NOVEMBER-DECEMBER2008

dCONTENT

Enabling Development through Digital Content

Need for Digital Inclusion

PAGE 24

India is one of the poorest country - in terms of digital content creation.
The impact of ICT hype is little helping the development. It is time that government & corporate to include 90% of the digitally excluded masses to have their participative role in making India digital.

By Shubhendu Parth

Big Bites From The Manthan Award 2008 06

www.dcontent.in

dCONTENT
Enabling Development through Digital Content

24 cover story NEED FOR Digital Inclusion

By Shubhendu Parth

dCONTENT
for Development

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Zameer Khan

For Marketing and Circulation
Mohd. Niyaz

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D - 307 FF
Sarvodaya Enclave
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Digital Development

The emergence of this magazine-cum-journal is based on the experience that we at Digital Empowerment Foundation have gained in the ICTD domain during the last 5 years, by traveling through more than 1000 villages, 20 countries, and by creating a network of more than 1,000 organisations connecting India, South Asia and the world through the Manthan Award for Best e-Content for Development processes.

Look at the ICT for Development domain to which we belong and aspire to make development possible through the interventions of information communication technologies and tools. And we must have realized that the entire ICTD sector is overwhelmingly supported by the ICT and IT companies both across India and world over. This has led to an impression of a top-down approach in the ICTD domain, thus making the entire ICTD sector being used as an excuse to reach out to the last mile, or say creating wholesome consumers for the ICT products and services at the end of the day.

After attending numbers of conferences related to ICTD, going through thousands of pages on websites, prints, blogs, books and research papers, I am in a position to claim that we may have spent more time and money on the subject rather than the implementation of the subject.

A notable pointer to this could be the sheer lack of inclusive process of those development issues and the people that any ICTD intervention tend to cover; which naturally have resulted in pilot failure, poor implementation experience, exploitation of the last mile, and questionable relationships between the technologies and masses.

It cannot be detested that content and services is the core for the success of technological interventions, irrespective of what technology and tools are being used. Interestingly, because of the very high penetration of TV, Radio and Mobile and now community broadcasting in India, it may be more than viable to reach out to the masses for various content services. This instead of making plans around expensive, high tech laptops with WiFi connectivity designed in the bracket of urban centric consumerist approach, coated in English language based content services and believe that it would be apt to an individual in rural area whose basic problem is education, health and lack of basic infrastructure including information infrastructure.

Besides, there are key issues at the government and policy level in bringing out effective policy programmes which could integrate the developmental issues with available ICT tools from the point of view of the demand, ICT penetration, and linguistic localization. For example, there is not a single ICT enabled transparent, inclusive governance programme which could make the 500 plus parliamentarians, 2,500 plus assembly constituencies and 2,50,000 plus gram pradhans linked to their electorates for their responsibilities, accountabilities or lack of those.

With a clear cut focus on these issue areas in the ICTD and digital content for development domain, this 'D-Content' magazine every two months would bring to you and involve you to highlight issues, case studies, policies, and schemes which would help us understand the larger implication of ICTs and digital content to facilitate towards nation building activities where the stress would be more on content, services, linkages and transparency rather than just technology and tools.

With this, I wish you all a thought provoking reading of this first issue of D4D. Please feel free to send your rants and raves with the view that without your timely and right kind of suggestions and criticisms we cannot improve and grow.

Warmest regards,

Osama

Information Communcation Technology for Development

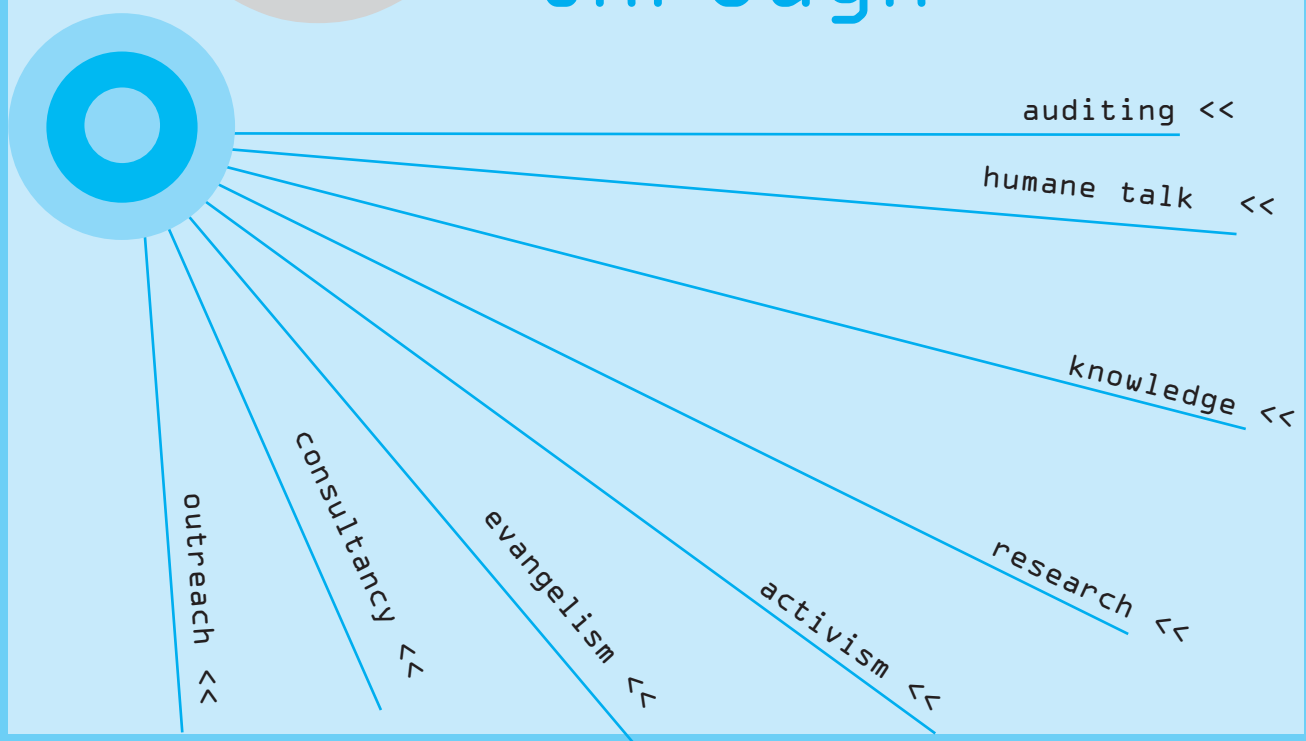
DIGITAL EMPOWERMENT FOUNDATION

www.defindia.net

Empowering through Information and Content

Empowering People

@ the edge of information through



WWW.DEFINDIA.NET

This inaugural issue of D-content carries snippets of selected entries of Manthan Award South Asia 2008 as news items. These nominations are handpicked by jurors of Manthan Award and they are believed to create critical impact on development through their innovative use of ICT tools and digital media. In the coming issues we will cover more ideas from the nominations list of Manthan Award.

SULAV
(Easily Accessible)

As the product name suggests, this venture is all about making the content easily accessible across all the geographic locations in hilly terrains of Nepal using the tool of Community Broadcasting. So this venture is as much about making content available through a sky route i.e. the satellite as much about the intense desire to make information available to all for inclusive growth. That it skips the need for any telephone or internet connection for it to be of use by the average Nepali speaks volumes of working around ground realities to a best alternative method to reach the masses.

DAMBADENIYA COMMUNITY RADIO
(Dambadeniya Praja Guvanviduliya)
www.vishvae.org

During a household survey in the area it was found out that people in the backward region of Dambadeniya in Sri Lanka are still deprived of most basic facilities and many of the problems stemmed from their being cut off from the information and communication technology. In this background, the Dambadeniya Community Radio project was initiated to leapfrog their voices to the outside world. Since 2000 the people in Dambadeniya have been using Community Broadcasting to address their day-to-day informational and communicational challenges.

IPsupermarket.com

IPsupermarket.com is a pioneering effort and a convenient way to trade in Software Intellectual Properties (IPs) in India. It is a unique portal in which sellers can list their new IPs such as software codecs, silicon IP, wireless IP or reference design, whereas buyers can access the variety of IPs, listed in IPsupermarket. IPsupermarket brings buyers and sellers together on one platform which helps them to communicate directly. IPsupermarket allows individuals, companies or business to buy/sell or license various kind of software codecs like audio codecs, video codecs, image codecs or speech codecs, embedded software frameworks, device drivers, silicon IP, wireless IP, reference designs and much more! IPsupermarket.com has been short listed as Top 21 IT Innovators-2007 in India.

JiGrahak Mobility
www.ngpay.com

With the advent of mobile phones in our lives in such a big way, many initiatives have come calling directly to our homes riding on our handsets. Ngpay is one such initiative which allows users to shop, bank, pay and do much much more in a very fast and secure way through their mobile handsets. Many of the financial transactions can be carried out sitting at home through ngpay without any hassle free. Many of the web's e-commerce features have been incorporated in this unique initiative from JiGrahak Mobility.

SAFAL SNX
www.snxindia.com

SNX is an initiative of National Dairy Development Board (India) in collaboration with MCX and FTIL. SNX is an electronic spot market which offers transparency and guarantees payment and delivery with quality for the benefit of sellers and the large number of buyers across the country, pursuing a vision of One India One Market. The exchange started operations in 2007 and offers contracts in mango, onion, potato, tomato, grapes and banana which are being traded. Since commencement of trading about 18000 MTs have been delivered satisfactorily to the buyers under the exchange. The exchange has 250 members, including 150 SHG's and Farmer associations that connect individual farmers. Members also include F & V traders and businesses interested in commodity trade. SNX has received wide spread interest from traders, bulk buyers and retail chains. Similarly, response from farmer community has been positive. The exchange has created an opportunity for farmers, even the small ones to get access to national markets.

NETBETAR
www.netbetar.com

Using an Internet radio station to help development along certainly is a new thing. In this background, NetBetar is the first online audio channel in Bangla for Bangla speaking audience globally. The relatively untapped potential of Internet radio and the ways to make it a tool of development where Bangladeshis placed globally could also participate led to its origin. Bangladesh has a high

number of Non Resident people all over the world that provides a major share of foreign remittance to the country. These NRBs thrive for a link to their language and cultural. One of the missions is promotion of the Bangladeshi culture throughout the world. NetBetar as an Internet Radio station serves two goals-to reconnect the global Bangladeshi to his/her roots and give him a chance to be a part of Bangladesh's development. NetBetar intend to have infotainment related matters that will help all kinds of audiences whether rural or urban to get the best out of this station. It also plans to reach deep rural interiors through telecenters. Its mission is promotion of the Bangladeshi culture throughout the world. Rural Bangladeshis as well as Non Bangladeshi Bangla speaking audience all over the world are envisioned to be its beneficiaries and development partners.

UNNAYAN TV
www.unnayantv.com
Using TV as a developmental

vehicle in Bangladesh is a novel idea and Unnayan meaning Development in Bangla can be said to have ushered in a wave of fresh air into TV as a medium in the beleaguered country. It is Bangladesh's first online video channel which publishes video contents on development, human rights, and educational as well as cultural issues of the coastal country regularly. It is an alternative initiative against the commercial giant media. The Bangla word "Unnayan" is"Development of human life and civilization" It's focus is to feature the unreported Bangladesh and create space for marginalized community particularly grassroots poor to express their voice, experience and stories. UnnyanTV's vision to make Bangladeshi grassroots people as "internet hero.

KISSAN KRISHIDEEPAM
www.iiitmk.ac.in/
Kissan Krishideepam, a weekly agricultural based informative television program produced by the Indian Institute of Information Technology and management Kerala (IIITM-K) is targeted at the entire farming community of Kerala. The television program is backed by a toll-free telephone call center and

the KISSAN-Kerala portal for asynchronous interaction between viewers (farmers) and to get feedback from the viewers. Krishideepam is part of the KISSAN-Kerala project - an innovative IT facilitated agriculture information and knowledge empowerment services project of the Department of Agriculture, Govt. of Kerala. The project aims at providing 'right information at the right time in the right context' to the farmers across the entire state of Kerala. It was conceived, developed and managed by the Indian Institute of Information Technology and Management- Kerala for the Department of Agriculture, Govt. of Kerala. KISSAN team has completed the production and telecast of 244 unbroken weekly episodes during the last five years through Asianet, the leading commercial satellite channel in Kerala. It attracts more

SmarTeach® : UGMED, PrePG e.Tutor, Q.Banks, CME- MEdRC (http://www.medrce-dutech.com)

There is a huge shortage of trained medical personnel in the country and it is expected to become more acute as time passes on and population increases. MEdRC Edutech has taken it upon itself to try and bridge this gap by extending quality technology enabled digital healthcare education countrywide through 6000 + Community Health Centers. MEdRC is developing e-Learning courses for Pharmacy, Dental, Nursing, Paramedical and Village Health Workers (in various Indian languages) by engaging the best available faculty from across the country and abroad, making them deliver lectures, record them and later make them more interesting by way of digital add ons and spreading the masters' voice to every corner of the country in partnership with various medical teaching organizations.

PYARA KERKETTA FOUNDATION (www.kharia.in)

Pyara Kerketta Foundation named after late Pyara Kerketta, a great educationist, social reformer, political activist and pioneer in cultural movement in Jharkhand, is a development institution committed to the promotion of human ability and comprehensive social development. It runs a website, www.Kharia.in, which is the first ever website started by any tribal community. The aim of the website is to give a fillip to the national and international efforts towards the preservation of the tribal culture and languages of Jharkhand. It is also a platform to disseminate information in the mother tongues apart from Hindi & English. From British days itself, Jharkhand's tribal languages are facing a strong attack on their very existence. In this background, the website kharia.in assumes greater significance.

DIGITALLY (www.edurite.com)

A simple power point presentation is passé, it hardly creates a buzz anymore. Therefore edurite, the lead education technology adopters, have come up with DigitAlly. This product is designed to assist the teaching community in adding multimedia objects to their teaching slides, thus empowering students with multimedia rich learning objects creating a Classroom+ experience. The product is bundled with a huge off-line library of learning media objects and application is tightly integrated with MS PowerPoint for easy usage. Digitally provides an efficient environment for the education community including school teachers, university faculty to add multimedia material to a teaching slide. Animations, Videos and Diagrams are the three main categories of media objects bundled in this version of product.

than 28 lakh viewers across the state and outside. KISSAN is becoming a role model for IT facilitated or e-extension services delivery in Agriculture.

IGNOU EDUCATION BROADCAST
www.ignouonline.ac.in

Indira Gandhi National Open University

Indira Gandhi National Open University (IGNOU) is a pioneering hub of educational activities with its 'in tune with the times' outreach method. Lately it has also ventured into DTH, IPTV and Mobile broadcast to reach to the maximum population. Already it has a TV program called Gyandarshan I, a virtual countrywide classroom called Gyandarshan II, an educational radio channel called Gyanvani and YouTube archived video to cater to the learning community.

LEARN WITH FUN - MATH CENTRE FOR CHILD DEVELOPMENT & DISABILITIES
www.ccdd.in/program.php

This initiative stems from a very general finding that

most of the children find Mathematics very difficult to master. So instead of teaching through the traditional method, an alternative fun method was attempted to make the learning more of a fun than a tedious task as perceived by most of us. The method adopted is also very innovative i.e. through a satellite and the language chosen is the mother tongue Kannada in this case. The whole exercise is based on concept teaching.

JEEON-IKB
www.jeeon.com.bd

Jeeon-IKB meaning 'information on life' is a unique intervention by D. Net to use information communication technology for upliftment of the masses. They have envisioned their endeavour to include almost all areas of the life be it agriculture, healthcare, non-farm economic activities, appropriate technology, healthcare, education, human rights, awareness or disaster management. They have also experimented with online information dissemination but thought it best that through CDs they can take their message best to the masses.

GIVEINDIA.ORG
www.GiveIndia.org

GiveIndia
the power to change lives

Money given to organizations who have a proven track record of providing most benefits to the end users would satisfy any one. This is precisely the concept on which GiveIndia.org is based on. It enlists 100 odd NGOs who have been scrutinized for transparency and credibility over a period of time. The website plays the role of a 'philanthropic marketplace. This out of ordinary thinking sets this intervention apart.

Gemidiriya ITSHED Sri Lanka
www.itshed.net/

ITSHED is a concept borne out of grassroot thinking. In Gemidriya, all the villagers have been provided a personal webpage plus an email ID. Facility has been extended to provide for translators wherever necessary. On the webpage the person tells the world what he/she is good at and what are his/her requirements/ demands as well as what he is capable of delivering. Every village also has a webpage enlisting all its richness and demands so that give & take can happen with the wider world.

SHUJAN- Shushashoner Jannoy Nagorik — Bangladesher Vote — *www.votebd.org*

In any democracy, choosing the right candidate is doing half the trick. Votebd.org facilitates this process by giving accurate details of the candidates contesting local or national elections for the benefit of the voters. Every little fact associated with the candiadate like educational qualification, criminal records (present and past), statements of assets and liabilities of candidates and dependents, profession, loan from bank and financial institutions, statement of income tax returns, source of election expenses, statement

CELLBAZAAR (corp.cellbazaar.com)

Bagladesh's CellBazaar is a virtual market place on the mobile where one can buy as well as sell products or services. Mobile reaches more hands so it is always better than e-commerce through the internet. Literacy issues also come into consideration when the internet is involved. So CellBazaar is more direct. It's amazing how the harder the life in a region is the better the innovation it throws up as is the case with the beleaguered Bangladesh. CellBazaar is a prime example of this theory and it is not the only one.

