



# Mainstreaming North East with CONNECTIVITY & ACCESS





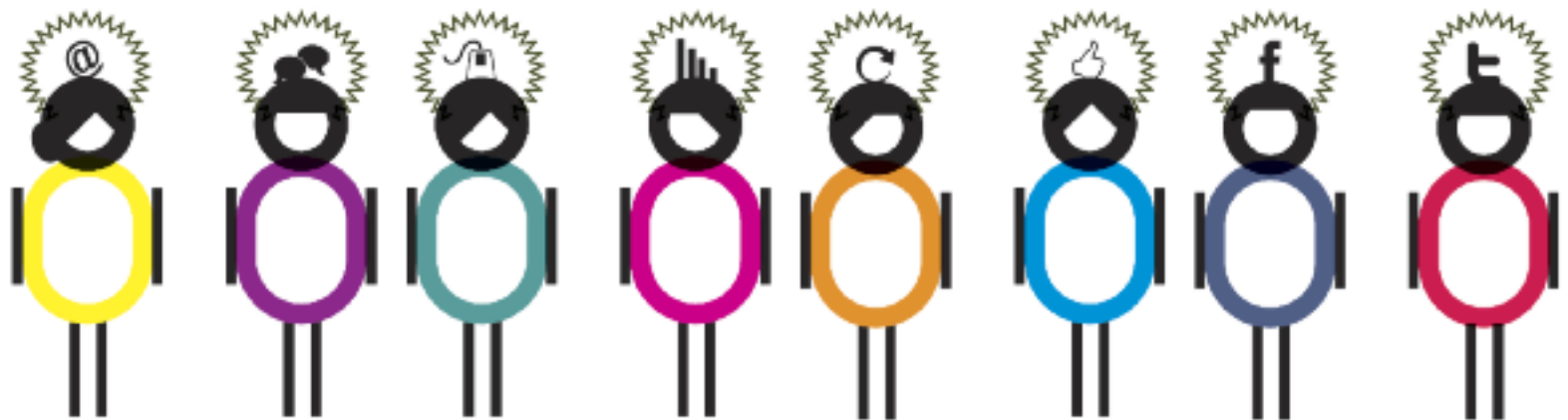
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# Mainstreaming North East with **CONNECTIVITY & ACCESS**



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# Celebrating the best digital practices in North East

by Syed S. Kazi



Ideated and conceived in 2010, The eNorth East Award platform was designed to scout, promote, recognize, motivate best ICT practices in North East India, covering all 8 States including Sikkim. The platform has helped to building a North East regional network of best ICT and digital practices in as many as 12 areas including governance & citizen services delivery, health, livelihood & enterprise, business & commerce, culture & heritage, environment & tourism, news & media, and education & learning.

The power of Information Communication Technology (ICT) tools and applications to empower people and communities is universally acknowledged now. Digital solutions and innovations have enhanced the capacity to deliver services as well as to access services with affordability and accessibility. The societies worldwide have embarked upon innovating and adopting ICT means and platforms to improvise and scale up development and governance practices. The Stockholm Challenge, World Summit Award, and the Manthan Award South Asia & Asia Pacific are such platforms that recognize and networks global and international ICT and digital practices benefiting communities.

At national level in India, with the increasing hardware, software and connectivity provisions there are increasing initiatives at public, private, civil society and academic sectors to use ICTs including the Internet, Mobile and now the social media platforms, to innovate and deliver solutions and services catering to needs of focused groups and beneficiaries. There are the National e-Governance Award and the CSI-Nihilent Award that recognizes best ICT and digital practices in India especially in e-governance domain.

There cannot be any second thought that such platforms are required to motivate, encourage and promote innovations that are and can bring social and developmental transformations in our lives. Such platforms also fulfills the essential need to create a knowledge network to connect stakeholders to share, exchange, learn, collaborate from each other without going into duplicity of efforts and investments.

This brings us to the eNorth East Award Platform (<http://enortheast.in>). Ideated and conceived in 2010, The eNorth East Award platform was designed to scout, promote, recognize, motivate best ICT practices in North East India, covering all 8 States including Sikkim. The platform has helped in building a North East regional network of best ICT and digital practices in as many as 12 areas including governance & citizen services delivery, health, livelihood & enterprise, business & commerce, culture & heritage, environment & tourism, news & media, and education & learning. The network has been able to create a knowledge linkage connecting the public, private, civil society, academia and independent ICT pioneers and promoters under one umbrella. So far more than 200 best practices have been built into this network.

If the above is a contemporary trend, the future looks bring in North East. There are estimated more than 1 million mobile users, more than 0.1 million internet users, and more than 0.1 million social media



users today in the region. But the scope is tremendous for digital inclusion. For instance, there are more than 2 million NGOs and community organisations, 0.5 million and more schools, more than 500 Panchayats, and more than 1 million MSMEs. These platforms are out of the ICT purview and imagine the ICT revolution that can happen if all of these institutes and agencies are brought in the ICT domain including the Internet.

True to the concept, the eNorth East Award platform has moved from one state to another to carry the campaign forward with state level touch. With the first edition being held in Assam (Guwahati) in 2010, the second and third editions were held in Nagaland (Kohima) in 2011 and Sikkim (Gangtok) in 2012. Another important aspect of this platform is in the alignment and partnership with focused State Department of IT every year to bring into highlight the particular State's role and significance in promoting ICT and digital inclusion.

In regard to the numbers, in 2010, 6 best practices were invited and recognized. In 2011, there were 8 winners, 14 Jury Special Mentions, and 7 Special Mention. In 2012, there were 13 winners, and 4 Special Mentions.

This year (2013) we are celebrating the best ICT practices in development and governance of and in North East. We received 54 nominations, out of which 45 were valid for screening and review by the 12 Jury Experts. Finally, we have 19 winners and 4 Special Mention, selected by the Jury, held on November 1 in New Delhi. Total, we have 33 finalists who shall be presenting their best practices in various plenary sessions on December 13, 2013 at Itanagar, Arunachal Pradesh, culminating the Award Gala Evening.

Here, I must acknowledge and thank the Jury members for their excellent and supportive role in screening and selecting the finalists, awardees and special mentions for 2013. My regards and gratitude to - Ms. Ranjana Saikia (Director at The Energy Research Institute, TERI), Ms. Ashish Garg (Chairperson at

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Mainstreaming North East with Connectivity & Access

ODEE Asia), Dr. Monica Banerjee (Programme Director at National Foundation for India), Dr. Geeta Malhotra (Country Director, READ India), Mr. Amitabh Singhal (Board Director at Public Interest Registry), Mr. Rajen Varada (CEO, Open Knowledge Community), Mr. Gyana Ranjan (Executive Editor at Voice & Data), Mr. Kartik Taneja (Google India), Mr. C K Nayak (Delhi Bureau Chief of the Shillong Times), Mr. Subrata De Sarkar (Director, DIT, Arunachal Pradesh). My thanks and gratitude is for Mr. Osama Manzar, Founder Director at Digital Empowerment Foundation in conducting the Jury smoothly.

On behalf of the eNorth East Award Secretariat, let me sincerely acknowledge and thank the Department of Information Technology (IT), Govt. of Arunachal Pradesh, to agree to host the 4th eNorth East Award Summit with whole hearted support and cooperation. This special gesture is reflective of the progressive thought process of the Department and the government of Arunachal Pradesh in understanding and promoting the cause of ICT for development and good governance practices.

The eNorth East Award programme would not have been promoted and taken thus far without the incubation support from Digital Empowerment Foundation. This foundation has been providing all mentoring, technical and resource support and promoting the cause of knowledge building and networking in ICT domain in North East through the eNorth East Award platform.

I am glad that Public Interest Registry, that provides our .ORG domain worldwide, is specially supporting this edition of the 4th eNorth East Award Summit under its international eNGO programme, being implemented with Digital Empowerment Foundation. As you all must be knowing or know, the eNGO programme is promoting the cause of ICT needs including having a website for every development organisation including NGOs and CSOs worldwide. Already this programme has been under implementation in North East India. And very soon, we will all have the privilege to use the .NGO and .ONG domains exclusively by the NGO community globally.

