr Hans Armfelt Hansell from the UN Economic Commission in Geneva put forward the biggest challenge in the face of good Internet Governance during the Internet Governance Forum at Hyderabad.

The necessity of a public-private and south-south partnerships

He further explained that public private partnership can play an essential role here and responsibilities have to be clearly defined, especially concerning developing countries to create a win-win situation for all. His thoughts

were shared by Sylvia Cadena, of the Information Society Innovation Fund from Australia, who called for a strong collaboration between both sectors and between the developing and developed nations in order to achieve the dream of good Internet governance.

Taking the situation of a developing country like India, which has the additional responsibility of such regional diversity and huge economic and digital divide, making content available to everybody to bridge this divide and make Internet Governance a success is a challenge.

An expert trainer coming from a developed country many times doesn't understand the issues been faced by developing regions in terms of access to content, multilingualism, infrastructure and so on. Exchange of knowledge between regions facing the same challenges is then paramount to overcome the digital divide in a sustainable and efficient way.

A myriad of challenges to bring Internet to the next billion

"As we move towards having the next billion connected,

and the billions after that, one thing that is certain is that these users will come from non-English speaking economies. As such there will be some critical challenges to overcome e.g. the ability to navigate content in a language they understand (in other words the need to have internationalized domain names). Then there is the issue of the content itself, and whether it is available in a language they understand (in other words, being able to achieve a truly multilingual Internet). These issues include the question of computer literacy levels, and whether these users will have the basic education to be able to read and write content. It is also important to ensure that the content that is available can be accessible by all, including by persons with special needs and disabilities." These were some of the views expressed by Rajnesh Singh, Regional Bureau Director, ISOC, as far as content availability is concerned.

The need to have digital content accessible by all, and this includes people whose primary languages are other than those commonly used on the Internet today, people with special needs access, and people with low literacy rates is paramount. The real value of knowledge (by way of digital content in this instance) is realized when we share and learn from each other's experiences, and contribute back to the pool of knowledge.

The journey to reaching the developed stage of enabling Internet Governance and

"The least developed countries are suffering from serious digital divide. Its not that they are not online. They have to catch up."

SYLVIA CADENA — INFORMATION SOCIETY INNOVATION FUND

unleash the potential of Internet in all spheres is not that easy. There are a whole set of challenges that we need to overcome, lot many lacunae that we need to fill. The experts from various fields brought out the issues at stake, which can be summed up under the following categories. (*Please see Box*)

It has become obvious from the above points that one has to ensure that one understands who the target audience is, and what their needs are. Then content can be tailored to suit, but the important thing to keep in mind is that it is critical that those challenges are met and overcome so that digital content is not just available, but it is read, understood and put to good use.

Dialogue and consultation to overcome these challenges

Thankfully we have been moving to an era of multi-stakeholder based dialogue, discussions and consensus. As such, public-private partnerships are all the more important to realize common goals, objectives, and aspirations. Each party in such a partnership will come with certain skills and strengths,

and the best way forward will always be one in which all parties contribute such skills and strengths to produce a better and more cohesive output/deliverable. Even if the IGF is not a decision-making body, it can give guidelines to

decision makers to implement the right policies in their countries.

From an Internet governance perspective, the discussions that took place in the IGF are important for every Internet

user, and for the most part, are a global public policy issue. As such, it is important that a summary of these discussions are made available to the world at large, and disseminated as widely as possible, so that appropriate input

is received from all communities, to the widest extent possible. Remote participation at the IGF meetings also play an important role in achieving this. It was good to see the efforts put into providing remote participation facilities during IGF 2008, and I hope this can be further expanded for future meetings.

There is also a need to pursue Internet governance dialogue at the local and regional level. These local and regional forums would also allow wider participation (particularly when language may be an issue at global meetings). The output of local and regional forums can then feed into global forums such as IGF.

The IGF shows that the process has matured and that the discussions are now moving to the next level, where actors involved on Internet issues can discuss practical solutions and best practices for the challenges faced in the Internet governance space.

But we need to stress here that new platforms need to be created and we have to use the existing ones to bring together not just the supreme of society and decisions makers, but also the people at the grassroot level. Because if we do not have them at the scene of action to get the words from the horses mouth, our efforts will remain futile.

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Technical challenges

- >> Research on alternative technical solution to internet infrastructure
- >> Increase the role of mobile as info vehicle
- >> Adhering to international technical standards and maintaining a technologically competitive edge.
- >> Limited service penetration related to service and equipment access cost.
- >> Emphasis on technology deployment in phase with users needs
- >> Power shortage problems that need to be resolved with inventive solutions (solar panels for example)
- >> Foster the use of multi-functional devices such as mobile phones with Internet capacity

Capacity building

- >> To give network operators the sufficient training and information to fulfill the mission of connecting all the territory
- >> Improving computer access and teaching in schools, especially in rural areas and giving students basic computer knowledge
- >> Collaboration platforms have to be established to foster Internet usage and impact
- >> There should be collaboration platforms. What you are dealing with. The reality may be different from the imagination that we have.
- >> Services like e-government, telemedicine and e-commerce facilities are attractive for the population

Content

- >> Standardize the means and medium to meet regional languages like standardisation of keyboards of all vendors;
- >> All citizen services have to be made also available in the mobile platform
- >> Suggestion to insist on uniformity in formats across different states in the same areas
- >> Translated content to be made available in regional languages
- >> Prioritise and support use of open source software
- >> Services and content has to be made available and accessible to disabled people

Markets & Competition

- >> Bring down state monopolies and facilitate the entrance to the telecommunications market to new actors
- >> Establish an independent authority to regulate the telecommunications sector.
- >> Research alternative infrastructure ownership and sharing models
- >> Understanding of commercialization channels and procedures to access to state of the art experimental equipment (low cost low power)
- >> Bring down inter-country barriers and restrictions to cross border connections to unleash innovation and competition.
- >> Bring down license fee for ISP /Telecom companies to encourage investment and competition

Policy & Regulation

- >> Create a corpus fund like USOF (Universal Services Obligation Fund); in which each operator gives a part of its revenue to incentivise the connectivity in underserved areas;
- >> Create an integrated or unified license for services for multiple services;
- >> Focussing the ICT policy in rural areas and offer government services to expand Internet's utility in these zones
- >> Legislation should not hinder technological advancement
- >> Work closely with neighbor countries governments to unleash competition and foster connectivity



In Tilonia Village in Ajmer district in Rajasthan, communities associated with Barefoot College, has taken the responsibility to find and manage all the information related to the quality, quantity and other relevant details pertaining to drinking water in the adjoining areas. The barefoot communities have these information for last many years and they crunch the data through computers as well. Recently learning with Barefoot College, Digital Empowerment Foundation has been working out an application called NeerJaal which would manage the entire information related to drinking water in villages. NeerJaal is also supported by Department of Science & Technology, Government of India. More at <http://www.neerjaal.org>

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