ARGHYAM (http://arghyam.org/)

Arghyam
Safe, sustainable water for all

Water issues or more specifically potable water issues have become the talk of the present age such is the scarcity of something as common as water till the other day. All this has resulted in a comprehensive Indian Water Portal which is a repository of all issues concerning water. Its 'Ask a Question' section is becoming such a popular source of water related concerns that its answer section is increasingly being looked upon at as something of a last word on water issues. The best part is that this endeavour seeks the participation of all members of society so it is everybody's site, www.arghyam.org.

of actual election expenses etc. is provided on the web-site. Apart from this, news items related to them are also enlisted to better judge the contesting candidate.

Computerization of paddy procurement and PDS in Chhattisgarh - Dhan Kharidi aur Sarvajanik Vitaran Pranali
cg.nic.in/khadya

छत्तीसगढ़ शासन
खाद्य, नागरिक आपूर्ति एवं उपभोक्ता संरक्षण विभाग

Ever wished that you have the complete computerization of the food supply chain? Yes, it is a reality in Chhattisgarh. Right from paddy procurement from farmers, its storage, milling and distribution of rice and other commodities to 3.4 million ration card holders through Fair Price Shop to purchase and issue at paddy procurement centres including generation of cheques has been computerized. Miller's registration, Agreement with millers and generation of Delivery Orders etc. are computerized. 3.4 Million Ration card holders database has been prepared. Calculation of monthly allotment to FPS has been automated. Call centre with a toll free number 1800-233-3663 is operational from 8:00 AM paddy procurement and public distribution. Citizen interface web site is hosted to increase the citizen participation in controlling diversion of PDS commodities.

Health Management and Research Institute (HMRI)
http://hmri.in

With a host of ICT services at our disposal, it is now possible to leapfrog many services to people living in the distance particularly the urgent health services sector can get instant benefit out of this virtual reality. Satyam Foundation thought of this and came up with HMRI. The objective of the project is to provide Health Care services to 40 million Virtual Contacts and 40 million

Physical Contacts per annum in the State of Andhra Pradesh through an Integrated Digital Health Platform. The Help line consisting of group of doctors

LIPIKAAR (www.lipikaar.com)

LIPIKAAR

It is a real impediment for persons fluent in regional language to work on computers and harder still to type out the matter as every language has multiple fonts to be mastered. To overcome such problems, Lipikaar, a method to enable typing in 16 languages with an ordinary keyboard is creating waves. It supports Hindi, Marathi, Sanskrit, Nepali, Kashmiri, Konkani, Sindhi, Bengali, Gujarati, Punjabi, Tamil, Telugu, Kannada, Malayalam and Urdu, Arabic. The best part is that it is not complex and encourages thinking in the native language itself. At present it is compatible with Microsoft Windows and Mozilla so that it can be used with internet also. Furthermore, it is also available as a hardware product.

VoiKiosk: Enabling the illiterate to access information services in local language (http://www.research.ibm.com/irl/)

In a verbal and not very literate or computer savvy society like India, traditional Kiosks or in other words internet dependent tele-centres are not very successful given the fact that electricity is not available on an average for most parts of the daytime. IBM and Byrraju Foundation thought about this fact deeply and came on the scene with 'VoiKiosk: Enabling the illiterate to access and offer information services in local language' riding on the telecom revolution in the country. It's a brilliant idea given the prevailing socio-infrastructural facts. People having access to all the local relevant information by just dialing a number is the beauty of this concept. More information can be had by clicking at (http://www.dritte.org/nsdr07/files/papers/s4p1.pdf).

Font Development in Pashto - SEAMONKEY - (www.acsa.org.af)

To popularize internet usage in war torn Afghanistan and facilitate Font development in Pashto, the Afghani language all in one internet application christened SeaMonkey has been introduced. It incorporates Web-browser, advanced e-mail and newsgroup client, IRC chat client, and HTML editing made simple -- all our Internet needs in one application. Roughly it is based on hugely popular Mozilla source code and it is idea for fast development of internet and things like that in this recovering nation.

HOIMONTI (http://ankur.org.bd)

Hoimonti enables computer usage in Bangla. Many of the normal features of the computing and internet experience is customized in Bangla for the end users. It is very useful in maximizing the benefits of computer usage among native language users. It is a desktop Linux distribution localised into Bengali.based on Ubutnu 7.10. It is a text installer which takes less time to install and boots into Bangla locale by default. It gives audio management and playback facility and a free SWF movie player is also provided free with this application. In addition, it also provides a multimedia player and streamer. In fact the whole desktop is converted into a Bangla thing through this application, Hoimonti.

supported by mobile medical units visiting the patients. HMRI services will include Toll-free doctor on call, fixed day health services to rural areas, tele-cardiology, disease surveillance and hospital and blood bank management systems.

We In Recovery
nisd.gov.in &
http://together.weinrecovery.org

It is quite easy to fall into the alcohol/drug trap in the prevailing social circumstances but very difficult to recover from it fully due to many psycho-socio causes. It is where Recovery Network finds its origin. The website http://together.weinrecovery.org has been specifically created to not only help those who are in recovery mode but also as a repository of information about addiction, addicts, ways to recovery etc to help those who want to know more about addiction and professionals working in drug abuse prevention.
The broad idea is to help addicts to get back in the mainstream society again.

MONISH CHOPRA
www.Webhealthcentre.com
Imagine having access to all medical facilities of the world through one gate and at a single place. Well this is not a dream anymore, www.webhealthcentre.com is the magic gateway to such a 'hospital'.
It is India's first multi-speciality, multi-institution participating online consulting facility where doctors and patients get to access some of the leading medical institutions in India for medical advise.
Its popularity can be gauged by these facts (per month) - 3m hits, 40000 unique (fresh) visitors, 7 Lakh page views, 26 tele-consultations till date, stores 45000 medical records online and has the distinction of being the first Indian health portal to be authenticated by Microsoft.
Its data spans 16 countries including US, UK, India, Canada etc.

WebHealthCentre.com
Free Health Care on the Web

Dear Readers, Please send your contribution if you have any story like these, and we will publish them here. d-content@defindia.net

Project HIGH>>>WAYS… beyond cancer

Project High>>>ways was conceptualized and was successfully completed blending adventure sports with cancer awareness mission across the country. The mission is to create advocacy and awareness on breast, cervix and oral cancer by reaching out to the hard-to- reach, awareness campaigns, dispelling myths, stigmas and fears, importance of early detection, importance of self breast examination, peer support and instilling adventure spirits. Survivors and caregivers undertaking such activities have shown positive psycho-social adjustments and attitude towards life after cancer.
The objectives of the project includes, to remove the silence, fear, ignorance, stigmas about the "Big C" (Cancer), to educate the communities on timely health care, awareness, timely diagnosis, thus save deformities, loss of body parts and lives, to disseminate information not only on treatment modalities, but even on palliative pain management to make dying in dignity for those who are beyond cure, to demonstrate that there are many highways beyond cancer, where survivors can lead a, meaningful and active life The project, initiated in Maharashtra, reach has been to many remote and tough-to communicate stretches of India like Arunachal Pradesh, Manipur, Nagaland, Manipur, Assam, Ladakh, Siachen base camp, Kutch etc. *[www.highwaysbeyondcancer.org]*

The COMMITMENT (PRATIBADDH)

This is a bunch of committed individuals who are trying to include a community who are not very print friendly. Pratibadh people have taken the newspaper to their doorsteps. A wall newspaper in this ICT day and age seems an odd idea but it is precisely what Anupam Srivastava and his team inclusive of 600 rural communicators have done in four states and 40000 villages in local languages. Some 600000 milk cooperative farmers are benefitting from this experience. The news is customized to their needs and daily lives to a T. Farming, milk business, other issues occupying the mindspace of the dairy community is incorporated in this fornightingly paper. Sure it is worth a look. The digital divide across rural India is being bridged a little every fortnight.

Chhattisgarh ki Jan Website (www.cgnet.in)

What is the solution if a region is represented just scantilty in the mainstream media and the literacy is also abysmally low. How to put across your views to the wider world? Citizen Journalism comes as a solution in this scenario as it prevails in Chhatisgarh. Another form which is feasible is community radio. This is what the people's website of Chhatisgarh aims to do much like the old choupal. The website, www.cgnet.in, provides a platform for the people to participate in meaningful dialogue on the developmental issues using information communication technology. Later on, community radio is intended to be used for the same purpose. By these new methods, this tribal region is sure to leapfrog to this ICT era sooner rather than later.

Amir Ullah Khan

SKILL DEVELOPMENT & the IT sector

Much of the change in the world's perception and outlook about India can be attributed to India's performance in the IT and ITES sectors. India is recognised as a powerhouse of talent and skills. The Indian IT sector is expected to reach a size of USD 100 billion by the year 2010, and contribute to 7 per cent of India's GDP and 30 per cent of foreign exchange inflows. IT exports are increasing at a rate of 30 per cent an annum, and at USD 35 billion account for more than 20 per cent of India's total export earnings. The World Bank rates India as the world's leading offshore development centre for IT. However, the Indian IT industry is concentrated in a few cities, with Bangalore and Hyderabad leading the way. The industry is also fragmented with top 25 companies contributing to more than 65 per cent of the total business by volume and value. Liberalisation of the economy is enabling more businesses computerize their operations. Zero import duty has been allowed on software imports. The use of computers as an educational tool is increasing. Sale of computers in the household segment is increasing. Stricter enforcement of anti-piracy laws has helped in reducing illegal copying and piracy of software.

However, there is a mismatch in the labour market; large amounts of unskilled and unemployable labour vis-a-vis a huge demand gap for simple types of skills which needs to be corrected. The correction is not impossible because India also faces a unique opportunity. It has the youngest population in the world; this means that India has the unique opportunity to complement what an ageing world needs the most, the productive worker. First, unskilled labour has to be skilled. This requires trainers and training infrastructure. Second, their skill has to be recognized and accepted by the potential employers. This requires credible certification of the skills acquired by labour. An added advantage of certification is that labour markets become integrated. With markets opening up and investments going to nearly every state in India, it will be possible for the weaker sections of society to migrate, with basic qualifications and skills. In a fast globalising world, most parts of the country are moving at a fast pace towards a cosmopolitan culture, where almost anyone from anywhere in the country can settle quickly and go about doing his or her own work.

There is a mismatch in the labour market; large amounts of unskilled and unemployable labour vis-a-vis a huge demand gap for simple types of skills which needs to be corrected

It is universally accepted that people with adequate education and skills training are more capable to adopt new technology and become more productive than people with just basic knowledge. A livelihood can be made sustainable, when a person can cope with or recover from stress and shocks and maintain or enhance his assets and capabilities, whilst not undermining the natural base. According to the International Labour Organization (ILO), decent work means productive work in which rights are protected and generates an adequate income with social protection. Vocationally

What is also critical to note is that the knowledge and the software sectors would generate incremental growth in employment that understandably has not been seen in the past

trained people can expand the range of activities that they can engage in and earn a 'decent and comfortable' living. It can help to reduce economic disparities, empower disadvantaged and marginalized groups, reduce unemployment, and build social order. It increases productivity, empowers individuals to become self-reliant and stimulates entrepreneurship. Developing knowledge, skills and attitudes (KSA) for utilization and management of natural resources for sustainable production of goods can eventually lead to achieving development goals.

IT use positively affects the performance indicators of the factories that invest in IT. Greater IT use is associated with better performance and factories that use IT earn higher profits, employ more people and offer greater remuneration for lower hours of work. Therefore if some firms do not invest in IT intensively, it must be because of constraints that prevent them from adopting the best available technology. The major barriers to IT use are opposition from labour unions, irregular power supply and lack of skilled personnel, in that order. IT use impacts organisation structure and how firms that use IT could use technology to streamline activity and increase productivity. Penetration across units results in networking advantages. The benefits of using IT show up only after there is a critical mass of firms and units that get computerised. Therefore some firms wait for this critical mass before they spend on IT infrastructure. It is here that the government can play a very positive role in overcoming this sluggishness in the adoption of IT. IT is an effective tool in all development policy to eradicate poverty and unemployment and take India forward.

In a recently released study on IT use, the India Development Foundation comes out with some fascinating results. Maharashtra and Delhi do well, but Andhra Pradesh and Tamil Nadu fare rather poorly in IT penetration in industry. Cities in the North do better compared to towns in the South and the west. In Indian manufacturing units, firms that used IT registered higher profitability and greater worker productivity. The counter intuitive finding is that for India, IT using companies employ more people. Also the total number of workers, both skilled and unskilled, is higher for IT using firms. The ratio of skilled to unskilled labour is higher with IT use. Most companies reported that their labour unions were sceptical about the use of IT since it is thought to be labour substituting. However, the study demonstrates that IT use actually increases employment.

What is also critical to note is that the knowledge and the software sectors would generate incremental growth in employment that understandably has not been seen in the past. An earlier IDF study on trade in services estimated that the output multiplier for IT and ITES is 4.2. With a compounded annual growth rate of 28 per cent during the last 5 years, the IT-ITES industry's contribution to India's GDP is expected to rise to 7 per cent by 2008-09 against that of 4.8 per cent in 2005-06. It would be important for the IT sector and Indian industry at large to ensure that these benefits are seen as tangible by the larger constituency. The need for better infrastructure is particularly important to enable wider IT use.

A prosperous economy provides countries with much needed resources to strengthen and expand existing school facilities, and a solid education system helps to generate the capacities and talents to stimulate and sustain economic growth. Simply increasing the level of schooling among the general population does not necessarily lead to a booming economy. Workforce development programs need to focus on what is being taught in schools and how these skills connect to other sectors such as the economy, health, and the environment. Above all, creativity, innovation, and ingenuity must be fostered and rewarded.

By far the most urgent need of industry in general and IT use in industry in particular is the need for skilled manpower. This would be the greatest constraint one would imagine holding back IT penetration in Indian industry. Skilling requires greater access to education in rural areas where we find IT usage also poor. Through IT education and IT reach, industry would make industrial growth inclusive. Therefore, in addition to a re look at labour laws, better infrastructure and more reliable power, what is required is a large scale skilling exercise that enables a large labour force enter new markets.

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

Ganesh Natarajan

Going forward, the Digital Study Hall aims to take its efforts across to a far greater number of children across the country.

Finding *Bharat Mahaan*

It was International Women's Day and one of India's most enterprising women entrepreneurs was taking us on a whirlwind tour of her ventures in education. The Study Hall in Lucknow is a school like any other on the surface but reflects the quality that the caring Principal and her team could generate in the pedagogy process which uses technology to deliver interesting concepts in Math and Biology.

One of her projects is the Digital Study Hall - a simple innovation that can transform the fortunes of the underprivileged! The project seeks to improve education for underprivileged children in slums and in rural schools in India, by enabling regular pedagogy with technology. Classroom sessions, by the best grassroots, teachers are digitally recorded and distributed to a large database of rural and slum schools in India. This approach involves computer science and education experts building the content and local teachers actively 'mediating' the video lessons - a team that wishes to change the face of education in our Country. As of 2007, the Digital Study Hall has run pilot 'hubs' in three cities in India (Lucknow, Bangalore, and Pune), covering approximately 30 schools and have accumulated about 550 recordings of lessons in English, Math, and Science, in multiple languages - Hindi, Kannada, Marathi, Tamil, and English. Going forward, the Digital Study Hall aims to take its efforts across to a far greater number of children across the country. This is a massive drive by small efforts of a single entrepreneur in Lucknow, and holds huge potential for the ecosystem to drive education through to the grassroots by optimal usage of resources. This hub-and-spoke model involves content generation at a single epicentre driven across spokes to various rural centres through mediators! The Digital Study Hall is repurposing live classroom sessions into digital content to serve a hub-and-spoke format that can expand the reach of quality education today while we wait for universal broadband access to deliver internet based education on a country-wide scale.

The same central Study Hall's infrastructure and study material also serves 'Prerna' where a number of girls from underprivileged backgrounds get access to the same teachers and technology and an emotional support system that is building new stars, everyday.

The project seeks to improve education for underprivileged children in slums and in rural schools in India, by enabling regular pedagogy with technology

Half an hour away in the village of Kanaar is Vidyasthali, a school that caters to seventeen villages with dedicated teachers from the city creating a clean atmosphere for rural education that shows what the tens of thousands of schools in rural Bharat could be with the right levels of passion and commitment.

The problem with our education system is that it has either focused on high quality elitist residential schools catering to the top strata of society or left smaller schools to rot and decay with low commitment of teachers or the powers that be to deliver employable skills to our young millions

Urvashi's final innovation takes this story beyond education to deployment - Grameen India Corp is a software product testing centre that employs rural youth with a basic school education, trained on manual testing and test script automation. This model is one of the most scalable ways of village resource creation that all of us in IT and BPO have started talking about over the last few months. The potential to take this integrated model of live and technology enabled education in urban and rural India and to combine it with low cost resource creation in a majority of skill areas which are becoming expensive in the traditional IT centres of the country, is staggering, and is waiting to be tapped by the local and global industry. The problem with our education system is that it has either focused on high quality elitist residential schools catering to the top strata of society or left smaller schools to rot and decay with low commitment of teachers or the powers that be to deliver employable skills to our young millions. The demographic dividend that we hear about will remain on paper if we do not improve the scale of quality education and the opportunities for gainful employment which is the primary imperative for a responsible government and society.