As principal partner, the support of the National Internet Exchange of India (NIXI) is timely and relevant. NIXI's support since the inception has gone a long way in carrying forward the eNorth East objective. The support of the North Eastern Council (NEC), the nodal agency of the government of India

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promoting inclusive development and growth in North East, is tremendous. The support and cooperation from National Informatics Centre Services Inc. (NISCI) is encouraging and motivational in building a strong knowledge and resource bank network in North East in digital solutions for development.

The continuous support of the Department of Electronics & IT (DietY) through its National e-Governance Plan under the Ministry of Communications & IT, Govt. of India, is really inspiring and motivating to push the ICT agenda in North East in progressive manner. I sincerely thank and acknowledge the willing support of Software Technology Park of India (STPI) and National Institute of e-Learning & IT (NIELIT) for their support and cooperation.

The support of Internet Society (ISOC) in promoting the cause of Internet for development in North East has been continuous and steady and it's a tremendous boost. As knowledge partners, the willing association of Internet & Mobile Association of India (IAMAI), NASSCOM, North East Information Communication Technology Association (NEICTA), Open Knowledge Community (OKC) will go a long way in building a sustainable society in North East with judicious and need based use of ICTs. As development partner, I sincerely thank the support and cooperation of Future Generations Arunachal (FGA).

I thank and acknowledge support and cooperation of GLOCAL University for associating with 4th eNorth East Award Summit. A special thanks and regard to ECLECTIC North East, as the print media partner, in agreeing to associate with this programme. As technology partner, INOMY MEDIA has provided all technology support and resources to make this programme successful.

My special thanks and gratitude is reserve for the team for their dedication and cooperation even under stressful situation. My thanks goes to - Stephen Sangma, Jimmy Tobgyal, Smita Sahay, Shaifaili Chikermene, Harun Ahmed, Nabanita Hazarika, Julie Gogoi, Sanghamitra Choudhury, Jolly Kazi, Nazia Khan, Rohit Dhall, Sapna Subba, Rubi Sengupta, Vikram Singh, Satya Prakash, Asma Kazi and others who have been a great force and support. The contribution of Ms. Smita Sahay in the eNorth East Award

I am glad that Public Interest Registry, that provides our .ORG domain worldwide, is specially supporting this edition of the 4th eNorth East Award Summit under its international eNGO programme, being implemented with Digital Empowerment Foundation.



Summit 2013 has been splendid and significant especially in coordination, communication, research and documentation.

And finally, my thanks and gratitude to those well-wishers, supporters and ICT for development protagonists in and for North East who has believed in the capacity of the eNorth East Award network and the summit platform to promote and support innovative and good development and governance practices in North East with ICTs.

This book is a compilation of all the 23 winners and special mentions along with brief commentaries in article format by ICT experts who has highlighted key aspects of ICT for development in North East. This book also lists the practices of all the 33 finalists who have done tremendous work in innovating and working in North East despite tremendous challenges.

I wish the readers a happy reading!

Any errors or mistakes in the book may be excused as unintentional and human error.

**Syed S. Kazi**

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# Northeast growth blueprint holds message for India

by Osama Manzar



The first Information Technology (IT) revolution took Indian IT to the whole world. The second IT revolution should bring the world of IT to the whole of India including Northeast region.

To be socially, and economically sustainable, India's growth story needs to be inclusive. Governance and inclusive growth are the two key terms that are finding more and more emphasis among policymakers today. However, the country's Northeast has been experiencing a comparatively slower pace of socio-economic growth. Though the region is blessed with abundant natural resources for industrial development and social development, they have not been utilised to their full potential.

The Northeast region stands far below in comparison with the rest of India in socio-economic indicators. Nearly 35% of the population is below poverty line as compared to the national average of 26.1%. The landlocked Northeast region of India remains isolated from the rest of the country and has not been able to attract investors or produce skilled labour and entrepreneurial resources. However, the Northeast is a highly literate region. Except for Arunachal Pradesh, all the other states have literacy rates about or above national average which provides a good pool of educated human resources in the region.

The region has certain distinct advantages. All the eight states have different developmental prospects to support their efforts in contributing to the regional as well as national economy. It is strategically located with access to the traditional domestic market of eastern India, along with proximity to the major states in the east and adjacent countries. The resource-rich Northeast with its expanses of fertile farmland and a huge talent pool could turn into one of India's most prosperous regions.

## Then how can the Northeast can be brought into the mainstream?

The first Information Technology (IT) revolution took Indian IT to the whole world. The second IT revolution should bring the world of IT to the whole of India including Northeast region. It is felt that investments are required to make Information Communication Technology (ICT) tools available for social improvement of people in the Northeast in a sustained manner. The prerequisite for entry into the digital northeast is connectivity. With innovative and effective use of ICT tools, the less empowered citizens can be included in the overall e-governance framework and can have easier access to government welfare schemes and services.



The region has the potential to generate 3 million jobs, but the manpower supply is nearly 16 million persons. So there is a need for a twin approach for developing skills with the use of ICT for both local employment and for those who seek to migrate. There is also an urgent need to empower the people of this region with a rights based approach.

A process could be set in motion that could support the Northeast in its endeavor to contribute to the economic resurgence of the home region as well as to the development of the rest of the country. It is vital that this process includes mechanisms for equitably sharing the benefits to be derived from development and focusses not only on the big-ticket items that support broad-based, long-term growth, but also on those complementary activities that have immediate impact on poverty reduction at the community level.

It is with this perspective, the eNorthEast Award platform is created to scout, review, select, felicitate and nurture best practices in information communication technology for development and governance in the Northeast India. The award concept seeks to bring into focus practices that have impacted development and governance processes for good. The award platform has so far a repository of more than 200 best practices from the region.

The eNorthEast Award Summit since 2010 (the first award summit launched in 2010) has established itself as a unique platform and a movement to contribute to the emerging ICT environment in the region.

This year, eNorthEast Summit puts its might behind the issues of connectivity and access. We hope that 4th eNorthEast Summit will not only be able to explore new areas of convergence, partnerships and agreements among stakeholders. But also, will enable policy consolidations and partnership understandings and agreements.

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### Osama Manzar

Founder & Director

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# Integrating Technology to Transform Education in Northeast

by Ashish Garg



Especially in the North East, ICTs have the power to change the very landscape of the region, stop the exodus of our youth to other parts of the country and catapult the region into a strong economic force.

**A**s a society, the training of our youth in cutting edge skills, the liberal arts and citizenship has always been of paramount importance, especially because we know that education is the silver bullet. It can be the instrument of change that can alleviate poverty, provide for inclusive growth and improve our mental faculties to solve new and ever more challenging problems.

The transition of the global economy in the last four decades from an information-based society to a knowledge-based society has not been gradual. At the turn of the millennium, after nearly two decades of frenzied Information Communication Technology (ICT) activity in our schools we were still grappling with the two most important questions that technology was supposed to resolve, that of being able to reach the last mile and of providing education to create not just a smarter work force but also a better and more humane society. In short, an education, that would enable us to become more efficient and to achieve with increasing efficiency the legitimate goals of our life.

Education has always been top priority in the North East and while other parts of the country have had major issues with language, girl child enrolment and early dropout rates. We in the North East have been blessed to have a much smaller dimension of these problems. Undoubtedly, our greatest assets are our largely English speaking population, gender equity and culturally preserved society. Government schools in the North East continue to enroll more numbers, fare better and have shown a consistent increase in overall literacy levels than the rest of the country.

The integration of ICT in our daily lives is undeniable and we see wide spread incidence of that all over. Especially in the North East, ICTs have the power to change the very landscape of the region, stop the exodus of our youth to other parts of the country and catapult the region into a strong economic force.

It is evident that ICT evolution will take place with or without understanding why we are using ICTs and what we can use them for? There is no denying that some good will come out of the process, but it is also a fact that it will inordinately delay the journey and cause huge wastage and leave out large tracts of communities that can most benefit from the use of technologies. A coherent and enabling policy would have tremendous benefits for synergetic growth of all the North eastern states.



The North East Council (NEC) and the Ministry of Development for North Eastern region (DONER) are agencies responsible for the socio-economic development of the region. Such agencies along with the state education departments must take up the task of developing a “state vision” for education taking into account its unique demographic constitution, its strengths and the aspirations of its people. This can be done through an open multi stakeholder public forum which will allow new ideas to be fertilized and lead to the development of an digitally inclusive education vision document that is vested with the stakeholders and rooted in the context of the state and its eco system.