The solution to the digital divide will not be found by theory and pontification - the IT industry and indeed many other sectors like Retail, Construction and BPO need to look at Bharat as a commercially viable alternative to India and to find and fund a thousand 'Urvashis' to transform our country's landscape and capabilities into real value - for individuals, communities and the country!

Similar efforts to give scale to educational efforts to the larger Community are being made by NASSCOM Foundation. An area where much has been spoken and written about but not enough action seen on the ground is the ability to reach out to and include the underserved sections of the population with training and job opportunities that enable them to participate in the success of the IT and BPO industry. The NASSCOM Foundation through its Knowledge Network program has enabled the power of Information and Communications Technology to touch the lives of tens of thousands of people in a dozen states but a full fledged movement is required to provide technical and soft skills and job opportunities at multiple locations around the country and spread the prosperity not just on demographic but only on a geographic dispersion basis. The creaking infrastructure in urban locations and the absence of capacity in the educational institutions around the country can only be addressed by reaching out to 'Bharat' as a real alternative to the few urban Indian cities where the knowledge industry today proliferates.

In a year where the slowdown is likely to affect the aggressive growth plans of many firms, a concerted inclusiveness movement will prepare the foundation for the next wave of growth which is not far away as the India story continues to be watched by the world. Inclusiveness enabled by simple yet robust technology is what will give our Country the necessary impetus and will scale education of the less privileged by leaps and bounds - lending unabated growth to more Kanaars, Kharadis and Nagapattinams of India!

The creaking infrastructure in urban locations and the absence of capacity in the educational institutions around the country can only be addressed by reaching out to 'Bharat' as a real alternative to the few urban Indian cities where the knowledge industry today proliferates

Dr Ganesh Natarajan,
Global CEO - Zensar and
Chairman - NASSCOM can
be contacted at
ganeshn@zensar.com

Sanjay Jaju

{ No other sector has generated more jobs than ICT in the last twenty years in this Country In fact, it has been the Service sector and the outsourced IT jobs that have catapulted India into a Nation that's getting beginning to be counted

It's never too late

When was the last time you had to go to a bank or to a travel agent or to a stock exchange or a post office for getting a transaction done? I think you would be seriously starting to scratch your head to figure this no brainer out. Why only these, there is actually a big list of things that have gone into the virtual mode where our physical presence to get an act done has faded into oblivion. The transformation has been so swift and the impact so widespread that even those cynics who thought that Information Technology Revolution is only a passing phase and would gradually pave the way for the traditional to take over have now been reduced to a small minority. It is almost hard to imagine life without the gizmos that the Communications Technology has offered. Would you mind shifting back to your traditional means of existence with a land phone, thick account books and documents, having to stand in queues as somebody there is taking his own sweet time to get the calculations right with the frailties of human mind, I think the answer though pretty obvious is an astounding no.

Information Technology has transformed the way we conduct our lives. It has comprehensively changed the business of doing businesses globally. Although one talks of Globalisation as a discreet event, it would be futile to imagine that this event would have taken place had Information Technology not concomitantly evolved and grown not just besides it but also for it. Every conceivable means of production has been impacted upon and the global efficiency and productivity of delivering the output has gone many notches up because of the advent and advances in Information and Communications Technology. I don't think the world had the capacity to support the requirements of the present population with the existing resources had the push to convert these resources at the exponential rates not come from the ICT.

We have been seeing a similar situation in India as well. Be it the mobile phone revolution that has practically swarmed the Nation including the Countryside or the reach of Desktops and Internet, every bit of our life is practically under the perennial influence of the net. A debate that raged in this Nation when the Indian Railways first introduced Computerisation of its ticketing regarding the adverse impact of ICT on employment has turned practically on its head. No other sector has generated more jobs than ICT in the last twenty years in this Country. In fact, it has been the Service sector and the outsourced IT jobs that have catapulted India into a Nation that's getting beginning to be counted.

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Although the impact of ICT on our Nation has been far reaching to say the least, the contribution of ICT in improving Governance in our Country is still an unanswered question. Even here it is not the Contribution of ICT to Governance

which is in doubt; what is in doubt is the use to which it has been put to in the process of Governance. Governments wherever they are and at whatever level they are leave a huge mark on the lives of the Citizens. An efficiently run government that's close to the needs of its citizens plays a huge role in spurring growth and providing good quality of life to its people. It is this aspect of governance that can easily be transformed if right tools, techniques and methods available in ICT are applied. What is required for that is not the technology which is available in ample but the willingness and commitment to use that, something that is still in serious short supply. This attitude is partly because of the fact that a transparently run government would offer minimal opportunities for rent seeking behaviour and nepotism while it is also because enough pressure is not being put by the Citizen groups and the electoral system on the governments to fall into line and transform themselves towards better governance.

There are many government departments that have created spunky websites to deliver bits and pieces of information. It's albeit a different story whether these sites are updated

If you really ask me the one visible change that I can see in the Governments over the last ten years especially on IT use, I can safely tell you that once ubiquitous typewriter has now been replaced by PCs. These PCs fully decked with multiple variants of Microsoft have made life easier for the clerk to process words and his boss to impress his political masters with colourful slideshows. In many places they have started to use emails and faxes but don't be surprised if they ask you for a signed copy to be delivered to them physically. The Governments everywhere lay a huge importance to file building, paper files of course and for them digitally signed and authenticated documents though cleared through legislation are just not enough. Still reams and reams of paper move from table to table to create work for everybody, work that has no bearing on the lives of the people and work that is simply avoidable and dispensable. The Business Process Reengineering and Work Flow Automation though tried out in few places have only met with partial success. There are few islands of success but with no interoperability across the larger system, the process of governance is still saddled with red tape, delays where one has to move heaven and earth to make the paper move from a table to another.

Amidst all this, there are many success stories and the story would be incomplete if one does not talk of them. There are umpteen examples of many local bodies that have improved their citizen interface through web or through Citizen Service Centres delivering host of civic services, the delivery of which made the Citizens run from pillar to post in the past. There are many government departments that have created spunky websites to deliver bits and pieces of information. It's albeit a different story whether these sites are updated. Although this does add to the comfort, this would still however be falling into 'too little, too late' category. In this scenario, one can only hope that at least these gains are passed across the entire cross section of the Country so that what then remains is the filling up of the missing links in the Jigsaw.

In today's kinetic economy, there's an entirely new set of challenges facing policy makers, decision makers, public sector professionals and citizens. One thing that is clearly evident, through all the dynamics of this Information Age, is the increasing need to make the public sector more responsive to the private citizen. This means, the very paradigms of traditional governance have to undergo a full-scale transformation. In the light of the fact that the average citizen now is more aware of his rights, more demanding of quality and more conscious of his responsibilities, the need for effective governance is more critical than ever. The recently enacted Right to Information Act is therefore a path breaking piece of legislation. The only challenge is to use it effectively and also that it is taken in the right spirit both by the user as well as the provider. Information Technology can play a major part in operationalising the RTI.

Effective governance demands mastery over certain essentials: far reaching vision, strategic planning, extended reach, easy accessibility, rapid turnaround, citizen delight. If ICT could bring in paradigm change in businesses everywhere, it's high time that the governments realise its potential and put its acts together. In that sense, it's never too late.

The views expressed here are personal.

Sanjay Jaju (IAS), Managing Director, ICAP, Andhra Pradesh, and can be contacted at *sjaju1@rediffmail.com*

Nishant Jacob

A Reusable Bag

Courtesy Social Networking

A new age has dawned. Every instant terabytes of information hurtle effortlessly through cyber space, humanity seems to have reached the next stage of its evolution, climbing to the pinnacle of communication, technology, networking and interface, from here there seems to be only one path; straight up, above and beyond our wildest fantasies.

Today social networking sites allow people to interact with millions of people around the world with just a click of the mouse. Channels are now available for information and ideas to flow effortless through the digital system, but what will all this lead to, surely we must harness these awesome forces to do some good, to help solve some of the dire obstacles we now face. These obstacles include global warming, climate change, extreme poverty, haphazard development, energy crisis's, food crisis's, geo-political instability, and the decimation of the planet inherited and the shared biodiversity.

It serves absolutely no purpose for a panel of experts to debate the energy and food crisis on a BBC talk show in Texas if the 6 billion people on this planet couldn't care less and don't quite know what's happening. What we need is ways to capture the attention and above all else the ideas and the solutions that can be put forth by these same 6 billion people, who are all more than capable of contributing towards humanities continued existence. It is one such contribution that I am going to explore, in the form of the "ecobag".

The ecobag movement started in Australia 5 years ago. In a matter of months the entire continent managed to ban plastic bags. This was made possible due to the confluence of a number of events, organizations, ideas and action. The policy makers in form of the Australian government initiated the process by introducing legislation against plastic bags. Private entrepreneurs then took the lead by creating a new product called the ecobag and supplying it to shops across Australia. Finally the general public embraced the concept and carrying plastic bags was frowned upon across the Australian community.

The ecobag movement started in Australia 5 years ago. In a matter of months the entire continent managed to ban plastic bags

Using this model as a reference point, our environmental non-profit organization, Confluence, decided to embark on a similar journey in order to ban the dreaded, unnecessary and highly wasteful plastic bag in India. It is not that the group has anything against plastic. It is a powerfully, multi-faceted material if used in a sensible and sustainable manner, but the use and throw format of plastic bags in today's world make absolutely no sense and its effect on the environment is drastic and visceral.

Working under the aegis of the Bangalore based NGO, Industree Crafts Foundation; Confluence consists of three 12th graders, Agastya Muthanna, Keshav Hingorani and Nishant Jacob of Mallya Aditi International School, Bangalore.

This group was started in 2005 and has been dedicated to dealing with diverse environmental issues including composting, rain-water harvesting, garbage segregation, climate change and now the ecobag.

As far as our proposal for ecobag goes, the vision was much less complicated than a solar farm. The bags would be a made from Kora cloth, a completely natural material that is durable, light and easy to fold. All the bags would fold or crumple {depending on ones tolerance to creasing} into a small pouched stitched onto the bag so the bag could be placed in a handbag, laptop case or even a pant pocket. This makes the bags convenient to use and easy to remember to bring along to the grocery store or supermarket, a far cry from the bulky jute bags with bamboo-stick handles, something nobody would like to stick into his or her pocket. This is an example of retrospective innovation, a seemingly oxy-moronic but powerful concept. By embracing the concepts and solutions of the past and then transforming them into viable solutions for the future we can avoid getting trapped in cyclical ruts, repeating our mistakes and not learning from them. India has a rich, historic cultural heritage and it would be a crime not to utilize these learning while dealing with global issues but we must remember to develop them through innovation and current context so they don't become anachronistic.

One such solution comes in the form of ancient craftsmen guilds, which have had a 21st century, make over into Self Help Groups. Our bags are being produced at a cost of approximately Rs. 15 a bag by a Self Help Group in Krishnagiri run by 20 tailors. These tailors have each invested a small sum of money into the group, using this money they have bought equipment and rented a shed, after earning additional income through the use of machinery they can gather enough money to take a sizeable bank loan and start a small business.

This form of decentralized entrepreneurship is essential for rural development, inclusive growth and the bridging between income divides. Education is another huge factor and again a decentralized system seems to be the best option, providing learning kiosks fitted with internet connectivity and information technology that allows for flexible education right through from elementary school curricu-

As far as our proposal for ecobag goes, the vision was much less complicated than a solar farm

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lums to vocational training and computer skills.

In the reality to come, Confluence hopes to sell the ecobags at supermarkets across India, starting with Max-hyper-markets, to serve as a viable alternative to plastic bags. By utilizing the awesome power of mass media in the form of social networking sites like facebook, radio campaigns and newspaper articles we hope to launch a civic movement involving the urban youth across various cities, inspiring in them the desire to create change and above all else, helping them realize their potential to become the change they wish to see. The future seems filled with looming demons intent on destroying everything we have strived so hard to create, but armed with a young population, devoted to solving these issues instead of running away from them, the future of our common humanity is bright indeed.

Any reader questions or comments should be sent to *ecoconfluence@gmail.com*; *www.eco-confluence.blogspot.com*

Ranjit Nair

Digitopia now?

There has been long-standing lamentation about the plight of Indian science and especially of fundamental research, now echoed more often than before by the venerable elders of the scientific community. Human resource flows from the postcolonial economies to advanced economies is not a new phenomenon. Even before the colonial yoke was cast off; Europe suffered a haemorrhage of world class scientists, driven into exile in the US when the Nazis dismissed Jews from university positions. This exodus of scientists, led by Albert Einstein in 1933, caused a shift in the centre of gravity of world science to the US. The magnitude of this transformation may be understood in the light of the answer Paul Dirac, gave on a visit to the US in the 1920s to a query. Asked what he thought of physics in America, Dirac laconically said "there is no physics in America"! When the diaspora arrived, not only did they contribute to the Manhattan project, they transformed obscure agricultural universities like Cornell into research leaders. America was handed on a platter exceptional talent it would have taken several decades if not a century to produce, left to its own devices.

The flight of talent from the poor to the rich countries is also not new. After all, the centre-periphery relationship was built into colonial science, since the production of knowledge was tied to colonial interests openly and deliberately. Colonial subjects were discouraged from the creative pursuit of science and technology and were to be husbandmen, not grandees. John Seeley, the imperial historian claimed that Britain acquired an empire in a fit of absence of mind. While this has overtones of Oliver Sacks and John Cleese, 'oops, we have an empire', the Seeley syndrome was evident all the way through the years of colonial rule, the denial of mens rea while committing crimes against humanity. Recent imperial apologists need only read Jeffrey Sachs' 'The End of Poverty' for the stark statistics that marked out colonized societies from independent ones. No amount of cricketing bonhomie can conceal the fact that colonized societies suffered the depredations of mercenary armies for whose upkeep they were required to pay, an arrangement that made the Mafiosi seem angelic by comparison. If the mafiosi took protection money, they kept their word; they had a code of honour.

The advent of the information age, the global village is very much in evidence. Distances have been annihilated like never before and a global economy has emerged in which the poorer countries began to have some comparative advantages that they could use to bootstrap themselves into the league of the rich and powerful

The advent of the information age, the global village is very much in evidence. Distances have been annihilated like never before and a global economy has emerged in which the poorer countries began to have some comparative advantages that they could use to bootstrap themselves into the league of the rich and powerful. However, celebrations of 'India shining' are somewhat premature, as the previous political dispensation found out to their dismay when they were unceremoniously turfed out by an electorate which was not impressed by advertising slogans and chose to rely on their own experience. Outside the metropolises, the vast hinterland houses about 70% of the population, who live at subsistence level and there is systematic amnesia about these fellow citizens of ours and their plight. They need livelihoods, nutrition, clean water, sanitation, security, education and much else, before they can exercise their rights as equal citizens of our republic.

The digital age has opened up a range of possibilities for our people to monitor governance, to articulate legitimate demands and to be able to get to know, even without stirring from their khatias, what is happening in the world at large. It was information through the medium of television that made the Berlin wall crumble, since the systematic lies propagated by the Soviet ruling clique could be perceived as such by the average citizen. The digital revolution has the potential to transform governance and the relationship between the rulers and the ruled, so that greater accountability is enforced. However, one must not underestimate the wiles of statesmen, since the standard ploy is to deflate civil society criticism by encoding it in bureaucratese, so that even the problem is forgotten, let alone the solution. Giving way to cynicism is morally culpable, even if it appears to be warranted, since it is the hope of a better world that alone can inspire us to make use of the powerful tools in our hands to effect a decisive transformation. Digitopia now, perhaps not, but that does not mean digitopia never.

They need livelihoods, nutrition, clean water, sanitation, security, education and much else, before they can exercise their rights as equal citizens of our republic

Professor Ranjit Nair is the Director of the Centre for Philosophy & Foundations of Science, New Delhi

Madanmohan Rao

Wireless Communication Key During Disasters

With proper planning and contingency flows, new media can effectively be harnessed by an alert government for an alert citizenry at times of disasters.

What an awful month May was in Asia! Cyclone Nargis in Myanmar, the earthquake in Chengdu in China, and terrorist bomb attacks in Jaipur in India. In all of these, wireless tools and technologies play a key role: SMS alerts to citizens, mobile news updates about disaster relief, contributing to funds via SMS, RFID tagging of medical and food supplies, and mesh/WiMax technologies "in a box" for emergency communications infrastructure.

In order to reassure people and to squelch false rumors, the Chinese government used SMS alerts to inform people that the areas where they live are not in the seismic zone *(http://blog.foreignpolicy.com/node/8831)*. China Mobile partnered with the Red Cross Society of China to release an SMS donation platform on Tuesday *(www.pacificepoch.com/newsstories/123327_0_5_0_M/)*.
Malaysian Prime Minister Datuk Seri Abdullah Ahmad Badawi launched the Myanmar Cyclone Humanitarian Relief Fund, organised by Radio Televisyen Malaysia (RTM) in collaboration with the Foreign Ministry. Those who want to donate to the Myanmar fund can send via SMS the keyword "derma" (donation) followed by the amount, between RM1 and RM10, to the shortcode 32776 *(http://www.bernama.com.my/benama/v3/news.php?id=332612)*.

And in Jaipur, of the several bodies that were brought to a hospital near the bomb blast sites, the mobile phones on three dead bodies started ringing. The doctors had to give the sad news of their deaths to their relatives on the mobiles phones being carried by the victims.

In the aftermath of Hurricane Katrina in New Orleans, WiMax solutions and Internet bridges were provided by companies like Motorola to provide wireless communications access in the devastated areas.

What do all these uses of emerging technologies mean for PR agencies, government planners, citizens and the media?

1. It is important for government agencies to work with the private sector (especially mobile operators) in working out strategies for using new media like mobile communications for warning citizens about national threats (natural and terrorist). Costs and operational details should be worked out in advance.
2. Companies should have regular access to their employees at all times via email or SMS, to warn them about pending disasters and also to monitor potential loss of life.
3. News media and disaster management agencies should work together to devise responsible means of alerting the public via traditional media as well as email or SMS or Web site updates, without causing panic or rumours.
4. Emerging trends in new media (eg. WiMax for wide-range broadband communications) should be tracked with an eye for the potential in disaster information flows.
5. Citizens from all walks of life should ensure that vital personal information and contact information for loved ones is stored on their handphones, for access during disasters.

With proper planning and contingency flows, new media can effectively be harnessed by an alert government for an alert citizenry at times of disasters.

Madanmohan Rao is the editor of "The Asia-Pacific Internet Handbook" and can be reached at *madan@techsparks.com*

Sanjeev Chopra

The starting point of my presentation is the official website of the Government of India www.gov.nic.in. A very useful site it is - for it literally opens the gateway of information for everything one would want to know about the Government of India

IT applications in Agriculture Co-ops: the Indian experience

Earlier this month, I was pleasantly surprised to receive an invitation from the International Co-op Alliance (Regional Office for Asia and Pacific) to address a Training workshop for the senior managers of Agricultural Marketing and Supply Co-operatives at Beijing on 24-25 January organised by the All China Federation of Supply and Marketing Co-operatives. Obviously, India's achievement in applying IT to various sectors, especially agriculture has left a global imprint, especially with both the government and private sector portals on agriculture winning several accolades in the global fora.

The starting point of my presentation is the official website of the Government of India www.gov.nic.in. A very useful site it is - for it literally opens the gateway of information for everything one would want to know about the Government of India. Years ago, while preparing for the Civil Services, one had to depend on the India Annuals, published by the DAVP (Department of Audio Visual Publicity) and many of us felt that by the time the book was in print the information was dated. This website however provides all the relevant links, and in many cases, the updates are taking place on an almost regular basis, especially the ones which have strong market and e- commerce links - like those of NAFED, NDDB, NABARD, MCX, SNX, ICAR and several agricultural universities.

This website, in turn lists the different priority sectors of the Government of India. Whether Agriculture is 'numero uno' on the list is because it begins with A, or because it is really on the Top Priority - is anyone's coffee bet, but a click on agriculture takes one to the website of the Department of Agriculture and Co-operation www.dacnet.nic.in. This website connects one to links on 'co-operatives' where all the national federations are listed. These include, among others, the National Co-operative Union of India (NCUI), the National Co-operative Development Corporation, the National Agricultural (marketing) Federation, NAFED, the National bank for Agriculture and Rural Development (NABARD), the National Federation of state co-op Banks, IFFCO, Kribcho, Multi Commodity Exchange, National Dairy Development Board and the Safal National Exchange - the joint venture of the NDDB and the Multi Commodity Exchange.

Whether Agriculture is 'numero uno' on the list is because it begins with A, or because it is really on the Top Priority - is anyone's coffee bet

Because the focus of the Beijing workshop is on supply and marketing co-operatives, the presentation lays more focus on how the co-operative structure of the country ensures the supply of credit and fertilizers, the two essential inputs on the supply side - and the marketing, price discovery, price stabilisation, price support and export strategies of the National (Marketing) Federation on the demand side.

The NCUI - which is also the apex body of the Indian co-operative movement - has all the data about the Indian co-ops in different sectors. In the agricultural credit sector, for example, there are over one

IIFCO has extended the IT function beyond its own needs - by reaching out to its primary societies and establishing IT kiosks for farmers which give them information about crops, weather, insurance, market prices, Mandi arrivals and open up several other possibilities

lakh primary credit co-operative societies, and of these over 85% are now financially viable, and actively engaged in business. However what is alarming is that even though the target and the availability of credit for agriculture are going up, the share of the co-operatives is going down. One must also consider that the reach of the co-operative to the small and marginal farmer is far greater than that of the commercial banks, which in spite of the targets for agri sector loans have not shown any substantial increase in the number of accounts.

Moreover the number of 'active' accounts, i.e. accounts of farmers who access credit in the agri sector is also showing a decline, whereas the number of agricultural holdings is going up. It is seen that for the current year, the agri sector's target is Rs 2,25,000 Crore, but less than fifty percent has been achieved. In the year 04-05, rural credit of Rs 1,25,300 Crore was disbursed to 4.15 crore farmers but in the current year, the disbursement of 1.20 crore is limited to only 2.78 crore farmers. Now all this information is available at the click of the mouse, provided one has the perspective to seek out the appropriate kind of information. Even though the information from the website of the National Federation of state co-op Banks is dated, it is possible to track credit availability for each and every primary society in the country.

What does one say? Even as the quantum and quality of credit to the poorest farmer declines, one is at least aware of what is happening, and will not to have to wait for a decade to take corrective steps. For, while IT by itself cannot be a panacea for all the ills in society, it can point out the fault lines before the cracks become too wide to be breached.

The other important issue on the supply side of agriculture is provision for fertilizer in which the co-op sector is doing quite well, especially in the case of urea. Not only is the entire supply position available, the demand projections from the states are also available by hitting the appropriate links. IIFCO has extended the IT function beyond its own needs - by reaching out to its primary societies and establishing IT kiosks for farmers which give them information about crops, weather, insurance, market prices, Mandi arrivals and open up several other possibilities. This is where we score over China, for we are in a position to aggregate the demand based on the 'needs' of the primary co-ops. However our failing is that we cannot address the issue. We are better at identifying problems; the Chinese score over us in finding solutions to 'imagined' problems. If only the twain could meet!

On the marketing side, we are better because the market system is more organised. The NAFED website for instance gives the daily prices of a range of non cereal commodities - from cotton to gur to oilseeds and jute. It also opens the link to the MCX - the Multi Commodity Exchange and the SNX - the Safal National exchange on which the farmers Self Help groups, co-operatives and traders associations. It is now possible for farmers to go in for spot trading (with delivery) in potatoes, bananas, apples, mangoes and other perishables. Together these two exchanges allow the farmer to engage in 'price discovery' and plan their transactions. Under the NeGP, the IT kiosks that are coming up throughout the country can act as the nodal centres and connect the farms to the markets.

Herein lays the problem - the gap between the capability and potential and the actual reality of IT applications in Indian agriculture. Even with all this IT enablement and infrastructure, why is the small farmer's share in credit going down? Why is corporate and contract farming the new silver bullet? Why are Ag co-ops not growing? Why is the farming profession losing out to manufacturing and industry? This column will reflect on all these issues over the coming weeks, but my next report will be on the role of Ag co-ops in China, and the best practices that can be shared across borders!

Till then, Cheers!

Sanjeev Chopra, Secretary, Department of Agriculture, Government of West Bengal; he can be contacted at *choprasanjeev@gmail.com*, *agrimatters@gmail.com*

By Shubhendu Parth

NEED FOR Digital Inclusion

'D' is a dirty word in India literally; it is also the most dreaded. No, I am not talking about the man who is one of India's most wanted. Instead it is a reference to the 'D' that has made a section of Indians really proud.

I am sure all would agree that the booming 'Digital economy' or the Indians' 'e' skills has been at the centre of the activity that has helped the country and many of its countrymen create lot of wealth-except the fact that it has also widened the long existing gap of haves and have nots, not to talk about the urban and rural divide.

Talking about the 'e' or the digital age, the Chhattisgarh Special Secretary to CM and CEO of CHiPS Aman Kumar Singh had once told this author that India presents a unique case of a "cobbler's son without a pair of shoes".

And his observations were not without reasons. Despite a spate of economic reforms unleashed in the country way back in 1991, the telecom sector reforms and the creation of World Market Policy in 1988 that aimed at improving software exports from the country, ICT has not been able to make a remarkable difference in the lives of the aam aadmi or the citizens in India.

All this, while the country's IT industry has been reporting spectacular export growth-from Rs 1,405 crore in 1993-94 to Rs 59,671 crore in 2003-04 and 189,792 crore during

It is a fact that there was no compelling reason or the content for the average Indian household to actually try to get closer to the technology

WHAT IS DIGITAL CONTENT OR E-CONTENT?

There are series of ICT tools like TV, Radio, Net, Computers, PDAs, Kiosks, LCDs, CDs/DVDs, iPods, blogs, Mobile, Telephone and so on. The use of ICT tools resulting in impact on ecosystem, could be defined as Digital Content

HIV LIFELINE

This is an electronic helpline accessible to people 24X7 for seeking answers to any query on HIV/AIDs. The helpline is equipped with both - automatic answering machine as well as human voice interaction replying to personal queries.

The Helpline uses a computer equipped with four channel voice card, linked to two telephone lines using customized software.

The project aims at disseminating technically sound information on HIV/AIDS along with details of related health services, to as many people as possible maintaining the anonymity of the caller.

the previous fiscal 2007-08 (see Indian IT's Growth Story).

Unfortunately, the domestic market, that was nearly double that the export market could not replicate the success story that the world had to share about the Indian IT sector. The fact that Indian domestic IT market which was at Rs 3,356 crore in 1993-94-nearly double the size of the exports-could only touch Rs 99.018 crore in the last fiscal clearly indicates that there has been a lop-sided development.

And while there are many in the industry as in the bureaucracy who would like to blame it on the lack of policies, awareness, cost factor and other numerous reasons, it is a fact that there was no compelling reason or the content for the average Indian household to actually try to get closer to the technology.

Talking about the country's ICT or digital prowess and its impact on the socio-economic development in India an Asia-Pacific Development Information Programme (APDIP) report-Empowering the Poor-clearly points out that, "Although India's success is commanding increasing attention and investment, it has yet to result in the distribution of social and economic benefits across a broader base of the population."

IT Infrastructure & Development

It has always been a chicken and the egg story as far as penetration of a new technology is concerned, particularly in a country like India, where 35% of the billion plus population lives on less than US dollar one per day and around 86% or more than 900 million people manage to survive on income less than US $2 a day.

However, determined to take the IT-wave forward and to reap its potential as an important development tool, Indian policy makers have, particularly those in the Department of Information Technology (DIT) have been strongly pushing the cause by removing a big bottleneck-that of a unified basic platform for digital service delivery.

On the one hand it is looking at connecting the various state departments and bodies till the block level through the SWAN, it is also optimistic that the CSCs will help deliver citizen services to the common man closer home, in their villages itself.

What this means is that using the government and the various services-both utilities and private sector-one would be able to complete majority of the G2C (government to consumer) and G2B (government to business) transactions using the village information kiosk itself. Add to this the B2B (business to business) approach using the grassroots to global approach as suggested by Prof Gupta, and the circle seems to be complete.

"Although India's success is commanding increasing attention and investment, it has yet to result in the distribution of social and economic benefits across a broader base of the population."

- APDIP report

The AMC for Milk Collection

The Automatic Milk Collection (AMC) System provides several advantages over the traditional manual method which was time taking and due to that the milk got spoiled.

Besides speeding up the entire collection process, thereby reducing the spoilage of milk, the system also automates the measurement process. What this means is that the system not only cuts down the wait time for the farmers from 45 minute to 10 minutes, it also eliminates the potential for milk purchasers to misrepresent the quality of the milk and cheat farmers out of a fair price.

The automated system is more transparent and minimizes the role of the collection agent, reducing the likelihood of mistakes or fraud. Far from just having economic consequences, automation gives freedom to the farmers from the burden of having to fear cheating or corruption in their daily business dealings.

The simple technology used in this product has enabled the timely collection of milk and thus, generated higher profits for the producer, now paid well in time. A basic milk collection transaction done by Akashganga includes, measuring weight of milk with electronic weighing scale, fat testing using Milk-o-Tester, capture of unique member ID by the PC software and finally handing over the printed pay slip to the seller.

The MS DOS based system offers scalability for the AMC system which looks like an information-kiosk meant for citizens services.

To avail these services, citizens can opt for one of the 100,000 broadband enabled Internet CSC's (total outlay for Common Services Centres is Rs 5,742 crore) to be installed across the country's rural areas by paying a nominal fee.

To make this vision a reality, the government of India launched the National Common Minimum Programme according high priority for improving quality of basic governance and thereby proposing to promote e-Governance on a massive scale.

In accordance with this mandate, the Department of Information Technology on June 14, 2006 unveiled National e-Governance Plan (NeGP) covering 27 Mission Mode Projects and eight support components to be implemented at central, state and local government levels, at an estimated cost of Rs 23,000 crore over the next five years.

At the state level, the Mission Mode Projects (MMP) would focus on road transport, land records, commercial taxes, employment exchanges, agriculture, civil supplies, treasuries, land registration, policy and education, while at central level, it will cover areas such as insurance, central excise, national ID, pensions, e-Posts, banking, passport, visa and others.

According to DIT Special Secretary R Chandrashekhar, "The major contribution of NeGP is the creation of a shared digital service delivery platform, including CSCs, which can be leveraged by the social sector departments and agencies to significantly improve programme delivery." However, he cautions that induction of technology alone will not help.

Despite the massive spending by Union and the state governments in India on e-Governance in the last two years, the country has suffered a major jolt in the overall world e-Government Readiness Index 2008 prepared by the United Nations-down 26 notches to 113th, from number 87th position in 2005.

In the web measurement assessment index too, India ranks 54, much below China (47), Singapore (25) and the US (3).

The e-Government readiness assessment looks at how governments are providing e-Government policies, applications, and tools to meet the growing needs of their citizens for more e-information, e-services and e-tools.

It also measures the online presence of national websites, along with those of the ministries of health, education, welfare, labour and finance of 192 UN members.

According to the infrastructure data presented by the UN survey, out of 100 users in India, 5.44 are Internet users, 1.54 are having PCs, 14.83 are

The Indian government has developed a comprehensive national portal that promotes and highlights e-Governance as an important national policy and strategy

Tune AIR for Public Grievances Redressal

Jansamvad, the weekly radio programme that enabled the citizens to directly reach out to senior government officials of the Sagar District administration in Madhya Pradesh is a unique initiative to address public grievances using the traditional Radio.

The initiative rolled out by the then Sagar Collector Sheo Shekhar Shukla (now Ujjain Collector) in December 2004, which is also available on the web, enables live phone-in dialogue with people of the district on every Monday for an hour using the All India Radio (AIR).

As the grievances aired on the program were sorted out in stipulated time frame, the initiated became very popular within a short period drawing appreciation from all walks of life. Many of the problems discussed turned out to be solutions for others. The response was so good that the district administration had to increase the number of telephone lines to receive phone calls, recalls Shukla.

The program is also used as a means to inform the masses about the various flag schemes of the state and central government-so much so that the program even catapulted the district among few top ranking districts achieving the ambitious Total Sanitation Campaign launched by the Government of India.

cellular subscribers, 3.64 are having main telephone lines, and the last but not the least 0.21 are broadband subscribers.

The intention of the government is clear but in 2008, the state as well as the central government has to speed up its implementation process to generate enough G2G, G2C and G2B transactional contents so that India moves up in the e-Government Readiness Index 2009 prepared by UN.

The Content Issue

According to Prof Anil Gupta of IIM Ahmedabad, it is an irony that a country which claims to be a world leader in IT today and provide services to the top companies of the world, is unable to provide content in the local languages for its children in government schools, community schools, village schools. "While computers are reaching, the content is not reaching," he says.

While Prof Gupta goes ahead to explain that the D-power can itself become the biggest equalizer to bridge the digital divide if efforts are made at generating content for knowledge dissemination, cultural enrichment, inclusive human resource and even traditional food, he is confident that the grassroots to global or gLocalisation approach is the key to the change.

Not that the country has not taken initiatives to build ICT infrastructure or the vehicle essential to make content available digitally, however, there seems to be a basic disconnect in the approach as suggested by Prof Gupta and that adopted by many in the country.

While all may agree that "content is the king" in this whole gamut of development, technology enthusiasts-the flag bearers of ICT for development-despite all their good intentions have made the mistake of putting the cart before the horse by focusing more on the technology solution rather than the content itself.

Take for example the case of e-Education. While numerous attempts and crore of rupees have been spent by technocrats in creating platforms and content management systems to disseminate course material and impart knowledge, not much effort has been made at using the Web 2.0 concept to create a knowledge repository of the User Generated Content (UGC).

It is strange that while the use of ICT has opened up new vistas of learning, especially for those studying at "resource constrained" schools to access the best of breed content through online learning modules, access to digital library and e-tutoring and mentoring, none of these content come free.

The mere fact that these students come from government and government aided institutes with minimal fees that suit their economic condi-

It is sad but true that despite a few efforts, not much is being done to explore the possibilities of structuring this user generated content (like in Wiki) for circulation through an open and free of cost platform

English learning goes on air in Jharkhand

The Jharkhand Education Project Council (JEPC) in collaboration with All India Radio, Ranchi has launched a 150-lesson program-Aao Angrezi Sikhein-to make English language learning a fun for beginners.

Initially, the program will be available for listeners of Ranchi, Hazaribagh, Jamshedpur, Chaibasa and Daltonganj. The JPEC is planning to extend its reach to other districts also.

The program has been divided into two segments. The first will be for students of Class I, while the second will cover those studying in Classes III and IV.