As ICTs become increasingly widespread in the region due to public and private interventions, schools and other learning settings, as well as education systems as a whole, need to develop performance indicators to monitor the use (Garg, Ashish 2014) and outcomes of the technologies, and to demonstrate accountability to funding sources and the public.

**These indicators are needed specifically to monitor:**

- The types of ICT resources available and their accessibility,
- The extent and nature of professional development efforts,
- Changes in teaching/learning practices,
- Improvement in what is learned by students

**and to show:**

- The relationships between technology use and educational reforms, empowerment of teachers, changes in teaching and learning processes and student learning.

Developing a strong pipeline at the school level is the only way to ensure that our higher education institutions are able to create the next level of Social Reconstructionist movement. To do that, it is absolutely essential to create a dynamic system of checks and balances that allows us to check our “return

Developing a strong pipeline at the school level is the only way to ensure that our higher education institutions are able to create the next level of Social Reconstructionist movement. To do that, it is absolutely essential to create a dynamic system of checks and balances that allows us to check our “return on investment”, vis-à-vis the amount we are spending on placing computer hardware in schools versus being able to create far reaching economic and social benefits for our children.



on investment”, vis-à-vis the amount we are spending on placing computer hardware in schools versus being able to create far reaching economic and social benefits for our children. State education departments must ensure that there is an independent study commissioned to track the benefits and provide recourse for amendments to our existing schemes and strategies. Let us not squander away both our captive strength and the immense new opportunities being thrown up by ICTs.

Finally, it should be remembered that ICTs have and are changing social structures; people are becoming increasingly connected, social media is ubiquitous and mobile learning is a reality. “Globalization” is no longer a term, it is the future and present, both. This has far reaching implications for the education system. Traditional school curriculums must incorporate a drastic change by becoming relevant for the 21st century student and his requirements.

State governments and development agencies must take accountability for ensuring that new age learning structures find a conducive political and social eco system. Google Education specially for teacher professional development, massively open online courses provided free by several top universities of the world; Flipped classrooms, NASA’s Stem learning are some of the more exciting new emerging formats of education which students world over are turning to. With a strong English speaking, intelligent, young population, we are very well positioned to take advantage of these new technologies in our education system.

The use of ICTs in education as a tool for broad based and inclusive learning is a mechanism to transform the idea of education from one about training workers in an economy to one about inspiring citizens in a society. Our competitive edge, collectively as the North east collective, must continue to grow and using ICTs effectively to transform the current education system could be our strongest asset.

**Ashish Garg**

Chairperson at Global Young Group  
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# Tackling Telecommunication Challenges in Sikkim

by Rajesh Verma



Many Call Centre and BPO companies have evinced interest in setting up their operations in Sikkim. However, weak connectivity has prevented these companies from coming to Sikkim as a result of which employment opportunities for our burgeoning youth population is being lost.

Poor telecommunication network in Sikkim is hampering roll out of e-governance in an all pervasive manner. This major stumbling block is, undoubtedly, also being faced by other North Eastern states as they have a terrain similar to Sikkim.

Sikkim has an area of only 7096 sq kms and a population of half a million. Though small in size, Sikkim is amply compensated by formidable physical features: high mountains and deep valleys; with altitudes ranging from 1200 ft to 28000 ft above mean sea level. The rugged topography of Sikkim is main reason that acts as a formidable barrier towards providing telecommunication connectivity. The terrain is unstable and landslides occur very frequently which results in the snapping of Optical Fibre Cables (OFCs), thus, disrupting telecommunication networks. Providing microwave radio links to many places is also not possible because of line of sight (LOS) issues.

Remote areas of Sikkim also experience long spells of power outages because of which exchanges and Base Station Subsystems (BTS) go off the air. The sparse population of Sikkim dissuades private Telcos from putting their telecommunication infrastructure as it is considered economically unviable. This leaves us to rely on the public sector Bharat Sanchar Nigam Limited (BSNL) which is providing yeoman service especially in remote areas but is straddled with problems of paucity of funds, shortage of technical manpower and spare parts for its equipment.

## The Challenges

We have not been able to roll out e-governance applications in a meaningful manner because of poor connectivity thus depriving citizens of electronic services like on line facilities for applying for various benefits. Mobile services in remote areas are also poor as a result of which both the administration and public are inconvenienced.

However, it is in the time of natural disasters like landslides and earthquakes that telecommunications links fail when it is required the most. This hampers relief and rescue operations. The devastating earthquake of 18th Sept 2011 resulted in telecommunication links to North Sikkim failing significantly.



Many Call Centre and Business Process Outsourcing (BPO) companies have evinced interest in setting up their operations in Sikkim because of the salubrious climate, a population that speaks neutral English, no labour problems - all right ingredients for a IT Enabled Service industry. High operating costs on account of attrition, salaries, air-conditioning have prompted these companies to look at regions like Sikkim to shift their operations. However, weak connectivity has prevented these companies from coming to Sikkim as a result of which employment opportunities for our burgeoning youth population is being lost.

### **The Connectivity Urgency**

There are already existing efforts in e-governance delivery like Sikkim State Data Centre (SSDC), State Service Delivery Gateway/State Portal (SSDG/SP), E District and Common Service Centres(CSCs) that rely heavily on Telecommunication Connectivity. On line treasury is another very critical application that depends on good connectivity. Cyber village is a path breaking innovative initiative being implemented as proof of concept at the Melli Dara Gram Panchayat Unit (GPU). The aim of this project is to update all data pertaining to each household in the GPU using handheld devices. Online police verification of citizen in the GPU who apply for certificates and passports is being taken up as a next step. Connectivity is of prime importance for the success of this project.

### **The Current Status**

Till 2012 the telecommunication connectivity to the mainland was unreliable as there was a single linear underground optical fibre which was prone to snapping quite often due to landslides resulting in communication blackouts. With the Power Grid Corporation of India Limited (PGCIL) laying the Optical Ground Wire (OPGW) between the State Capital Gangtok in Sikkim and Siliguri, the situation has improved considerably. The National Knowledge Network (NKN) now piggy backs on this. The National Informatics Centre (NIC) is also using the OPGW to provide connectivity to State Government. The PGCIL has recently provided OFC connectivity to an outlying District Headquarters Namchi.

However, it is in the time of natural disasters like landslides and earthquakes that telecommunications links fail when it is required the most. This hampers relief and rescue operations. The devastating earthquake of 18th Sept 2011 resulted in telecommunication links to North Sikkim failing significantly.



The BSNL and private operators have laid a hybrid optical fibre and microwave to some important locations. For mobile communication, 3 G have been rolled out across the state. In North Sikkim Satellite communication has been provided by BSNL.

The State Wide Area Network (SWAN) was implemented by NIC, Department of Information Technology, Government of India. Under the State Wide Area Network (SWAN) project 43 Point of Presence (POP) have been commissioned and online connectivity has been established up to Block Level. However, connectivity to many PoPs continues to be extremely unreliable with some being non operational for the past 3 years because BSNL has not been able to procure the necessary spare parts. Presently, the major internet connectivity provider in the state is BSNL as the private internet service providers active in Sikkim are mainly focused in Gangtok.

### **Relevant Measures as Mandatory**

The setting up of the National Optical Fibre Network (NOFN) needs to be expedited using technologies like Gigabit Passive Optical Network (GPON). A MOU has already been signed between the Government of Sikkim, Bharat Broadband Nigam Limited (BBNL) and the Department of Telecommunication, Government of India. The NOFN would be used as the primary means of communication to the District Headquarters, Subdivision, Blocks and Gram Panchayat etc.

Scanning tunneling microscope (STM) on Microwave needs to be provided to all the Subdivisions. Wimax towers also require to be set up at vantage points all across the state. This would provide secondary or redundant telecommunication links. Where neither NOFN nor Microwave is possible because of terrestrial or Line of Sight issues, high capacity 32 mbps VSATs could be installed. More BTSs need to be installed in the state to make connectivity and internet ubiquitous. Power Grid Corporation of India Limited (PGCIL) has been entrusted with evacuating power from the upcoming hydroelectric power projects in Sikkim. PGCIL needs to provide Optical Ground Wire (OPGW) on their power pylons so that it can be used as the backbone telecommunication link in the state.

The population density of Sikkim is very low: hardly 80 persons per square kilometer. BSNL which is the main service provider covers remote sparsely populated areas that are economically unviable to operate in. BSNL may have to be sufficiently compensated in terms of giving them dark optical fibre by PGCIL. Where BSNL is providing connectivity through VSATs, subsidized bandwidth charges may have to be considered. For this funding from Universal Service Obligation Fund (USOF) may have to be explored.

Once we have a robust telecommunication network in the state, e-Governance which till now has been a Holy Grail will be achievable and the BPO industry would also flourish.

### **Rajesh Verma**

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# Relevance of eNGO for North East Region of India

by Amitabh Singhal



Being on the Internet  
- that is having a  
presence on the Web,  
with an online identity,  
updated information  
and access to its  
people, background,  
projects and activities  
creates awareness  
about the NGO,  
globally and not just  
locally and attracts  
attention and  
potential interest and  
appreciation of  
its work.

**N**orth East region of India comprises of 8 states of the Indian Union - Assam, Nagaland, Arunachal Pradesh, Manipur, Tripura, Sikkim, Mizoram and Meghalaya. These states have a very thin physical corridor geographically, called the chicken's neck, making movement between the states and rest of the country a not so easy task.

## Integration and Development Issues

Populated by approximately 48 million people, these states account for a significant 4% odd of the total population of the country. This is the region and the people who are characterized by poor transport connectivity - hence remote and inaccessible for most, comparatively poor education facilities (even though Mizoram literacy rate is 91%, which is an exception), low employment opportunities, and all other such hallmarks of a poor economic status compared to rest of the country. To add to it is the identification of this region with constant political and social instability, constant conflicts as reflected in the never ending state of insurgency and ethnic unrests.

Some would say that topology of the region - 70% of it is hilly and 90% of the borders of these states are international borders attached to China/Tibet, Myanmar, Bangladesh, Bhutan - are contributory factors to the remoteness and therefore the problems comes attached with it. But it does not explain the fact that - as Subodh Verma pointed out in Times of India in August this year - the Center pumps in huge cash in these states despite which the job growth rates are actually falling in almost all the states in North East. Subodh further buttresses this point by quoting Bhupen Sarmah, director of the O K Das Institute of Social Change, a Guwahati-based research institute. "It is an illusion to think that development will take place merely on the basis of injection of funds from the central government. The northeast receives a huge amount of this largesse but look what is the result."

According to Philipp Heimerdinger and Tshering Chonzom in their Briefing Paper Conflict in Northeast India: Issues, Causes and Concern point out the following:

"...data and information on the region is not sufficiently analyzed and communicated between the region and the Centre, contributing to further misinformation, mismanagement and alienation. At another level, conflict in the region has been an all pervasive phenomena, and in its violent form, it has not only affected the territorial and political sovereignty of the Indian state, but also the life of the various people living in the region in incomprehensible and inexplicable terms. In a drastic and dreaded sense, there is a "culture" of conflict and unfortunately, people have submitted to such an existence. However, amidst the widespread sense of helplessness, there is also an overwhelming desire and force to be free from such a situation of conflict which cripples the people from all sides."

Easier said than done, but perhaps the long term solution lies in working towards changing the perception of remoteness to begin with, which can possibly be the antidote for the culturally alienated identity tag, identification of specific issues of development and addressing them specifically. This ranges from realignment of political policy approach at the higher level to more grounded steps to develop physical infrastructure such as better and more extensive communications, air and road transport network, education infrastructure, improving livelihood opportunities through developing community resources to capacity building through awareness building, skills development and training, health issues, social empowerment measures such as improving gender equations, financial inclusion, human rights, improving agriculture techniques, disaster management, tribal development, tourism, et al.

### **Role of NGOs**

All this is where apart from the role of governments, NGOs and Voluntary Organizations role needs to come into sharper focus. I believe that there are more than 1, 50,000 active NGOs and such organizations at work and most of them at the grassroots level. But a quick search on the web doesn't reveal much to support the theory of so many NGOs are present and doing their bit to bring in change. There is some sketchy data (sketchy because the numbers differ widely depending on the source of such information) which indicates in essence that quite a few thousand crores of Rupees are poured into North East Development by the government into the NGO sector each year. This despite the state of development remains

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questionable and this state begs an understanding as to what could be possible reasons for the apparent lack of transparency and thereby the efficiency and effectiveness and hence by default lack accountability on the part of a sector which ranks second in terms of channeling development funding which is second only to the government.

### **Information Communication Technologies for NGOs: The eNGO Movement**

In trying to understand all of the above state of affairs, we became aware that a great majority of the 150 thousand NGOs (as much as 90% or even more) are extremely resource poor and hence lack the understanding, awareness and willingness to adopt Information Communication Technology (ICT) into their functioning paradigm. In the modern age there is no more doubt remaining that if you are not connected with ICT tools, your ability to provide services and functioning are severely compromised. There is no option but to connect.

While Digital Empowerment Foundation (DEF) was already involved since the mid 2000's in providing ICT intervention to the grass roots communities and to NGOs to quite an extent, it's partnership with .ORG, Your Public Interest Registry (the managers of one of the three original generic domain names, the .ORG), has fuelled an expanded and deeper engagement with the NGOs community worldwide over the last 2 years or so and which promises to only grow in width and depth across regions globally.

The objective of the ICT intervention program by .ORG and Your Public Interest Registry and DEF is really simple. It aims to reach out to and empower the hundreds of thousands of NGOs, enabling them to access and use Internet, not only across the globe in general, but is going to make special efforts to identify poorly developed and connected regions such as the North East of India or this program and focus its activities in such places. Already DEF has engaged partners in the region like North East Development Foundation (NEDF) to reach out to more than 200 active NGOs and voluntary agencies within the eNGO network in the region.

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Essentially what the program does is this. It reaches out to grass roots and other NGOs and VOs and gathers them for workshops in diverse regions periodically. The workshop then demystifies for the NGOs benefit and shows them how they can obtain domains names such as .ORG and in near future .NGO, develop websites, upload unlimited content/data/information, creating email accounts and even effecting online money transfer, etc. Series of workshops conducted have resulted in hundreds of NGOs becoming Internet enabled at a fraction of a cost which they would otherwise pay in a market place. They also learn that it is not rocket science and they as non-techies can manage it all.

### Universal benefits of the eNGO program in development role

As said earlier NGOs are 2nd only to government in terms of spending funds for societal development activities, but unlike government agencies, NGOs suffer from lack of efficient functioning mechanisms and also end up with the tag of being non transparent and shady players, often accused of siphoning of development funds provided by governments and local and international donors. Being on the Internet - that is having a presence on the Web, with an online identity, updated information and access to its people, background, projects and activities creates awareness about the NGO, globally and not just locally and attracts attention and potential interest and appreciation of its work. Many NGOs/Not for Profits even put their financial data i.e. details of their funds received, sources and utilization on the Net (entirely voluntary and not under compulsion). This provides a huge sense of transparency and confidence amongst all the stakeholders and importantly of the potential funding agencies. Such an arrangement can only help grow the level of services that the NGO provides. Online payment systems even enable NGOs to receive and transfer funds in near real time and the transactions can be kept track off. Once on the web - communication facilities drastically improve and ability to source, collect and disseminate information is vastly improved. NGOs then are no more deprived themselves and can focus better on improving efficiency in their work processes. They will have more time and inclination to stretch their productivity and effectiveness.

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## Conclusion

Given the nature of issues with the North East Region of India, focusing on getting multitudes of NGOs there is not an option but an integration and development imperative. From overcoming the sparse physical connectivity, to ensuring that development agencies work in specific areas and sectors can be improved drastically, to getting more value for the development dollars being spent of which there is probably not very account currently, ICT intervention in the form of providing and improving access to Internet will prove to be an important catalyst in addressing most of the myriad issues that we have noted above.