The 30-minute program is being aired on radio at 12.10 pm every day starting October 2, 2008. JEPC is also making radio sets available in each classroom, with the teachers monitoring the proceedings of the session.

The students will also be offered tips on basic etiquette and manners during the program. "They will be given five minutes to memorize the lesson. The entire lesson will be noted down by the teachers and will be revised later," JPEC officials said.

tions, itself indicates that ICT as an equalizer is a myth in the given scheme of things. The other missing link in the chain is the regional language content.

The option: aggregation of digital content generated by students and teachers of schools in both rural and urban India, especially those where the availability of computers and ICT Labs have created huge enthusiasm among the school community to produce digital content.

It is sad but true that despite a few efforts, not much is being done to explore the possibilities of structuring this user generated content (like in Wiki) for circulation through an open and free of cost platform.

Besides, there is a need to explore other ICT options-radio, television and even mobile for effective dissemination of knowledge across the various segments and strata of the society. Remember the advertisement of a telecom service provider that has the punchline "what an idea sir ji?"

The IT Mindset Issue?

The various ICT for development tools can be broadly classified into two broad categories. One, the IT driven online or world wide web tools and, two, the communication driven traditional radio, television and telephone tools. Add to this the fairly new mobile phone and we have at hand three fairly interactive outreach medium with huge penetration cutting across various section of the population in the country.

It is also interesting to note that although IT and Internet are formidably interactive, they suffer from a perennial lack of bandwidth, content, and local-language enablement. They also necessitate a certain degree of training and literacy.

The second set of ICT tools, however, has a remarkably higher penetration and user-base. Although telephones, radios, TVs, and mobiles have limited interactivity, they offer a better reach than the cutting edge technology as these tools do not require much training or education or literacy.

Better still these tools are audio-visual and oral in nature and are entirely affordable. Unfortunately, however, Internet, computers, and IT continue to drive most ICT interventions at the grassroots.

It would be worthwhile to mention the initiative of the Jharkhand Education Project Council (JEPC) officials in using radio to make English learning a fun for students till class four in the state (see English learning goes on air in Jharkhand).

The JEPC has tied up with the All India Radio, Ranchi, to put together a radio program-Aao Angrezi Sikhein-aimed at teaching English language to students of class one to four. Similarly, the Indira Gandhi

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National Open University (IGNOU) has in collaborated with the Commonwealth Educational Media Centre for Asia (CEMCA) to offer a six month certificate program using the community radio.

Talking in terms of the Millennium Development Goals (MDGs)-an all inclusive growth including one that provides opportunity for livelihood to enable poverty eradication, education for all, and healthcare-there are, if not many, some initiatives worth mentioning.

An interesting project in the e-health space-HIV/AIDS Helpline-set up by Health and Social Development Research Centre in Rajasthan is one such initiative worth talking about. The bilingual-English and Hindi-help desk is provides 24X7 information using Interactive Voice Response (IVR) system over the traditional telephone network (see Info at a Call).

Another non-Internet but IT-enabled initiative that has changed the lives of the farmers and cattle in Gujarat is the Automatic Milk Collection System implemented by the milk cooperatives in Gujarat. Besides speeding up the entire collection process, the automated system also eliminates the potential for purchasers to misrepresent the quality of the milk and cheat the farmers.

And while the bureaucrats across the country were busy rolling out complicated IT solutions to handle some really simple G2C service delivery mechanism, the Collector of Sagar district in Madhya Pradesh decided to use the simple telephone and radio network to launch Jansamvad program to solve the problems of the citizens (see Tune AIR for Public Grievances).

However, it would be grossly unjust not to mention some of the Internet-enabled initiatives that have really made a remarkable difference in people's lives through their innovative approach towards defining the meaning of digital content, unlike the popular belief of an online content (see What is Digital, What is Content)

The ToeHold website set up by the Asian Centre for Entrepreneurial Initiatives (ASCENT) is one such project that clearly fits in the bill of an e-livelihood project. The initiative aims at helping the traditional Kolhapuri footwear makers to sell their products to the global market through a supply change management system that uses the www as the buyer interface.

On the health front, the two initiatives that have come out of the content and technology churn to really help those in need of blood are the initiatives of Khushroo and Fermin Poacha, the founders of IndianBloodDonors.com and the other by S K Shareef and Ramesh Susarala called Friends2Support.org. Both initiatives aim at connecting the needy with the donors through a voluntary registration process.

The New Age Market

Digital content is an increasingly major part of the world economies that are shifting from manufacturing of physical items to high value intangibles. According to the Organisation for Economic Co-operation and Development (OECD) report, digital content will increasingly become the basic creative infrastructure underpinning the knowledge economy and be at the centre of health, educational, and cultural activities.

Indian IT's Growth Story

	Revenues (In Rs Crore)			Growth		
Year	Export	Domestic	Total	Export	Domestic	Total
1993-94	1,405	3,356	4,761	51%	33%	38%
1994-95	1,882	4,959	6,841	34%	48%	44%
1995-96	2,681	7,032	9,713	42%	42%	42%
1996-97	4,847	8,587	13,434	81%	22%	38%
1997-98	7,180	10,835	18,015	48%	26%	34%
1998-99	10,752	13,204	23,956	50%	22%	33%
1999-00	16,050	17,002	33,052	49%	29%	38%
2001-01	29,896	24,670	54,566	86%	45%	65%
2001-02	37,846	24,288	62,134	27%	-2%	14%
2002-03	47,835	26,952	74,787	26%	11%	20%
2003-04	59,671	33,896	93,567	25%	26%	25%
2004-05	79,977	44,028	124,005	34%	30%	33%
2005-06	108,511	56,141	164,652	36%	28%	33%
2006-07	153,744	73,135	226,879	42%	30%	38%
2007-08	189,792	99,018	288,810	23%	35%	27%

Source: DQ Top 20

The Content Conundrum

Media and entertainment applications	Non-entertainment applications	Government	Network users
Publishing (books, magazines,comics, etc)	Industrial and Visual design	Public sector information for commercial re-use	Web sites
Film / Motion Pictures	Software Design & Development	Research & Science	Blogs & Podcasting
Animation	Business & Professional Content	Education	Virtual Communities
Music	Advertisement	Culture (Digital Library)	Digital Photos & visual Files
Broadcasting / Digital Radio / Cable / Interactive TV and other Interactive Media	Fashion/ Design	Health	Art Works
Software / Computer & Video Games	Architecture/ Professional Services	Training & Adult Education	
	Training & Adult Education		

Source: OECD based on various government publications. The list of examples in the four content categories is illustrative and in no order of priority.

"Convergence of networks and increased diffusion of high-speed broadband is focusing policy attention on rapidly developing broadband content and applications (new demand pull for the digital economy) which promise new business opportunities and impact on growth and employment," the report says.

However, it also cautions that the development of digital content and services and the diffusion of high-speed broadband raise new issues as rapid technological developments challenge existing business models and government policies.

Advocating that the public policy needs to acknowledge these changes and adjust the policy and regulatory environment, it also suggests that there is a need to recognize the role of governments as content creators and users.

The study also indicates that the content transmitted over electronic networks comes from traditional publishing and entertainment industries and these sectors are experiencing significant transformations in established business models and practices-with new products such as interactive digital television, network games, online music gaining ground (see The Content Conundrum).

Besides, convergence of media and sectors are also creating new products, distribution channels and revenue streams. Also, the study on Digital Delivery in Services Industries indicates that non-entertainment service sectors are important producers of digital content.

Not to talk about the fact that digital content is moving into core government-related functions including science, research, health, culture and education-the trend clearly indicates that much like the economic liberalization unleashed in early 1990s, the new age content has the potential to create new means of livelihood as also enable the country meet its MDG objectives.

The experience spread across India also clearly shows that ICTs can help us to leapfrog in the areas of knowledge and skill empowerment of the rural poor.

The author is the editor of www.igovernment.in and a strong advocate of technology for masses. He can be reached at *shubhendu@igovernment.in*

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Text by Syed S Kazi
Photographs by Osama Manzar

Enabling Bottom-Up Development through Local Area Portals

People of Dausa parliamentary constituency at a meeting with their MP, Sachin Pilot

The advent of new technologies including Information Communication Technology has come as force accelerator to boost knowledge societies and economies across the globe. The power of Internet technology has been tremendous in driving an unprecedented networking spree connecting societies and communities and driving the forces of economics on the World Wide Web (www). However, these developments have not been based on principles of equity or uniformity. In other words, power of ICT and the Internet technology has been realized only at higher level and only a section of the population has extracted benefits out of it. Thus the larger concern of digital divide is being expressed that gets bitter due to existing socio-economic backwardness in so many societies. This is not to deny the silver lining that new technology gives for the deprived and marginal communities at the bottom of the pyramid. That the Internet technology can and has the leveraging power to boost bottom up development is substantiated in many instances and situational contexts. India is no exception and the scope for a bottom up development is still wide in the country using the power of ICT and internet technology.

Raising the pitch for technology and bottom up development, Digital Empowerment Foundation shared the idea of 'Local Area Portals' as enabling platforms using the power of Internet Technology during the ICT for Development visioning workshop in Puducherry in year end of 2007 organized by UN Solution Exchange. The argument was Local Area Portals (LAPs) at the community level can accelerate two ways sharing of information and content and facilitate social and economic linkages. LAPs can fill in the traditional gaps of rural and community infra-

LAPs can fill in the traditional gaps of rural and community infrastructural limitations in the information and communication domain

structural limitations in the information and communication domain. The role of local area portals is tremendous in boosting the country wide efforts to keep pace with globalizing trends of knowledge economy and society with a bottom up approach. This is more so due to the 'gLocalisation' process [gLocalisation is a process of globalizing local knowledge and vice versa] The need is to tap the power of World Wide Web (www) to boost information and communication processes of grassroots communities for social and economic gains.

The Concept of Local Area Portal (LAP)

Digital Empowerment Foundation has piloted the concept of Local Area Portals (LAP) as Internet portals for knowledge sharing, gathering platform for social and economic gains for the local communities in local language content. A LAP portal is a confluence of local content of local relevance, national and global content of local relevance and local content of national and global relevance. The concept has local socio-economic and cultural features as essential elements for its creation and deployment. Creation of a comprehensive Local Area Portal can play a pivotal role of poverty alleviation and creation of glocal (global + local) economy.

Objectives of LAP

The core objective of LAP is to provide a bottom up information and content platform for the local communities created and managed by the community itself for their diverse needs and interests.
Besides, LAP other vital objectives include:

> Providing a two way information and knowledge content sharing platform;
> Augmenting local knowledge, culture, traditional practices, local products and services reaching the outside world and vice versa.
> Facilitating bottom up digital revolution at the community level through large scale community participation on the Local Area Portal activities;
> Facilitate intra-inter community e-commerce and e-trade;
> To facilitate creation of local data banks managed by the local communities;
> Promotion of activities like local tourism.

LAP Advantages

The advantages from LAP are manifold. LAPs can facilitate the drive towards decentralization, right-to-information, people's participation, and transparency. LAP can serve as Internet platform and can play an important role in ensuring that more people exercise their social and economic rights. Creation of LAPs in energy, water, community resource, human resources and environment can be sufficient gateways towards sustainable development. LAPs have potential to benefit the local populations in areas like agricultural, water, and market related information. These information sources help in policy programmes and project implementations. LAPs could be used for boosting local economies through promotion of local tourism, marketing local handicrafts and other products. Linking LAPs with people's representatives and local administrations can boost governance and public service delivery.

The economic value of LAPs is vast. LAPs can serve Market Researchers and corporations like FMCG (Fast Moving Consumer Goods) companies in doing business in localized communities including rural areas. LAPs providing raw data can be used for business information. Raw data in LAPs can be commercialized for sale to clients for business and research purposes. This adds to sustainability to the LAPs. LAPs having indigenous content on health, education and cultural practices can be great attractive site for outsiders for sharing of content and information.

There are already activities taking place in promotion of various types of LAPs at the behest of public and private agencies. For instance DISNIC, AgRIS, Smart Village and Smart Island programmes are some of the LAP type activities. UNESCO is working on globalizing local knowledge in cooperation with the Ministry of Culture (India) and National Informatics Centre and experts in developing a series of e-based forms/templates to collate and gather cultural resource information resources (text, audio-visuals) for the "Cultural Atlas of India". The Planning Commission and the Ministry of Panchayati Raj (MoPR) is also hosting the National


Electricity, connectivity and access are reaching rural India, but where is the content?

Panchayat Portal (NPP) providing space to all the nearly 5, 00,000 Gram Panchayats in India.

Outcome from LAP

A Local Area Portal facilitates information and content push from below and information pull from above. It can boost rural trade and commerce in a big way. It can serve as a great source of data and information on local sectors of health, education, ecosystem, flora and fauna. Local tourism gets a big boost. LAP can boost local governance in conjunction with local administration. Community awareness on key issues gets a boost through community participation in LAP set up and management. Then there is the great ICT awareness drive in the process. Right to information can get a tremendous support through LAPs once these platforms are aligned with government departments and agencies as well as with local level administrations through online system of communication processes.

DEF's Approach to outreach LAP

DEF has piloted the LAP concept in Dausa District of Rajasthan (www.localareaportal.org). Currently LAP is in pilot phase in Pune in Maharashtra from February this year wherein 50 panchayats are being covered to run, manage and sustain their own community portals. These portals are targeting health, enterprise, agriculture, tourism, employment, education, culture, tribal, women, microfinance, and so on. The Water Portal www.neerjaal.org, developed by DEF in partnership with Barefoot College, is being promoted as a LAP platform for community participation and involvement in management and conservation of ground water resources. Further DEF is populating the LAP concept through its other flagship programmes like the Community Information Resource Centre (CIRC) project. The next phase of implementation of LAP as a pilot is in Guna in Madhya Pradesh. There is tremendous scope for bottom up development using LAPs once integrated with various national and state level ICT programmes like Common Service Centres, Community Multimedia Centres, Village Knowledge Centres and so on.

LAP is must

There is tremendous potential to turn LAPs into virtual platforms for social-cultural-economic development and upliftment of local grassroots communities in India. LAPs designed and deployed with active public participation can work wonders with large-scale support from various quarters. The need is to involve as many stakeholders as feasible into the LAP framework. There is need to generate a sense of community participation and ownership in sustaining the project. The need is for skilled training of local resource persons be it Panchayat representatives or community resource persons. Last but not the least there will be constant requirement for periodic awareness among local communities on LAP once implemented. This awareness must be on how to set up, manage and sustain a LAP for larger community advantages. The strength of LAP is its bottom-up features without any top-down one dimensional framework.

MM Pant

Engines of the Mind

As we make the transition to the Knowledge Economy, the driver of development moves away from the earliest stages of large armies of manual laborers to the industrial times with physical power of steam, electricity and oil, and now to the engines of the mind in the form of computing power and connected computers, the optimum leveraging of information and allied technologies will provide the competitive advantage to individuals, corporations, nations and multi-national corporations.

Coercive collection of land revenue from farmers was an important activity for Governments a century ago. But in this century, Governments which will foster creativity, encourage innovation and enhance value are the ones that will prosper. In the recent past, we have had a glimpse in the emergence of Singapore from a struggling nascent state faced with numerous challenges and only a small chance of survival to a highly development economy by breaking away from its past and embracing a model of integration into the Global economy.

The emerging ICT technologies, open courseware availability and especially the set of tools being generally labeled as web 2.0 including wikis, podcasts and blogs are capable of giving a jumpstart to an accelerated development of the new economy skills to an ever large population. Thus we will be able to move away from a tribal model of intellectual capital, where we look for naturally occurring intellect following the Bell curve, to a model where extra-ordinary performance can be delivered by ordinary people, thus leading to a manifold jump in the productivity of each person, and with the billion odd people that we have, catapult us to the top of the league tables in GDP.

The core methodology to achieve this is a revamped education system driven by the above goals, and not to maintain the status quo of the past. An investment in ICT based education is therefore the best option, whether it is for self, the family, the community, the state or the country.

The starting point is of course the ' education for all' initiative, but the goals for the education should not be to complete the unfinished work of Lord McCauley or even the feelings of a newly independent country. We are now a mature country, and as said by our Prime Minister after winning the trust vote in Parliament "....India's head and heart are sound and India is prepared to take its rightful place in the comity of Nations." While this was said in the context of the nuclear treaty, it applies as much to other emerging areas of space, biotechnology, nano-technology, grid computing and who knows a few decades from now in the field of quantum computing.

If we want to take along a large number of people along this path rather than a handful from the IIT's and a dozen or so prestigious academic Institutions, we need to have a completely new model. Any model of education that cannot respond to the learning needs of a heterogeneous learning population with a variation in the level of preparation and including SC/ST, OBC's , disabled in a common mode of education should actually be seen as violative of Article 14 of the Constitution of India, and any system that cannot address a cohort of at least 10,000 learners should be seen as against the right to life. Right to life in the Knowledge economy would encompass the alignment of the skill-competencies of all citizens to enable a gainful participation in the economy, without the need for crutches like reservations and other forms of insulting and disgraceful affirmative action.

Where will the new education model come from? Not from yet another' Knowledge Commission' but from the way all improvements and progress happen. For example, the practice of medicine is not done the same way as it was done say 100 or even 50 or even 20 years ago. The outcomes of medical research are applied to create pharmaceutical products and the protocols of treatment are updated regularly. Our teaching method is still based on the 'sage on the stage' model of religious preachers, with further strangulating control by regulating agencies on what and how and by whom the preaching should take place.