PS: Views are personal

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# Challenges in e-Governance Implementation in Arunachal Pradesh



by Subrata De Sarkar

“Arunachal Pradesh will harness the power of Information and Communication Technology to achieve excellence in governance, leadership in social and economic development in North East region of India and to empower the citizens to contribute to fullest in the state prosperity building”

**A**rea wise Arunachal Pradesh is the largest state (comparable to the size of the United Arab Emirates) in the north east region with a population of about 13 lakhs and a literacy rate of 54.74%. It stretches from snow-capped mountains in the north to the plains of the Brahmaputra valley in the south. Arunachal is having 17 districts in its administrative set up. In 1972, NEFA (North East Frontier Area, as the areas in Arunachal Pradesh were known at the time of independence) became a Union Territory and acquired the name of Arunachal Pradesh. In 1975, it acquired a legislature and finally, on 20th February 1987 Statehood was conferred on Arunachal Pradesh and it became the 25th State of the Union of India.

Road connectivity remains to be the major challenge for Arunachal and still struggling with it. Though the Trans Arunachal Highway seems to be a ray of hope, but the delay in implementing the project resulted in no improvement in the miseries. It takes nearly three days to reach the capital from far flung areas. There are some areas where there are no roads; even if they are there, they may be seasonal only. Due to uncertain weather conditions the road communication gets disrupted many a times. So far there is no established railway or airport connectivity in the state. A new railway project is underway connecting Naharlagun only.

From service delivery channel point of view, e-governance initiatives can be the best possible proposition. To deliver the e-Governance services we need to have the e-infrastructures, i.e State Wide Area Network (SWAN), State Data Centre (SDC), Common Services Centre (CSC) and State Service Delivery Gateway (SSDG) ready. Though, for State Data Centre (SDC) and State Service Delivery Gateway (SSDG) there is no direct dependency on the road or other mode of connectivity, but for the remaining two the dependency is so high that the viability of the projects are itself questionable.

The Bharat Sanchar Nigam Limited (BSNL) is the only telecom operator that has presence across the state. Other private operators have presence in the locations where the business is commercially viable. BSNL has connected maximum parts of the state through VSAT, which has its own limitations as far as data carrying capacity is concern. Many a times it is heard that the BSNL doesn't have adequate manpower

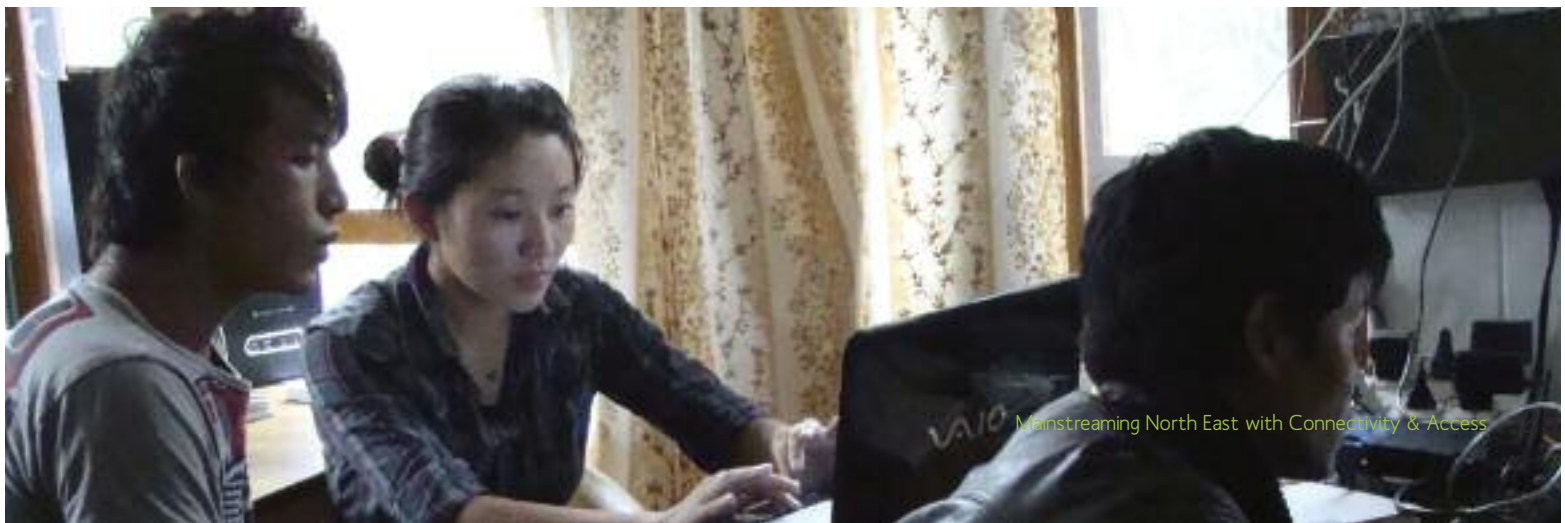
to handle the large topographic area of Arunachal Pradesh. At the same time BSNL finds it nonviable to deploy more manpower from commercial aspect of the business opportunity. The capital cost investment for setting up a microwave tower stands at Rupees 4-5 Crore (approx.) and the population that to benefit a merely 250 to a few thousand people only. Few district headquarters are connected through Optical Fibre Cable (OFC). The problem with the OFC is that the most of the OFC are laid down in Assam to connect the different parts of the state. Due to major infrastructural development work, the OFC are cut frequently attributing more to the apathy. There are few initiatives by BSNL to revamp the connectivity scenario and coming up with the master plan.

At the same time the RailTel project is under way, which means that the connectivity issue may be addressed more effectively and efficiently a couple of years later. Till then the misery is going to continue and there will be a definite shortfall in the quality of service delivered through e-Governance initiatives. There is a risk inherited with this shortfall, as the people may lose trust and confidence in the system.

Arunachal Pradesh is fighting with another challenge of acute power shortage. The total installed capacity is 180.2MW (as on 2008) and there was a 36.8% power supply deficit in January 2008. It was expected to get 480.13 MW of power from sources - Kameng Hydro Electric Project, Lower Subansiri Hydro Electric Project, Bongaigaon Thermal Power Project and Tripura Gas Thermal Project during 11th five year plan. Out of these projects few started functioning while few are still at large. A reply by the minister of state for Power in the Lok Sabha during 2009-10 session states that the per capita consumption of power in the north east is 249.65 KW per hour in comparison to national average of 778.63 KW. To maintain the business continuity power is the most crucial factor and Arunachal Pradesh is struggling badly to achieve that business standard. Again, a mention is required that to run the Diesel Generator Set supplied under e-Governance Projects to various departments and project implementation points there is an acute shortage of fuel in many a locations due to the remoteness of the location.

The population density of Arunachal is 17 persons per sq km with 22.94% urban and 77.06% population in rural areas. The state government has set up 200 CSCs (Common Services Centres) in the state. This

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means than for every 418 sq Km there is one CSC serving a population of 7118. While the geographic coverage against each CSC is 8 sq Km for Maharashtra, 18 sq Km for Assam and 158 sq Km for Sikkim whereas average population against each CSC is 3027 in Maharashtra, 7124 in Assam, 13504 in Sikkim. The CSC cannot charge the poor citizen with high price and as of now the transactions through these CSCs are marginally low. Hence the CSC operators are struggling with the business model and in some cases they are forced to put down their shutters and search for another means of livelihood. But the CSCs are one of the key pillars of e-Governance and need to play a vital role in the service delivery channel.

The e-governance projects are primarily driven by department of Information Technology and implemented in the various line departments. Though it is said that e-governance is not about "e" (electronic) but about the governance. But the letter "e" is creating a general understanding among the various stakeholders that e-governance is the responsibility of department of IT only and there is no role to be played by them. Due to this, many a times it is noticed that the reengineered government processes used to have some general weaknesses. The various capacity building and change management related activities are also suffering to due to the same reason.

Although there are so many challenges in the way of e-governance implementation in Arunachal Pradesh, the state has managed to achieve few successes in the process. Project like SSDG, Online Inner Line Permit (ILP), Automation of State Library (RFID enabled), e-Samaj (project for department of Women and Child Welfare) have been rolled out in the last couple of months. Many new and innovative projects are in the pipeline and it is hoped that these new project will restore the confidence of the citizen and the department of information technology shall be able to deliver the best services to the citizen as the envisioned in the state e-governance vision statement.

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# Strengthening the base of Science and ICT in North East Region

by Dr. Shailendra Chaudhari



We have lost opportunities in the past and any further delay in adopting an integrated development strategy will only further delay the development.

If we look back to history, at the time of Independence, the North Eastern Region (NER) was among the most prosperous regions of India. Today after a period of Sixty Five years, the Region as a whole and the States that comprise it, are lagging far behind the rest of the country in most important parameters of growth particularly in the field of science and Information & Communication technology (ICT) including e-Governance. The North Eastern Council (NEC), a regional planning body of Government of India, has been playing a major role in the development of North Eastern Region including Sikkim on this front.

The lack of connectivity has virtually segregated and isolated the region not only from the rest of the country and the world, but also within itself. The NEC has been coordinating the policies of different States, promoting co-operation among them and undertaking planning for the region. We have lost opportunities in the past and any further delay in adopting an integrated development strategy will only further delay the development. While telecommunication technology is essential for the spread of information and communication technology in the region, the development of the latter is an essential prerequisite for the development of the region. Information and communication technology cut across all sectors and technological up gradation and development of every sector depends on the progress made in its widespread judicial deployment and usage in the region. This would require significant strengthening of the infrastructure for the development of the ICT sector in the region including providing reliable and accessible connectivity and access to the remotest part of the region.

A sound information and communication technology base is essential for the development of every sector in the economy. Information and communication technology is necessary for the management of Information required for grassroots planning. The compilation and collation of data on physical, human and financial resources right from the village level, preparing the plans, their implementation, monitoring and evaluation in a systematic manner requires the application of the technology. The most important application of the technology is in governance. The growth of the e-governance applications is particularly



important to ensure that the large public investments produce expected outcomes. A pro-active and responsive administration will be greatly facilitated by e-governance. ICTs help to bring the markets closer; e-choupals can provide information on prices and input supplies from the markets far and near. This also plays an important role in the agro-processing industry and in the development of handlooms and handcrafts by accessing the latest designs and marketing of the products. The initiative of the Central Government in setting up of Community Information Centers (CIC) which are being upgraded to Community Service Centers (CSC) are playing an important role in this regard.

Information and communication Technology helps in both education and healthcare. The spread of information technology enabled educational processes and programmes could help the region to become an important hub for knowledge sector. It will also provide productive employment opportunities to the youth which can trigger the development process in the region. In the healthcare sector, information and communication technology has an important place in the development of e-medicine or tele-medicine. Considering the importance of ICT infrastructure for the development of virtually every sector in the economy of NER, this should be utmost priority. Given its complementarities with the power and telecommunication sectors, the plan for the development of the sector should be calibrated in a co-ordinated manner.

North Eastern Council has been taking up various development programmes. In this regard, it has been working towards sound Management Information System, augmenting of converged Internet Protocol (IP) networking system, strengthening of local area networking with wireless connectivity in difficult terrains, setting up of data centre in each of the state capitals, Remote Sensing Application System, R&D Programme, Disaster Management & Earthquake related programmes, Captive network for e-governance and setting up of kiosks, Telemedicine Network, Information Technology in Education, Integrated E-Education, creating ISDN-backbone, infrastructure support to technical institutes in NER, setting up R & D institutions in the field of science and technology in NER (with NEC providing the platform), New

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Technologies being supported and developed, Support IT training Centre in all the states to facilitate citizen interface over IT network, Introduction of computer education in all colleges and schools, Identification and promotion of centers of excellence in the field of engineering, IT, biodiversity, capacity building, sustainable development and related fields.

While the prospects for ICT growth are wide and certain in near future in the region, the challenges are equally palpable and known to the stakeholders including NEC. Two things could be relevant here. One, that governments and institutions in the region are open and aware of the need for judicious use of sustainable ICT tools and applications in various sectors. Secondly, working in coordinated manner in the region among the stakeholders could provide enough support bases for knowledge exchange, sharing of practices, saving of precious resources and avoid duplicity in various ICT programmes including e-governance applications. Overall, ICT is the future of the region given its vast youth population that are dreaming big and raring to go to make a mark in their future endeavours. And we the governments and the institutions in the region must play the great fillip factor towards this.

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# CSC as a Primary Access Point for NE States

by Ashis Sanyal



It is therefore essential that the NE state governments become more proactive in getting more and more G2C services integrated to CSCs to provide credibility and also functional sustainability to the CSCs.

Michael Walang is a small time daily wager in a tea garden at the far outskirts of the capital city of Shillong. He resides in a Panchayat village which is spread over two small hillocks with a population of about 2500 constituting 500 odd families. With three school-going children and state pensioner old father at home, Michael has been running to and fro to 25 km away sadar sub-division town for odd services connected with various government departments or banks at least 3 to 4 times in a month. A day's absence from work to go to the nearby sub-division town usually costs him the wage for the day and overhead cost for the public transport cost and for the modest lunch outside home. And there is no guarantee that the work in the government office would be closed in one visit. So he has to make multiple such visits costing time, effort and money.

For Michael and so many other citizens residing in the remote parts of the NE states the above scenario is slowly but steadily becoming history, with the arrival of Internet-enabled kiosks, being established in every Panchayat village by private partners of the respective state governments through public-private partnership model, under the Common Services Centre (CSC) scheme of Government of India. CSC scheme is an important supporting e-government infrastructure component of the National e-Governance Plan (NeGP) initiated in September 2006. CSCs are conceptualized as the bottom-most tier of the 3-tier citizen service delivery architecture, to provide government services to the common citizen, located especially in the remote and under-served areas. The other two tiers are State Data Centres (SDC) as the upper most and State Wide Area Network (SWAN) and State Service Delivery Gateway (SSDG), the middle tier. The CSC operators are termed as Village Level Entrepreneur (VLE) and the agencies which are promoting the CSCs as the private partner of the government are the Service Centre Agencies (SCA). As of date there are 1,25,282 such CSCs are functional across the country promoted by 17 odd SCAs with varied basket of government-to-citizen (G2C) and business-to-citizen (B2C) services targeting the citizens residing around a particular CSC. The corresponding figure for the NE states is around 5000 with few CSCs at present functional in Sikkim.

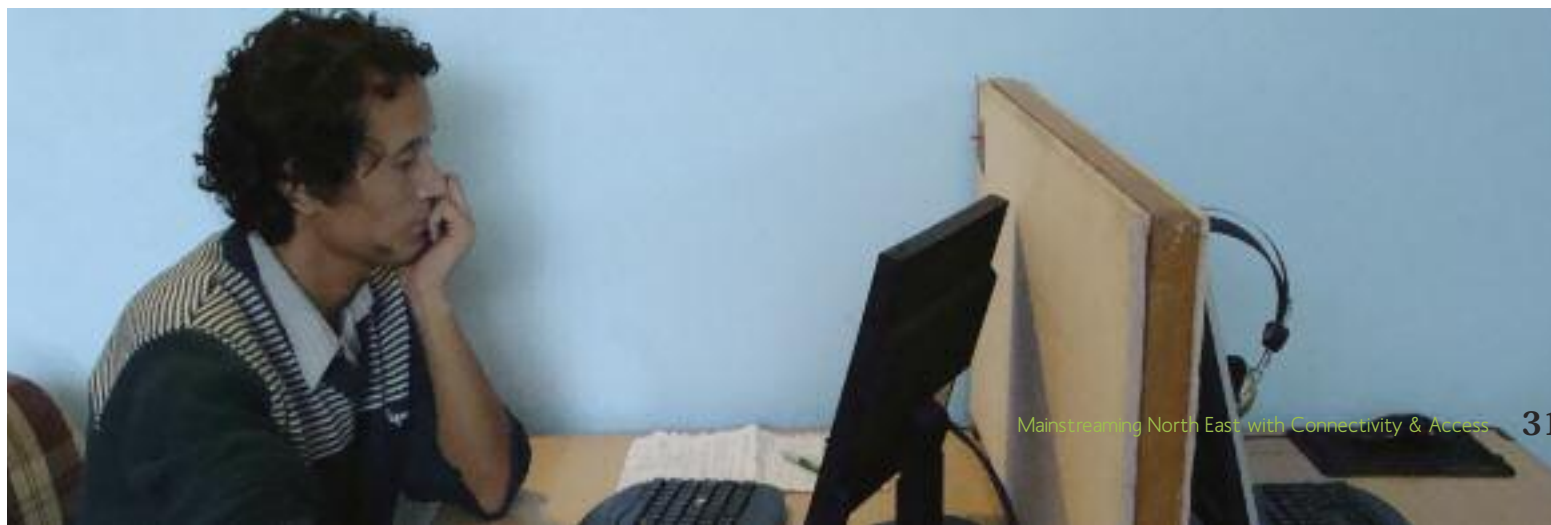
For quite some time the government of India has prioritized the issue of connectivity and access in the

NE states. In the year 2002, as a part of the economic package announced by the then Prime Minister in January 2000, the Community Information Centre (CIC) project was implemented as community centres in 487 administrative blocks, to provide primarily internet connectivity through V-SAT. The 5 years project executed by National Informatics Centre (NIC) of Department of Electronics & IT, with the help of the respective state governments, had set the first cornerstone for connectivity and access for the remote areas of NE region. The stated objective of the CIC project was ambitious: web browsing and email facilitation, familiarising use of computers, generation of employment opportunities using various distance learning programmes, dissemination of information on matters of local interest and providing an interface between citizen and government by enabling IT-enabled services as needed by the local community.