The new 'learning products' i.e., books, CD's, podcasts, etc should reflect the progress being made in understanding of how we learn and teaching practices should also take account of differing learning styles, meta-cognition and learning rates. Only a modern comprehensive ICT enabled system is capable of delivering on this promise.

M.M.Pant, Former Pro Chancellor, IGNOU. He can be contacted at *mmpant@mmpant.org*

Joe Madiath

Potential impact of ICTs on rural & urban disparities in India

There is an increasingly widening gap between urban and rural areas in India, with 70% of India's poor living in rural areas.

Fundamentally, poverty is a result of a lack of access to the 5 capital assets; Natural, Social, Human, Financial, and Physical. People in rural areas often find it harder to access these capital assets, especially human, financial, and physical, as the supply of basic services and infrastructure is severely lacking.

For example, with regard to education (human capital), many rural people have to organise and build their own schools, as well as paying teachers' wages - if indeed there are hardly any teachers available. In urban areas, however, education is managed and arranged for by the government. It is important that the government looks at rural areas with equal focus.

The same disparity occurs with electricity supply (physical capital). About 60% of rural Indian households do not have a power connection, but in urban areas, this figure is only 20%.

There is no level playing field between rural and urban areas, and as long as this remains the case, the gap between rural and urban areas will continue to widen.

Information and knowledge (human capital) are a key requirement for accessing other capital assets, and therefore an extremely powerful tool for empowering people and striving towards social equity. ICTs have the potential to play an important role in poverty reduction strategies, and allowing rural people the same level of access to timely and relevant information as in urban areas, such as market information or new government schemes. One example where poor information and communication have hampered the poor is the lack of information with regard to NREGA (National Rural Employment Guarantee Act), an act passed with the aim of boosting the rural economy by offering up to 100 days of work per household. However, many of the rural poor are unaware of the scheme or how to access it.

There are a number of issues affecting the accessibility of ICTs in rural areas, including a lack of physical

infrastructure, such as electricity supply. A poorer standard of education is also an issue, as accessing ICTs usually requires a level of literacy. Another issue is the lack of investment by IT companies, who focus on the wealthier, and hence more educated in urban areas.

One initiative to try and address this imbalance has been the establishment of Village Resources Centers (VRCs) by Gram Vikas, (in collaboration with the Department of Space, and Indian Space Research Organisation (ISRO). Gram Vikas is a rural development organisation working with the poor and marginalised communities in Orissa. Their primary focus is to work with villagers to access sanitation and safe drinking water, thereby restoring some elements of dignity into people's lives. However, an after effect of this process is villagers feeling empowered and motivated to tackle other issues, such as the lack of access to information, hence establishing VRCs.

VRCs hold a variety of information; both local and external, including a place where government related information, such as details about NREGA and market prices can be disseminated. Computer and television access is often available at these centers, as well as consultants visiting to provide information on a variety of topicssuch as veterinary and health care. All this goes some way to ensuring rural areas have access to timely and relevant information, which can increase access to other assets.

Addressing poor communication and information channels in rural areas through initiatives such as VRCs is crucial in addressing the increasing disparity between rural and urban areas. For it to be successful on a much wider scale, it will however require poverty to be put at the heart of future ICT policy, as well as ICT companies being prepared to invest in rural areas.

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Joe Madiath, Founder & CEO; Gram Vikas. He can be reached at *info@gramvikas.org*

BV Selvaraj

eGov @ Lakshadweep

When one talks about Lakshadweep, what immediately comes to mind is a beautiful place, blessed by nature. However, if given a chance to work there, few would be willing. I should be humble in claiming that for me working there as administrator has been a privilege, and along with my team and people, we are trying to make Lakshadweep not only better known than Maldives, but significantly accessible, and a sought after place for all. In this respect, the locals have taught us a lot in terms of what should be given preference and how their economic situation and livelihood can be improved. I am going to narrate some stories of our efforts in the light of how Information and Communication Technologies (ICTs) have been used to leverage developmental work, and how many such efforts are of national relevance.

Lakshadweep is the only coral archipelago of our country. However, visiting Lakshwadeep is not easy. It is an inter line territory a restricted area where entry permit is required. This is keeping in view the ecology of the area and the interests of the tribals, as Lakshadweep is a tribal area. A Web enabled Entry Permit Management System has been introduced for this purpose, which has led to a large number of tourists getting attracted to Lakshadweep. So the virtual means have made ways to real life linkages.

Shipping is the lifeline of the people here. Therefore, the introduction of complete digitization of the ticketing system and advance reservation system in shipping has brought considerable relief to the people. Owing to its geographical isolation and remoteness, transportation is a major issue.

I might feel proud in claiming that Lakshwadeep is the third most literate place in India, but in terms of computer literacy, it is not upto the mark. There is hardly any industrial activity other than copra, tuna fisheries and tourism. Government continues to be the biggest employer. Sadly, unemployment is soaring.

The facility has consciously been named e-Ever-Aler t, we are trying to tackle the problem of availability of medicines, life saving drugs and equipments at government hospitals with this facility

Therefore, a large population has registered itself at the employment exchange. Fortunately, Lakshwadeep has accomplished total digitalization of employment services, perhaps first of its kind in the country, which is proving effective in dealing with the unemployment problem. In fact, last year we were recognized by Manthan Award for this initiative as one of the best e-governance application in the country. Incidentally, Lakshadweep is a predominantly Muslim state. What is encouraging for us is that Muslim women have shown great enthusiasm in learning computers hoping to be a part of the digital employment exchange.

Another sector where the Union Territory has progressed well is electricity. Electricity is generated through diesel generator sets and you can well imagine how expensive this must be, and how difficult must it would be to transport diesel all the way through ships to the various remote islands. However, I can say with satisfaction that we have been able to handle the situation very well. Also, we have trusted our people with meter reading. Under the system, self reading of meters and self preparation of the electricity bill is done. Checking and counter checking of the meters takes place after three or six months, as the case may be. This project also brought us recognition from the Computer Society of India. The CSI-Nihilent Award 2007 has been conferred upon our Electricity department, as one of the best E-governance departments of the country.

Health they say is wealth, and it might not be a cake walk to achieve high level primary and secondary medical facilities in a place like Lakshadweep. But, I would like to inform that we have tried to improve the standard by making use of e-alerts. The facility has consciously been named e-Ever-Alert, we are trying to tackle the problem of availability of medicines, life saving drugs and equipments at government hospitals with this facility. Even in an island like Bitra with 250 people, this particular system has helped in improving the situation. The e-Ever-Alert software is keeping the health department really alert.

ICT has justified its worth by improving healthcare in the Union Territory with initiatives like telemedicine. Courtesy ISRO, Lakshwadeep has telemedicine facilities in five of its Islands. It has been decided that this facility will be extended in each inhabited island. Consultation will be possible

freely with various ISRO - sponsored health hubs, which are 42 in number. Talks are on with AIIMS, Amrita Institute of Medical Sciences and Christian Medical College for this purpose.

Lakshwadeep on the path of development

I would like to briefly explain some of the schemes we have undertaken to put Lakshadweep on the path of development. Integrated Child Development Services (ICDS) is a central flagship Scheme that aims at providing supplementary nutrition for children, adolescent girls, pregnant & lactating mothers, non-formal pre-school education to children, immunization, health check ups, referral services, self employment programme for women and adolescent girls under Swayamsidha.

At present, there are 87 Anganwadi Centres, functioning in all the ten inhabited islands. All these Anganwadi Centres have been designed to become Community Information Centres (CIC) for the disadvantaged women, children and adolescent girls. The centres have been provided computers with internet facility so that Anganwadi workers can utilise ICT tools in all their activities thereby bringing computer education to vulnerable women, adolescent girls, school dropouts & pre-school children. These centres will be used to institutionalize participation of ethnic Scheduled Tribe communities at the grassroots level.

Through universalized State Wide Area Network (USWAN), we proposed to establish effective connectivity backbone that will provide a platform for e-governance and other IT enabled services. This will also ensure a communication channel with high bandwidth and high uptime required for effective public services and for disaster management in these islands which have a very high risk of natural disasters.

The connectivity proposed is through the BSNL network via satellite medium. The existing BSNL infrastructure at each island is being upgraded. At Kavaratti, it is proposed to have a 16 Mbps dedicated pipe through satellite medium which will terminate at the administration's Secretariat, which will be further distributed to all the departments under UT administration either by leased line or by DSL connection. Similarly, 2 Mbps dedicated pipe has been proposed at each of the nine Islands terminating at Revenue Sub Divisional Office in each island and further distributed to all departments of UT administration, banks, post offices etc by either leased line or DSL connection. The satellite medium which provides both high-speed data and video conferencing services has been proposed for all the ten Islands.

Besides, the Lakshadweep State Data Centre (LSDC) will act as a mediator and convergence point between open unsecured public domain and sensitive government environment. It will enable various departments to host their services/applications on a common infrastructure leading to ease of integration and efficient management, ensuring that computing resources and the support connectivity infrastructure (U-SWAN) is adequately and optimally used. The LSDC will be equipped to host / co-locate systems (e.g. Web Servers, Application Servers, Database Servers, Anti Virus Server and Server Area Network etc.) with firewall, L2 and L3 switches to use the centralized computing power. LSDC will have high availability, centralized authenticating system to authenticate the users to access their respective systems depending on the authentication matrix.

State Data Centre (SDC) has been identified as one of the important elements of the core infrastructure under the National e-Governance Plan (NeGP). It is proposed to create State Data Centre for States to consolidate services, applications and infrastructure to provide efficient electronic delivery of G2G, G2C and G2B services. These services can be rendered by the administration through common delivery platform seamlessly supported by core Connectivity Infrastructure such as U-SWAN and Common Service Centre (CSC) connectivity proposed to be extended up to island level. State Data Centre would provide many functionalities and some of the key functionalities are Central Repository of the State, Secure Data Storage, Online Delivery of Services, Citizen Information/Services Portal, State Intranet Portal, Disaster Recovery, Remote Management.

"The greatest form of Brain drain in India is the drain of brains from rural to urban India" said Mahatma Gandhi,when the computer was hardly understood by many. It remains true to this day. If we are able to bridge the digital divide, we would be in a position to create a true knowledge society or knowledge economy. Without ICT a society can never become a knowledge economy. Unless we rope in all the citizens the 'last mile' would never be traveled. I would be needing help of all of you to make this happen with us and I would be more than happy and privileged to work with you to make our serene Lakshadweep a neighborhood next door to all of you, at least digitally.

The author is from Indian Administrative Services serving as Administrator of Union Territory of Lakshadweep. He can be reached at *bv.selvaraj@gmail.com*

Commonwealth Educational Media Centre for Asia (CEMCA),

is a unit of the Commonwealth of Learning, Vancouver, Canada, an intergovernmental agency.

In consonance with the mission of the Commonwealth of Learning, Commonwealth Educational Media Centre for Asia, promotes the meaningful, relevant, and appropriate use of information and communication technologies to serve the educational and training needs of Commonwealth member states in Asia.

CEMCA also offers turnkey solutions for obtaining license and commissioning of Community Radio Stations as per the Community Radio policy laid down by the Govt of India.

This assistance may be availed of by all educational institutions, civil society organisations, without financial liability on either side.

CEMCA facilitates group training in multimedia using open source software EASYNOW subject to mutual convenience.

CEMCA is also the lead in developing standards for multimedia learning materials in Asia and a First Version will be ready by June 2009.

For further details / particulars you may wish to contact:

The Director,
Commonwealth Educational Media Centre for Asia
8/4 Sarv Priya Vihar
New Delhi 110 016 INDIA
Telephone numbers: +91 (0) 11-26537146/48
Fax: +91 (0) 11 2653 7147
http/www.cemca.org
projectassistant@col.org;psamdup@col.org;rsreedher@col.org

By Syed S Kazi

Governance Knowledge Centre

A Digital Repository

The Governance Knowledge Center (GKC) encompasses web based Digital Repository of best governance practices in India as well as practices from outside India. The core objective is to facilitate learning and sharing of governance practices to address key administrative and governance challenges in public service delivery. The project is launched by Department of Administrative Reforms, Government of India and is implemented by the Centre for the Study of Law & Governance, Jawaharlal Nehru University, New Delhi in association with USIC and CSCSEASWPS, JNU.

In efforts towards strengthening GKC, a support team is comprised of domain experts, resource persons, analysts along with technical professionals who work in tandem to continuously ensure identification of practices, dynamic updation of Knowledge Resources and Case Studies relevant to the profile of users visiting the repository.

The GKC Digital Repository is envisaged as a technology tool to enable capture, organize, store for easy retrieval of digital contents with respect to the various selected case studies of "Good Governance Practices" in India and abroad.

The knowledge shared by the practitioners would facilitate in better comprehension of the nuances of administrative and management practices and pave the way for taking up appropriate interventions to improve governance standards which in turn would help improve delivery of services to the citizens.

GKC consists of:

- Case Studies of Good Governance Practices in India and Abroad
- Web based Discussion Forum to discuss various issues and solutions amongst practitioners of Governance
- Assessment and Benchmarking of select Good Governance Practices/Cases
- Publishing of Award winning Knowledge Resources/Case Studies
- Directory of Resource persons under various Governance Themes
- Directory of Organisations involved in the various projects of Good Governance in India
- Publishing of New and Hot Topics
- Current Events
- Links to collaboration partners of GKC
- Classification / Search by categories and key words
- E-Mail updates to Subscribers
- Opinion Poll
- Help Desk

The Knowledge Resources have been classified and structured as a hierarchy with different levels corresponding to the class entities such as Sector, Subsector, Policy area, Programme & Knowledge Resource. These are also mapped in the form of various Governance Themes and Information Dimensions with necessary cross-referencing. The contents are also placed in databases and are retrieved for presentation online when the information hyperlinks are activated on the web pages. There are different structuring levels. Each level can hold different kinds of Governance Themes under them. Governance Theme is sometimes referred as Taxonomy.

[With inputs from www.darpg.nic.in]

Governance is a critical challenge in every society. It is more so in developing countries like India. It is a challenge because governance is about meeting citizens' needs within the available limited resources. It is a challenge because of the serious issue of corruption, wastage of scare resources as well as negligence about development needs and service delivery of essential goods to the citizens. Thus the need to share and learn from widespread and yet scattered sustainable practices of governance projects. The Governance Knowledge Centre (GKC) project, administered by Department of Administrative Reforms & Public Grievances (DARPG), Government of India, is all about providing a platform of resource pool for governance stakeholders to learn and share governance practices for replication and deployment. The GKC Portal is a facilitating information and communication platform serving as an emerging governance reservoir for governance practitioners, academia, civil society and others to know and share governance models for community empowerment, rural development and poverty reduction. The Centre for the Study of Law & Governance (CSLG), JNU is acting as the Governance Knowledge Centre which has the mandate at first place to explore on what could possibly be rated as a best governance practice.

Prof. Amita Singh, Project Director, GKC & Chairperson, CSLG, JNU talks about the governance objectives behind the GKC and the mandate of CSLG in this GKC initiative to Syed S. Kazi.

"The key challenge is of course an institutional challenge"

Q: What are the Governance Knowledge Centre (GKC) Project and the portal about? How is the GKC facilitated to realize various governance goals? How poverty eradication can be linked to GKC with best possible outcomes?

It is about evaluating the so rated successful governance practices which have in some way made a sustainable impact upon the lives of ordinary people. Under GKC project an evaluation of successful practices looks into the processes of formulation and implementation also. These findings are fed into a knowledge repository available to an administrator enabling him or her to answer some of the most perplexing questions about the prospects of a design in a programme. This may help prevent policy backfiring and also save cost and efforts in trying to push a weak or fuzzy design into public lives. Reducing extreme poverty to half by 2015 is the first MDG and every other policy achievement in the process of development is linked to it. Hence all over the world governments are focusing upon capacity building of the poor through many innovative programmes. GKC portal (www.indiagovernance.gov.in) shortens the search for what could be best applicable through evaluation and knowledge sharing across the globe. It also helps to discard many poverty reduction strategies accepted in traditional administration and colonial mindset of bureaucracy.

Q: What is the mandate of Centre for the Study of Law & Governance (CSLG) in streamlining the GKC goals and objectives?

CSLG is acting as the Governance Knowledge Centre which in the first place explores on what could possibly be rated as a best practice. It

then collects and analyzes best practices by using innovative methodologies of ethnographic action research and participatory rural survey techniques .It classifies practices on the basis of the degree and type of capacity upgradation needed and the kind of administrative reengineering required at the local level. Once a study of a best practice is put up on the GKC/DARPG website it would incite discussion and inspire new ideas which would in turn advance an understanding of workable solutions in governance.

Q: What are the key governance challenges in India from various perspectives- the administrative, institutional and community perspectives?
The key challenge is of course an institutional challenge and to address it one would use administrative reforms and community involvement at every stage.

Q: How deployment of Information Communication Technology (ICT) and its various tools like the Internet Technologies will streamline governance performance? Do you think technology is the panacea to malfunctioning of governance set ups?
Technology helps in record keeping and networking but it is run by individuals which creates a skeptical domain for its further application. A good case is the fact that while e-governance led municipal and other service delivery reforms have been able to seep into ordinary lives in Gujarat the same reforms have not even been acknowledged by common people in Haryana. An ethnographic survey answers this question. Technology helps overcome malfunctioning but this is limited by its design and the dimensions of the problem.

Q: What is the uniqueness of this Governance Knowledge Centre (GKC) Project? In what way the research on governance implementation theory will be strengthened by this?
It is for the first time since independence that the government of India has undertaken a ground survey of implementation processes of policies which have already been declared as successful. Many of them have been declared successful by government agencies also hence the move is introspective. Implementation studies have been a missing link of administrative reforms in India and thus policies continued to be formulated even though they were consistently being backfired at the ground. Enormous money has been wasted, rent seeking regimes have multiplied and pilferage of public funds by local agencies has become an accepted practice. Most feedback mechanisms collapse when a policy backfires. GKC rationalizes policy processes through serious research, solutions exchange and debates on strategies amongst partners. It would raise new set of indicators missed out in the past by implementation scholars.

Q: How will this governance informational repository actually benefit grassroots governance challenges with different socio-economic and cultural dynamics?
The primary task is to benefit the grassroots through administrative solutions or networking designs and strategies. For example a knowledge exchange of best practice from a village Libao in Gansu province in China suggests how various government agencies at the grassroots such as water department, marketing Board, community development, land management, horticulture and forestry etc can work together to achieve the task of poverty reduction in a village. In India integrated approaches generally do not take place due to insulated departments which not only compete with each other but also dump difficult responsibilities on each other. In another case from Hainan in China an idea took into practice as to how each department could innovate projects to overcome fund scarcity for development and poverty reduction. On the contrary departments in India cry foul for funds all the time and every policy backfire is blamed due to lack of funds. Many innovative areas emerge through administrative sharing to add up to the knowledge of bureaucracy.

"Technology helps overcome malfunctioning but this is limited by its design and the dimensions of the problem."

Prof. Anil Gupta

RECOGNISING KNOWLEDGE of the Poor

It is a world brimming with opportunities, and also challenges. It is a millennium living upto the Darwian maxim of survival of the fittest. With such cut throat competition around, we cannot afford to be left behind in making use of information communication technology for our progress. We need to work upon innovative ideas for the purpose of working towards this end.

I have on various occasions spoken and written about few ideas, which I believe can bring tremendous change in the state of affairs. These include, making use of the inherent talents and knowledge of the poor man, spending savings from our microfinance into development and working towards a horizontal growth pattern, coming up with portals of various kinds, changing the education system, sensitizing ourselves to the needs of various sections of society, using the existing talents etc. I would now like to elaborate upon them in a refreshed way. All my ideas, except one or two, to reap fruit need ICT application in one form or the other.

Let me start by saying that there is huge digital divide prevalent in our society in urban and rural India, in the formal and the informal sector, in the organized and the unorganized sector, between the literate and the not so literate or uneducated. This disparity is the biggest paradox of our country. The big question is how to make best use of digital economy, digital technology to empower the knowledge and culture rich, but economically poor people, so that we can bridge this huge divide.

It is an irony that a country which claims to be a world leader in IT today and provide services to the top companies of the world, is unable to provide content in the local languages for its children in government schools, community schools, village schools. While computers are reaching, the content is not reaching. The content we are talking about is within the sphere of education. Me and my students at NIG Surat have come up with an open source animation software. 70 per cent of the content for science, maths, history and other subjects has been put together. It is very important to give practical demonstrations to children for teaching purpose. For example, processes like lunar and solar eclipses can be explained with the help of animation. The illustrative mode is definitely more comprehensible.

The big question is how to make best use of digital economy, digital technology to empower the knowledge and culture rich, but economically poor people, so that we can bridge this huge divide

It is democracy damn it! Why not inclusive education?

In a country like India with rural stronghold, where class teachers in the village schools are often just class X passouts, and have never been taught scientifically, such technology

assumes even greater relevance.

The huge divide in education at the primary or secondary level is a matter of great concern. The private schools or public schools are highly damaging and the quality of the institutes is deplorable. But, having said this, I would like to add that there is no reason why we can't improve the situation.

All we need to do is to democratize the education process. For this, access to digital content is top priority and teachers have to be equipped for the same.

This takes us back to 1960s, when television brought about a revolution in our lives with its role as a country-wide classroom. It was on Doordarshan that lectures on various subjects were given. This had proved beneficial for schools in various parts of the country, especially those teaching underprivileged children. We can also think of a similar connection with radio. However, for some strange reasons, whenever we talk of ICT, we mean just the internet.

The sad part is that today, I can't even think of even five programmes on radio that people listen to. There are few programmes meant for children that are broadcast on Doordarshan. However, their timings are not suited to the liking of the children. But as far as radio is concerned, I can claim that there are no educational programmes. I am a teacher, but I have myself never been asked to present a programme. In fact, talk to 5 or 10 good teachers if they have been ever approached for a programme by radio, and the picture will become clear. The content of these programmes, if any, is a separate issue.

I would like to put forward an idea which I believe can do wonders. The radio can be used in combination with the telephone for the purpose of bringing about real development.

For instance, we can have a toll free number which people can make use of to have their issues and problems aired on radio. The radio can serve as a medium to provide solutions to these problems as well as educate the masse. This can prove particularly helpful because many issues would be common for various villages. Radio's reach is very high, it is present in areas where Internet is not.

The idea of creating a portal on radio, especially an educational portal on radio through telephone is a brilliant idea as per my understanding.

The idea of creating a portal on radio, especially an educational portal on radio through telephone is a brilliant idea as per my understanding

Talking about the issue of making the vast reservoir of knowledge and content on internet accessible at the grassroot level, a very effective technique can be adopted.We should provide net access to the teachers, who can download the matter and disseminate the knowledge /information to the students. By paying Rs 4 to Rs 10 rupees to a interactive kiosk, a large number of people will be benefitted. In a developing economy like ours, especially rural India, spending Rs 10 on internet access per day is not very affordable, thus kiosk as public dissemination centre.

But a bigger question related to content which I have is, where is the content for the school dropouts? I don't want to focus only on the schoolgoing children. 60% of the children in our country do not go to school. This is a curse. Knowledge is essential for the society to grow and progress.

Now that we have a community radio act, I would say that the schools at block level should have community radio licence to be able to broadcast the lessons which will be taught by the local teachers in local languages. In this manner, those children who are unable to go to

school for some reason will get some education. Our goal is to remove the tag of being one of the most illiterate countries in the world. Children who want to learn by listening to the programme will benefit.

Cultural Enrichment

The next topic that I would like to touch is creating a market for cultural creativity for the children. We are trying to create a portal of children on sristi.org which will be uploaded with the help of students from NIIT. The idea took birth during our shodhyatras or research trips, where we came across lot of talent in the villages. There were many among the people we met who sing very well, some who paint very well, some who have tremendous craftsman skills. In fact the whole wall that you have seen in the HoneyBee, that painting by a lady from the Madhubani, Now these are artists and we should be able to create a demand for their work among people who love art and culture. All programmes to encourage talent are meant for people in the mainstream cities. Where would a street level artist, various other singers or those who sing in the train, or bus stand will get a chance to showcase his/her talent.

If we can appreciate creative people like Satish Gujaral for art like murals etc, then why cant we utilize the talents of ordinary citizens. I would like to give the example of this lady at HoneyBee, Sita Devi, who is very gifted with the art of creating murals and Madhubani paintings

So what we are trying to propose is that somebody who is interested, can either videograph or record their performance with the help of a mobile and take down the name and the address of the artist and post it on the portal. This way, anybody who wants to listen to that music or art, irrespective of where he or she is sitting, Munger in Bihar or Champaran will be able to download the performance. If he or she appreciates the art, they download a form by paying 1 rupee for it. This money goes to the account of the person whose song it is.

So what we are trying to do is to use that form for generating an opportunity for the cultural rich Bharat which is not India. In the process, we also contribute to keeping the languages and dialects alive. I am more familiar with Ramayana, and I am sure that in every religion there will be lots of stories and folktales that are just as interesting. And when you make use of local dialect, it touches better upon the sensibilities of the people. These local variations in the cultural bases of societies, are narrated very interestingly by local story tellers with culture folktales. This art is disappearing very fast. Time will come when our children will not have time to tell stories and even if they want to, they wouldn't have the repertoire of stories. We need a countrywide campaign for enriching or archiving informal artistes, and then create a market for them.

Why can't these huge flyovers be used as long art gallery or why can't the railway station be a display ground for the rural artists or painters? Even our metro stations can be utilized for the purpose

In this manner, we can use the story telling methodology to capture the local culture, creativity, knowledge and art and bring it to the digital domain so that vanishing culture can be safeguarded and also be converted into e-commerce which can further benefit artists or the culturally creative people.

This is the only way we will be able to avoid a group of people whom we can call Alienated Resident Indians (ARI) as one can call it, a resident agitated Indians.. Resident Alienated Indians (RAI) live in India but not actually belong to India they live in India but are alienated from the roots of the country.

Convert public places into art gallery

If we can appreciate creative people like Satish Gujaral for art like murals etc, then why cant we utilize the talents of ordinary citizens. I would like to give the example of this lady at HoneyBee, Sita Devi, who is very gifted with the art of creating murals and Madhubani paintings.

Why can't these huge flyovers be used as long art gallery or why can't the railway station be a display ground for the rural artists or painters. Even our metro

stations can be utilized for the purpose. These places can help the artists generate revenue. Preserving the linguistic diversity of this country is our responsibility. Every language in the country, every culture, every language needs to be preserved, when a language dies, a culture dies.

diversity in food as well. Moreover, a dish can be prepared in many ways. For example, there may be hundreds of variations of something as simple as moong ki daal . Cooking with variety is the way women reflect their talent and culture. The diversity in the cooking by women must be captured in a manner. There is a whole technology behind cooking, a whole culture and tradition behind it. This brings me to making the point that how can we create a digital market for diverse products food.

Now I come to another point, which is about how to use the supply chain, which you can download from my webpage on integrating vertical and horizontal markets. Let's say you want a particular pickle or want to make a particular variety of pickle. Sittting in Delhi, you want to get the taste of that particular dish from another state. So what you do is you go to the net, find out the whereabouts of the person who makes that dish and place a order on the net. The order will reach the

I want to draw light on the fact that there is tremendous restructuring going on in the manufacturing industry because many large companies are vertically integrated

It is inevitable that there are large number of people who have knowledge resources and talent. Our HoneyBee Network has been trying to help them. But in a country of over one billion people, this effort is not sufficient. It is just like a drop in the ocean given the size of our country and range of richness of culture. However, we have a National Rural Employment Guarantee Programme (NREGA) which believes that the poor are supposed to have no such thing as heads. But we try to access digital technology, digital content, digital network, and connect these heads in due course.

Digital market place for traditional food

Culture Can be used for enhancing the economic conditions of the poor as well. It can be used to create a horizontal market for them. Today, the eating habits of people are changing drastically. This is causing a depression in the market as far the foood produced by these poor is concerned. Food habits are becoming impoverished. We should have food festivals like the Satvik food festival. We wish such food festivals become the norm in every taluka of this country. We can have food bazaars, where even ordinary people can put up a stall of their own and showcase some of their old recipes. In this country, food diversity is going down drastically. We eat the same Pizzas and the same Burgers. In India, there is rich

house, the courier agency will connect with the packaging insustry, the packaging industry will coordinate with the courier agency and, and in 36 hours you will get that dish in your house from that village. So you are connected to the supply chain. If you can afford it, you are also creating a market and enriching your life.

Be it 60 bottles of a particular jam made from guavas growing in eastern UP, or juice from Leh , or any such thing from another state, you can simply order it. In turn, the farmer will benefit. If we generate income this way, we can prevent people from leaving their homes and become slum dwellers.

Student's project portal

There are 5 lakhs students of technology in this country. Those 5 lakhs students do 5 lakhs projects, no portal has been made on their work till date. These students can help the small scale industry, which can't hire IIT or IIM professors to work on their problems. This way the students in the technical field will be working on real life problems. So this way you create a pluralistic diverse market of brains. People think that all the brains are concentrated at IITs and IIMs. You should be knowing that two months ago a Indian Space programme took place, where 10 satellites were launched

simultaneously on a single rocket, an extra ordinary feat by Indian Space Research Programme. Those ten satellites makers were neither from IIT, nor from NIIT. Those were engineers from lesser known colleges. So we can conclude that be it the manufacturing sector, Indian Railways or Indian Space Programme, good engineers can prove their worth, irrespective of the college.

Inclusive Human Resources

There is no social capital around students from the lesser known engineering colleges. I would like to ask the employers to go to their colleges. I have nothing against IITs or other big names, but my point is don't take elitist attitude against other colleges. Our thinking should be that I am needed in such colleges where people don't come due to bias. We want to empower those colleges. We want to create new opportunities for those students so that even international companies can go to those colleges to hire people. ICT can play a huge role here by enabling this whole thing with the help of portals.

I have always said that India is crucial for the creativity in the entire world. Our attitude has to be that what we will do for ourselves, we will do for Africa or any other country. The Indian model development can't grow without taking neighbours along. We can provide similar facilities not only in India, but also on the hinterland of South East Asia or wherever.

Why can't these huge flyovers be used as long art gallery or why can't the railway station be a display ground for the rural artists or painters? Even our metro stations can be utilized for the purpose

1+1= 11

I want to draw light on the fact that there is tremendous restructuring going on in the manufacturing industry because many large companies are vertically integrated. Outsourcing is now getting to the next level. This is the age of refoundation or restructuring. What I am saying is that if you have 5 machines and I have 4 machines, some have 3, others have 5, a pool can be created for helping industries of the world. You can place an order for that on this portal, place requisition and we will our supply chain, organize them and will give you product, whether we make it from 10 places or one place.

This is decentralizing the process and making use of small workshops. We are trying to give work to lesser known names. This way, instead of few large companies taking care of the needs of the world, we create a large number of hubs which will be networked to the international community through digital technology.

Let us create a pool of villagers who are skilled. We have to network them, decentralize the opportunities.

When I say India, I mean India as an instrument not only for Indians, but for all disadvantaged communities or people of the world. We are now giving them a contracting model which is a very different model from the point of their modus operandi. One model says that Finland will manufacture mobiles, and another says that some other country will manufacture something else. However, this model is not very effective. Now things will be done through distributed models. Local supply chains will be made and global markets will be created. We want to turn the world into a manufacturing hub. We want our skills to be engaged with organizing things on a scale where people will contribute their best. Their creativity will be enhanced.

Here we are talking about grassroots to global ,or what I would call G2G. You may even call it gLocalisation.

More in my next article. In the meanwhile, spare some time at www.sristi.org

Prof Anil Gupta, IIMA, is Padamshree and Vice Chairperson of National Innovation Foundation. He can be reached at *anilgb@gmail.com*

Sam Pitroda

Change the DNA of the whole system overnight!

There is a Herculean task before India. The task is the development of the country. As an Indian, I would say that we need to realize how important it is the role of information communication technology in digital content and digital services as far as the developmental sector is concerned. India has a huge potential in this field, which results from our disparity and diversity, coupled with our strong heritage in art, culture, music, food, paintings.

This gives us a huge canvas of our own content. If you look back a little, you will realise that we have created a lot in the last two-three years that needs to be documented with the help of digital media. Besides, we have to remember that the content has to be about things that really made an impact on the history of India. Whether it is about our religious places, our poetry, our way of life. A lot of content needs to be documented. We had made a move in this direction during Rajiv Gandhi's time at the Indira Gandhi Centre of Art & Culture.

We have to start somewhere. In a country like India, where we have this huge divide between the haves and the haves not, between the urban and the rural, between educated & uneducated, our efforts have to be directed towards decreasing the divide. We cannot wait for the divide to disappear

Medicinal Plant et al

On my part, I have been involved with what we call the Foundation of Revitalisation of Local Health, where we are documenting 12,000 of our medicinal plants. Fortunately, it has been working well for the last 15 years now.

India has this 12,000 medicinal plants which are unique to our climate. So around 15 years ago, a young Darshan Shankar came to me in Technology Mission days and said it would be good to document this heritage. No one had a good database about what are these plants, what is their genetic base, genetic pool, genetic pool dime, technical analysis or where it is used. So he set up a foundation in Bangalore. After initial struggle, we got funding from the Danish government and put together a group. It's a non profit organization. Thankfully, now we have the money. Tata gave us around 36 crores. We have a huge campus with 110-120 people who have dedicated almost 12 years to the cause.

Few people understand that cultural content is not about Bollywood songs. You know it's about this huge reservoir of lot of cultural data, scientific data, I mean the documentation of our paintings, all our art, our music forms, our languages, is the starting point.

Content for decreasing divide

We have to start somewhere. In a country like India, where we have this huge divide between the haves and the haves not, between the urban and the rural, between educated and uneducated, our efforts have to be directed towards decreasing the divide. We cannot wait for the divide to disappear. Creating content is fundamental to decreasing the divide. So, on one hand the job is to create whole new content and documenting it, followed by targeting the people for whom it is meant for, and the issue of how will it be

delivered.

We must remember that this cannot be accomplished by a single soul. It requires thousands and thousands of people.

I believe that the local content which we are creating is short of what may be used as a domestic content. Bollywood songs, mobile tunes, Ganpati animations, all this is not the local content that I am talking about. I feel the question is how to bring the already existing digital content into the virtual world. We probably have more regional content than any other country. I am convinced of that.

Nowhere will you find such diversity. Multiple tribes, multiple races, multiple religions, you name it and we have it. Our local content is very rich. Be it the Madhubani Paintings, or some tribal art (even art of masks), or tribal languages. All this is real world heritage of our own content which needs to be brought before the masses through the virtual medium. Here the process of digitization comes into picture.