While conceptualising CSC project in 2005 for the entire country, the mixed success of the CIC project has been taken in to considerations, especially for the remote areas in the NE region. The initial hesitation to use computing type of devices by the reticent people from NE states is already history, thanks to significant proliferation of mobile phones in this area. The entrepreneurship element required for successful operation of such centres in remote places, has been incorporated in CSC scheme which was not there in the CIC project. In the CSC business model, it was estimated that 67% of the business would come from B2C services and 33% business from G2C services. For government services it was therefore felt essential that the government service delivery departments would get integrated to the CSCs for smooth delivery for G2C services so that CSCs would become front-end delivery points for government services.

The important aspect of the CSC scheme is that the VLEs have been aspired to evolve as 'change agents' for the rural citizens, with the help of their IT knowledge and also by bringing in information, knowledge and empowerment. It was felt that the VLEs could contribute significantly to promote community development, technology diffusion and rural entrepreneurship. Important stakeholders are many in the scheme, the government and private service providers including the local and field government officials, without whose efforts proper utilization of the CSCs would not be possible. Community participation is the most important factor for optimized success of the CSC scheme.

The CSC operators are termed as Village Level Entrepreneur (VLE) and the agencies which are promoting the CSCs as the private partner of the government are the Service Centre Agencies (SCA). As of date there are 1,25,282 such CSCs are functional across the country promoted by 17 odd SCAs with varied basket of government-to-citizen (G2C) and business-to-citizen (B2C) services targeting the citizens residing around a particular CSC. The corresponding figure for the NE states is around 5000 with few CSCs at present functional in Sikkim.





There are few immediate requirements which would make CSCs more acceptable to the local community. The primary one is the localized content. VLEs should strive to generate more localized content keeping the local community requirements in view, in order to generate interest among the people, lowly-literate in English language. In this context, educational content would be of primary importance as this is a "killer" application. Another important area would be medical services delivery, a primary community requirement in far-flung areas. The number of e-governance initiatives taken by the respective NE state governments would ultimately adopt CSCs as their service delivery outlets. The information on various welfare schemes, applying for them and getting those services through CSCs will become common in coming years. The most important in this case is the financial inclusion initiative of the government in which CSCs are working as the Business Correspondents for various banks. The election ID card, PDS card, AADHAAR card, NREGA job card are the other initiative in which CSCs would work as the access points. Various other social activities usually carried out by voluntary organizations are using CSCs as the access points to connect the rural masses on the good causes like Millennium Development Goal (MDG) related activities, family welfare, child & mother nutrition, HIV & AIDS control etc.

There are around 5000 CSCs currently functional in 7 NE states. Although it was envisaged that 33% of the business for a CSC would come from G2C services but the basket of G2C services has not grown. Currently e-District project is being executed in many NE states and some states have already integrated e-District certificate delivery mechanism with the CSCs as the service deliver outlets. The basket of services which the CSCs in the NE states are currently delivering includes, Rail and Flight ticket booking, Mobile and DTH recharge, e-District Certificates, PAN Card, Insurance, Surfing, DTP, Computer education, Banking, and Election ID card., However, not all the states' CSCs delivering all these services.

It is evident that G2C services may not bring much revenue to the CSCs but it would establish the credibility of the centres. It is true that if a CSC does not provide basic G2C services to the service-seeking rural citizens, it would slowly lose its credibility and will become just a village cyber café which is definitely not the objective the CSC scheme. It is therefore essential that the NE state governments

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become more proactive in getting more and more G2C services integrated to CSCs to provide credibility and also functional sustainability to the CSCs.

However, as CSCs are being established under a Public Private Partnership (PPP) arrangement the financial sustainability for the SCAs and the VLEs has been an issue. In this context it is important to assess demand and viability of various services for the centres. Selection of the CSC locations, size of population to be covered by each CSC and the basket of services related to e-governance, income enhancement, development-related information etc required by the community, are the important parameters of economic viability. Other considerations includes the costs to be incurred by the rural citizen for procurement of these services, and the affordability and willingness to pay for these services if they were made available in a CSC.

CSCs have great potential to become a 'game changer' in the NE states. Entrepreneurship driven by the VLEs and supported by continuous capacity building and training by the SCAs has the power to undertake dramatic changes in rural governance and business landscape of the region. To happen this, training on rural business development techniques for the VLEs arranged by the SCAs is the most important requirement. The quality of service at the CSCs is as effective as the quality of VLEs running them. VLE is the key to the success of the CSC operation. An Internet-enabled rural kiosk, having a basket of wide ranging G2C and B2C services and a properly trained VLE can provide the much needed connectivity and access to the under-privileged NE people. The desired outcomes in community empowerment and better choices of livelihood will naturally follow.

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# A Winning Strategy for Northeast

by Rajen Varada



There is need to capture the existing knowledge within the NE which is sadly lacking today. The documentation and sharing of the inherent cultural understanding of issues of societal problems and solutions is of utmost importance to prepare a balanced approach to development.

Today, the Northeast is at the crossroads of making the quantum leap into the new economy. Regardless of the many perceived drawbacks and problems, the Northeastern states continue to move forward and upward. The capacities of this region in IT are surely gaining ground and posing a serious competition to the rest of India, both at the governance level and at the IT creativity level. Some of the nominations in the eNorthEast Award have been so good that the jury felt that they should have also been showcased at the Manthan Award, where they would have surely been at par with the best of the best from the Asia-Pacific region.

However, the road ahead is still long and the Northeastern states need to create a new paradigm shift at addressing their future. The region has remained underdeveloped, however, the geographical location of this region has given it an added advantage to do business with the neighbouring countries such as Nepal and Bhutan. These countries have additional hydro resources, which can be utilized in India, in a mutually beneficial manner.

With the advent of digital economy and its impact on each sphere of our lives, it has become imperative that development in the Northeast should be obtained via ICT. Even as the Northeast region looks to the future and drives towards the opportunities offered by the new digital economy, it will do well to look into the rear view mirror and keep its rich heritage and natural beauty in perspective and well preserved. The Northeast region is endowed with huge untapped natural resources. The constraints to the growth have been poor infrastructure and limited connectivity, both within the region as well as with the rest of India. The region, connected to the rest of country by a narrow stretch of land called the 'chicken's neck', needs infrastructure to support and ensures significant investments. The Northeast region should take lessons from Bhutan and develop an evolved model, which provides a balance between high value tourism without losing its remoteness and exclusivity. A concept of binding technology and tourism should be evolved to feature the beauty of Northeast India along with Nepal and Bhutan to showcase the regional diversity. A vibrant tourist economy, in itself will provide the income to sustain and curtail the migration of young people out of their home states.

The Northeast Governments can go to the next level and form a Governance and business consortium (An United States of the North East - USNE) which will lay the foundations of a new governance and business model. The model can be a paradigm shift from dependency to equal negotiations and opportunities. It should create business models that the mainstream exploitative business houses of India cannot hijack or subvert to maximise their profits, leaving the region as second hand players in the next decade of economic growth. The governance models should be knowledge based, consultative and collaborative. If the Northeast suffered from neglect leading to a hiatus in development in the post-Independence period, which in turn resulted in the rise of secessionist tendencies, one primary cause had been its remoteness, a case of out of sight being out of mind.