I attribute such a situation to the fact that openness is not a part of the culture. The IT culture requires openness, clarity, connectivity, and decentralization . It is not there. Nobody wants to do that.

This is a cultural problem. It has nothing to do with technology. The information, what I didn't do or what did I do? Who wants to reveal it, who wants to do it? Where are the people who want to evaluate that performance?

If you look at expansion of governance, there is e-governance in India. However, governance is really not up to the mark in our country, despite all the money that we have spent on it and keep spending. At least I do not feel satisfied as a citizen. I really need to look at 20 processes which have contributed to improving services provided to the citizens. Have they really succeeded? Has it changed our culture of unaccountability? Have we become open, responsible, accountable and answerable? If not, then it is e-governance for namesake and not for real change.

The IT culture requires openness, clarity, connectivity, and decentralization . It is not there. Nobody wants to do that

Where is accountable democracy?

I would like to draw your attention towards mobilisation of the last mile, or reaching out to that man at the far end or the end of the ladder. My concern is that a mechanism to reflect the accountability of the representatives in a huge democracy like India is non-existant. Where is the platform for the masses to get an answer to their questions about the manner in which the MPs, MLAs etc are dispensing their duties? You won't see even a single Panchayat, MLA or MP portal or website. ICT is hardly used to inform the people. None of those in seat of authority are interested. Also, MPLADS fund does not give scope for the same.

To connect the representatives and those whom they represent is a rare phenomenon. When I think it seems really funny, that I select people, I elect people, send them to the Parliament, to an Assembly, but they are not accountable. This is unfair. If we start the trend, linking representatives with the people, you will suddenly have 5000 websites resplendent with the nitty gritties.

Absence of 'e' in education

Coming to education, every school should have its presence on the web. I need to know my physics teacher. My question is how many teachers are there on the net? What about places of higher learning, like IIT and IIM portals. Every university should have a portal. All course work, all grades, all admissions, the background of all teachers, all courses, what the teacher teaches, everything should be there on the portal. These are institutes of higher learning, so they should set the trend. I believe the representatives of the people will eventually follow. Not even the so called progressive institutions have done it.

Active district portals are needed.

You need portals for every district. For example, I am in a district of Balangir where I was born and I need to know about the place, what is the size of the district, its demography, how many schools are there, the teachers, colleges, business activities of the district and much more. But who is going to do it?

Most people do not understand the information technology culture, even the best of intellectuals. It's all about openness, all about accessibility, connectivity, it's all about networking, it's all about decentralization. I think it requires people to be very accessible. If I can talk to you, I should be able to talk to a person in Uganda at the same time. How do I change the way I see the world today? Today, the entire world is going through a major transformation. The world has to be made a more local place.

But we are still teaching our children the same way that we were teaching thousand years ago. Classroom, duster, blackboard, chalk, teacher, exam, textbook.

ICT needs to be made much more use of. and also the all new methods we will have to adopt. New economy has to be developed, new skills have to be developed. Everything today is localized, and information bridges the distance.

How to change DNA

It is not possible to change the DNA of the whole system overnight. People have to understand the value of information and digital content, which they do not. The digitisation process and documentation of content will in the end effect generations. However, a lot of work has started taking place.

E-governance is a good way to reach out to people, to improve access to each. Birth certificates have to be made available through the internet. Why is the birth certificate different in every state? There are 10 IDs which a person has to have, from a ration card to a driving license to so man more things. There should be same admission forms to fill, may be 5 to 10% of difference, all of them available on the web. Land records should be available on the net.

On one hand you need standardization, and on the other its implementation.

Let's work together

There are a few points which we need to concentrate upon while working towards the digitization process, or digital content creation process, or digital service delivery process. This will push the process into a fast forward mode.

First and foremost, successful e-governance has to be our target. We need to identify the areas where e-governance has to be strengthened, fund them properly through public private partnership, and make it global content. The implementation of e-governance has to be at the district level.

We must remember that all these efforts require large amount of participation from people.

We have started doing things in our capacity. We have India Water Portal (www.indiawaterportal.org) in association with Arghyam. In energy we have a portal with Teri, in environment with the Centre for Science and Environment. A health portal is coming up soon.

The Knowledge Commission requires a lot of pool from people to connect. We need an education portal which we just launched in collaboration with Azim Premji Foundation: http://www.azimpremjifoundation.org/html/TeachersPortal.htm.

People have to understand the value of information and digital content, which they do not. The digitisation process and documentation of content will in the end effect generations

We need a portal for teacher's training, we need a portal for garbage collection, we need portal for various other such things. There are thousands of portals needed to connect people who share same and equal level of interest.

A portal for brick layer to carpenter to plumbers to truck drivers to security, you name it and there are thousands of issues for which we need people to come together. Sadly, nobody is putting in the hard work.

We have to move in the right direction. A country as gifted as India with so much talent only requires the will and effort, and the results will surely become visible. India has to rise and shine before the world.

Sam Pitroda is Chairman of Knowledge Commission.
He can be reached at *sam.pitroda@c-sam.com*

Prateep V Philip

Digital technology can be used to deliver wisdom and not mere knowledge or information

DIGITAL DELIVERY of Wisdom

For the body's sustenance, complex food substances are broken down into simple building blocks and energy sources. Similarly, when complex knowledge is broken down to its irreducible minimum, it is a simple digital code or in Alpha language,"Yes" and " No." If these assumptions are true, then , the code on which Equilibrium Thinking, a framework and tool developed and taught by me through my website (www.eqthinking.com) , through my Audio CD and through workshops is the key to the human mind. That code or key is " be at it: beat it." With these two tools be at it ,(meaning "be positive") and beat it" (meaning beat negative) , a person can navigate all the complexities of the real world. It transforms one's emotions through enhanced emotional intelligence, one's will through enhanced persistence quotient and one's thoughts through reinforcing the positive and negating the negatives in his/her mind.

This thought process enabled Rajkumar Ramachandran, final year student of Vellore Insititute of Technology to overcome his negative thoughts and excel in a series of four campus placement interviews to be selected in Tata Consultancy Service. Facing the odds of stiff competition, he happened to access the website www.eqthinking.com and agreed with the premise that mere positive thinking does not enable a person to overcome the power of the deeply ingrained negatives in human nature. He learnt the new programming language for the mind from the website and within a few days broken the power of his internal conditioning to fail and instead, succeeded in overcoming his fears and tension. He continued to excel and taught many of his classmates the new programming language in which to talk to themselves. When their self talk changed, their thoughts changed, their emotions changed , their relationships changed for the better and their lives were transformed. That case study of a person who learnt my thought process without even meeting me convinced me of the ability of digital technology to reach millions of people across the globe.

A few years earlier one John Hanson, a former law enforcement officer in the USA sent me an email, stating that he had visited the above website and wanted an audio CD. Shortly, after he received the CD, he emailed some further questions. In the next mail, he stated that he had already experienced some changes in his mind and said that he could use it for combat conditioning of military troops.

A woman of Indian origin whose husband, a Vice President in Citicorp, N.Y. had survived narrowly the 911 attack sent me mail after being impressed by the content on the same website. She sent me feedback that it helped her overcome her post traumatic depression. Truly, eqthinking has proved to be IT with a difference- it is Insight Technology. It is also digital as it works on a dual code of yes and no-no.

All the above examples in addition to feedback received from live Powerpoint presentations in workshops including a Videoconferencing event in which more than a thousand IT workers of Infosys in all the Infy development centers heard me convinced me that digital technology can be used to deliver wisdom and not mere knowledge or information. Now, a mass campaign has been launched in Tamil Nadu to reach all students in high school and colleges across the state. An eleven minute audio CD on eqthinking is played and the students are asked to access the website for further information. The schools and colleges are also asked to form eqthinking clubs to encourage eqthinking among the millions of young people in India. What President Shri APJ Abdul Kalam rightly attempted but could not fully succeed, namely imparting a 2020 vision to India's youth can be done only through leveraging on digital technology over a period of time.

Reference websites

www.eqthinking.com, www.prateepphilip.com, www.friendsofpolice.org

Dr. Prateep V. Philip, IPS, is IGP Social Justice and Human Rights, Tamil Nadu.
He can be reached at *prateepp@vsnl.com*

Rajen Varada

The technological acceptance model can be simplified in a way that it reduces the technological alienation through enhancing the existing skill levels or livelihood mode

From Technological Alienation to Aspirations

The ICT revolution envisages a global revolution by bridging the glaring digital divide across nations. Sadly, the disparities are alarming.

The problem, I have to say, is not new. Developing nations have just 20% of the 153 mn global broad band connections. Western nations have more access to bigger bandwidth. Just 38% of developing nations' schools is online. If culture of literacy is a proxy for culture of technology, then, the illiteracy that exists in the developing nations can make the story more complicated by adding social groups such as marginalised groups and women who are at the wrong side of the digital divide.

I suggest we need some serious reworking here because time and experience has shown us that the solution to technological gaps does not lie in merely having computers, mobile phones and the internet. More significant are issues of affordability, penetration and utility (Manzar, 2005).

This brings us back to the issue of democratizing technology at all levels - policies, production and application. Information Communication Technology for development (ICT4D) is a school of thought that attempts to harness the developments in ICT to advance the goals of development, which includes tailor made production and application and implementation based on an understanding of who is left out and why.

ICT4D: Beyond the Clichés

A sweeping statement that would describe ICT4D interventions is that there are many islands of good interventions and many of the interventions have been able to reduce the distance between the disadvantaged and the technology but seldom succeeded in initiating a healthy growth curve of utility to acceptance to aspirations.

India has been in the forefront of implementing many ICT initiatives to propel the development goals- human, economic, social, infrastructure and governance. Many initiatives have been sponsored by state agencies, and of late, all the federal units have established a separate ministry for Information technology implying attempts to democratize IT. However, factors like poverty and illiteracy distance the poors' cultural ergonomics from technology, which in turn reduces the utility technology for them. The technological acceptance model can be simplified in a way that it reduces the technological alienation through enhancing the existing skill levels or livelihood mode. This model holds a special relevance to India. For example, the Green Revolution increased food production in India by making technology acceptable to farmers by using utility as the entry point.

Traditional Skill Conversion Project in the Old City of Hyderabad

Speaking in this context, I would like to give the case of Hyderabad, the capital city of Andhra Pradesh, which is an urban agglomeration characterized by high density of low income population living with poor infrastructure and civic amenities. The incidences of illegal occupations and crime rates are high, and so is the school drop out rate, especially among girls. The city also witnesses high rate of child labour in domestic and other low productive enterprises. The slums in the old city do not hold conducive environment for any realistic aspiration for the economic or social wellbeing of children. This manifests in adherence to traditional skills and continuous poverty through generations.

Technology for the People (TFTP) organisation's intervention in the old city has been to support schools (run by Roshan Vikas - a Cooperative Society of women) that would cater to working adolescents who cannot return to formal schools due to several factors. By offering flexible timings and adequate individual time to appear for the National Open School, TFTP helped overcome illiteracy. Education opportunities have also raised the average age of marriage which is otherwise lower than the legal age of 18.

TFTP has partnered with Star Features Studio (an Indian Firm involved in developing animation series) to develop the training methodology for conversion of the traditional craftspeople into animation artists.

While this collaboration addresses the issue of high turnover of artists, the trained persons from the TFTP initiative are provided work at the existing market rate by the studio. Towards this, the studio is willing to outsource its work to the trained young people. During the current year of 2006-2007, 70 animation artists were trained and 30 are already employed during the pilot phase by this particular studio.

Blending tradition with modernity

An irony is that the poor living in slums, despite being well endowed with traditional skills, barely manage a living out of it due to archaic methods, lack of access to capital and markets.

My suggestion here is that we should blend tradition with modernity and use novel methods to market these skills in the new economy. Such an initiative will help the youth in supplementing their family incomes. More importantly, being economically productive will relieve girls from such backgrounds from the pressure of early marriage.

A New World: From Mehendi to Animation

A project was started to enable this blend of traditional art with modern technology, where adolescent girls with drawing skills who undertake Mehendi designing and zardosi embroidery as a source of livelihood were screened for the first batch.

Now the programme comprises course duration of six months, followed by a one-year internship with stipend. This programme is coordinated in a way that it ensures completion of secondary level education, as the course and the internship is linked to school attendance. The two-hour long classes conducted to prepare these working girls for the NIOS exam are extended to complete the training in six months. The job placement by the training agency for a monthly salary which is six times more than the current monthly income is another incentive to continue education

Insights from the Intervention

Most girls who joined this programme had their first experience with computer only during the training. Lack of technical knowledge created less apprehension among them as they were chosen based on their existing skills. The only new skill to be learned in the initial stage was getting familiarized with the mouse and this reduced any apprehensions they had in operating a machine. Practice kits gave them a challenging situation to create the same with a mouse that they otherwise would do with ease. Use of ease with which the training programme started safeguarded drop outs.

Some of the trainees who were faster in completing the module were taken on a stipend earlier than others. This not only acted as an incentive for others to indulge in practice, but also allowed the community to value the intervention on many counts.

The dispensation of education has many unintended social benefits. Foremost is the discernible increase in the value of education for girls among the community which otherwise tends to send girls only for learning scriptures and marries them off soon after puberty. The intervention has pushed the age of marriage closer to the legal age.

The community experienced for the first time that technology can bring value addition to a women's life.

Most importantly, the insistence on secondary school certificate to become permanent employees of the training agency has raised their aspirations to become full fledged animation artists. Such aspirations were not only reflected in their efforts to pass the exam but also in their desire to learn and converse in English.

Its time to change things

These are glowing examples of how technological alienation of communities can be addressed effectively by linking technological value addition or utility to their existing skill levels or livelihood practices. The challenge and opportunity lies in identifying more traditional skills that can be made modern through an inter phase of technology.

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Rajen Varada is Resource person ICTD community UN Solution Exchange.
He can be reached at *rajen.varada@gmail.com*

Manas Chakrabarti

D-CONTENT:
Not just digital

The tag line of this magazine, "digital content for development," raises a few interesting questions. Why digital? Whose content? What kind of development? My guess is that digital content has little to do with GDP growth, so it's unlikely that the word "development" is being used in that sense. Among the more likely candidates, I find the idea of "sustainable development" fairly attractive because it might have something to do with content. It also broadens the meaning of development by encompassing human, social, environmental and economic sustainability. But it still doesn't connect all the dots.

I was puzzling over the tag line staring at my bookshelf, and I saw the answer staring right back at me. Amartya Sen's Development as Freedom was lying on its side in a little-used corner of the shelf. I dusted off the book and flipped through the pages, connecting with the ideas I had read several years ago. According to Sen, "freedom is viewed, in this approach, both as the primary end and as the principal means of development."

If "freedom is central to the process of development," the freedom to express myself or the freedom to have my voice heard is certainly a critical ingredient. I can exercise this freedom, guaranteed by Article 19 of the Indian Constitution, because I went to school, live in the National Capital Region and have friends who ask me to write articles in magazines. But what about the millions of Indian citizens who have no means of having their voices heard? What about their freedom, their development?

Digital content opens doors that were previously shut by social structures and requirements for literacy. I, as an illiterate tribal from Jharkhand, can tell my story about radioactive effluents without writing a word or waiting for someone to give me permission. I can express myself through my voice, maybe even broadcast my story on community radio. I, as a teacher in Koraput, can narrate my experiences of teaching science with local materials. And I, as a witness to the retreating glaciers of Ladakh, can share my pictures from now and from ten years ago.

Digital content has huge potential to empower and engage communities because it is such a versatile medium. It is much more than just Web pages on the Internet - it includes voice, music, conversations, radio plays, text, pictures, videos, conversations, and so on. And it can be created and delivered on a variety of devices, not just computers. More importantly, digital content does not depend on a centralized review-edit-publish process. d-Content can be created, published and owned by anyone, including individuals, communities and organisations. I also believe, and hope, that this bottom-up content will enrich and inform policies and practices prescribed by the thought leaders of our country.

The two most common criticisms of using digital technologies for development are lack of skills (including literacy) among communities and lack of infrastructure. The Hole-in-the-Wall has shown that learning to use digital technologies is trivial. And Raghav (the radio guy) has shown that infrastructure is not a constraint. Rather than skills and resources, I suspect what might be lacking is a commitment to democratic values. Sure we want development, but only if we can choose what's good for "them." Letting people decide for themselves is so messy, so democratic.

So when I think of d-Content and what it might mean for development, the word that comes to mind is not so much digital, as democratic. I think we might have stumbled onto something far bigger than mere bits and bytes on a screen.

If "freedom is central to the process of development," the freedom to express myself or the freedom to have my voice heard is certainly a critical ingredient

Manas Chakrabarti is Consultant, Instructional Design and Education. He can be contacted at *learningbydesign@yahoo.com*

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1. Computer Literacy Programme
2. Certificate Programme in Mororcycle
3. Awareness-cum-Training, Packages in Disability (Visual Impairment, Mental Retradation, Hearing Impairment & Cerebral Palsy

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 drown in favor of 'IGNOU' payable at the city of concerned Regional Center/ New Delhi or paying Rs. 100/- in cash at the respective sale couters, Plese 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 from 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/-)

READ INDIA

RURAL EDUCATION AND DEVELOPMENT

"Building Literacy & Communities through Community Libraries and resource centres"

Please Contact:

Ms. Geeta Malhotra

Country Director

at geeta@read-india.org or

+91 931 1203055