Rather than look at its remoteness as a disadvantage, the USNE consortium should use it to their advantage to develop a South Asian Regional Network which will provide tourism services to the region of Vietnam, Japan, and Indonesia. Similarly, the surface connectivity between India's Northeast region and Bangladesh could be further developed for the economic development of the region. The Chittagong port in southeast Bangladesh is just 75 km away from the southern Tripura's border town Sabroom, 135 km south of Agartala. Formal trade link between India and Bangladesh, has remained at a very low level. The share of Bangladesh in India's total trade is still less than 1%. As the resource structure of the Northeast and demand structure of Bangladesh are complementary to each other, there exists a huge potential for trade and tourism between these two regions. Hard-working Naga farmers from Phek and Mon districts can dream of exporting their produce in Myanmar. The Myanmar government has already given clearance to two markets along the Nagaland border. Arunachal Pradesh can turn Itanagar into an international destination with an international airport with direct flights to Hong Kong, Singapore.

Rather than look at mainstream India as a "big brother", the region needs to bypass it for business and development of its economy. The southern states of India are far away from Delhi but today have the best IT companies and are the hub of the IT sector of India. This was because they chose to create their own paths to take advantage of the digital economy.

The governance models should be knowledge based, consultative and collaborative. If the Northeast suffered from neglect leading to a hiatus in development in the post-independence period, which in turn resulted in the rise of secessionist tendencies, one primary cause had been its remoteness, a case of out of sight being out of mind.





A case study of Andhra Pradesh will show how it has emerged as a major IT player today, although it was a very late starter in the IT sector, much behind, Karnataka, Tamil Nadu and Kerala, the then chief minister did a paradigm shift in urban development. Instead of trying to retrofit an old heritage city to the new digital age he preserved the old heritage city and chose to create Cyberabad, a new IT capital city in the rocky terrain in the outskirts of Hyderabad. He didn't go to Delhi but to cities in USA to encourage companies to come and set up their business in world class facilities. Indians and startups were given quick permissions without corruption or excessive bureaucracy. Today Cyberabad boasts in being the only Indian city to have hosted the best world class technology events and its crowning glory was the last World Summit on the Information Society. This is a lesson that Chief Ministers of Northeast states can learn and do even better.

Today Andhra Pradesh is the third largest in terms of GDP after Maharashtra and Uttar Pradesh. Andhra Pradesh has a GDP of \$126.61 billion dollars with a growth rate of 14.74%. Karnataka is now at 7th place, with GDP of \$85.97 billion dollars and a growth rate of 13.97%. It is not going to catch up with Andhra, unless it improves its governance. Uttar Pradesh reflects a large GDP because of its sheer size but with a GDP of \$128.86 billion and a growth rate of 13.85% it will soon be beaten by Andhra and in a decade by Arunachal Pradesh and Bihar.

God helps those who help themselves: This is true for people as well as for State governments. There is a misplaced perception that the northeastern states receive the highest grants from the Central pool. The statistics show that the central pool has gone most to those states which give maximum GDP, except for J&K which due to its unique problem gets the second largest grant but still does very well with a GDP of \$11.91 billion mostly from tourism and a growth rate of 15.80%. It is obvious that the largest grants go to those states that provide it with the best economic input.

There is a misplaced perception that the northeastern states receive the highest grants from the Central pool. The statistics show that the central pool has gone most to those states which give maximum GDP, except for J&K.



## STATES WITH HIGHEST GRANT RECEIVER FROM THE CENTER

State	Grants from the Center
Uttar Pradesh	\$8.39
Jammu & Kashmir	\$7.55
Andhra Pradesh	\$6.6
Maharashtra	\$6.36

For FY 2011 in billions of USD.

Source: [http://unidow.com/india%20home%20eng/statewise\\_gdp.html](http://unidow.com/india%20home%20eng/statewise_gdp.html)

The fact is that the Northeast states get only so much as to keep them afloat. However, a look at some Northeast states shows that they have done pretty well regardless of the "disadvantages" of remoteness and lack of access.

Assam is at 17th place with a GDP of \$21.62 billion dollars and a very potential growth rate of 12.52%. Arunachal Pradesh although is at the 25th place with a GDP of \$1.75 billion, it has an amazing growth rate of 27.53%, better than Bihar which has a growth rate of 24.40%.

With the advent of digital economy and its impact on each sphere of our lives, it has become imperative that development in the Northeast should be obtained via ICT. Even as the Northeast region looks to the future and drives towards the opportunities offered by the new digital economy, it will do well.



Source: [http://unidow.com/india%20home%20eng/statewise\\_gdp.html](http://unidow.com/india%20home%20eng/statewise_gdp.html)

With India moving into a new era of development, the region should not be left out. The framework for development of the region can be broadly based upon four vital components. The first component of this development plan should be social empowerment. It needs to empower rural communities, create sustainable institutions so that they manage common activities around micro-finance, livelihoods and natural resource management. Another component needs to be economic empowerment. The objective of this component should ideally be to develop the capacity of rural communities to plan and manage funds for various economic initiatives and common activities for the public.

The region needs to be supported with a knowledge community which will reap the benefits of the infrastructure and be able to harness the full potential of the opportunities provided. The NE needs to invest in learning and a culture of knowledge sharing. It needs inter NE state dialogues and sharing of experiences. Rather than compete with each other the north eastern governments have the potential to collaborate at various levels and be able to share the benefits of their collaborations.

They need to create knowledge sharing platforms that will engage, discuss and develop each other's potential. A North east Knowledge sharing community will bind the potential for greater creativity to provide perspective, preserve heritage and open venues for explorations. These establishment and development of these communities should be at the governance level as well as with local communities. Such a knowledge community will provide the ground realities and developmental understanding to plan, evolve and implement policies unique to the north eastern states. There is a need to capture the existing knowledge within the NE which is sadly lacking today. The documentation and sharing of the inherent cultural understanding of issues of societal problems and solutions is of utmost importance to prepare a balanced approach to development.

A knowledge community will be able to provide the inputs required for better planning and management of joint resources of the USNE region as a whole, saving time and money in reducing the learning curve and preventing duplication of efforts.

This investment and support of enabling a knowledge community which will result in time on knowledge based economy and sustainable development both in terms of preserving the ecology, culture and heritage of the people while reaping the benefits of the information society. It is hope that in the near future the next World Summit on the Information Society (WSIS) will be in this region and lay the foundation of a World Summit of Knowledge Societies.

### **Rajen Varada**

Chief Executive Officer (CEO) of Open Knowledge Community (OKC)

[rajn.varada@gmail.com](mailto:rajn.varada@gmail.com)

The NE needs to invest in learning and a culture of knowledge sharing. It needs inter NE state dialogues and sharing of experiences. Rather than compete with each other the north eastern governments have the potential to collaborate at various levels and be able to share the benefits of their collaborations.

# Digital Inclusion Mission Must for NER States



by Syed S. Kazi

It is extremely important to understand by NER stakeholders the fact that IT / ICT focus are not only about e-governance or e-infrastructure but incorporates the wider digital inclusion mandate and mission to empower citizens with social and economic solutions powered by information communication technology inputs.

Let us begin with few queries that are perhaps glaring on our face when doing an analysis of how the North Eastern States in India, comprising eight strategic states including Sikkim, fares in digital inclusion and growth. This can lead to the wider point of whether North Eastern Region (NER) states needs digital inclusion missions as relevant or practical proposition worth pursuing to keep pace with national and global trends.

What has been the digital inclusivity growth curve of the NER states? How much visible has been the States in global digital map with its structures, institutions, agencies around development and governance implementation? How is the Information Communication Technology (ICT) base structures in NER built to support the super structures including its governance set ups to keep pace with the global 'e' challenges as well as opportunities? Whether and how various ICT academies and campuses, if exists, performs and functions to impact human resource development and promote R&D to prepare the human capital for tomorrow? What has been the level of ICT innovations in development and governance improvement beyond the centrally sponsored e-governance and e-infrastructure programmes through programmes like National e-Governance Plan (NeGP)? At what level the region's digital literacy exist vis-à-vis rest of the country and geared up towards transition to knowledge communities and meet national and global necessities? How much receptive and adoption has been the concept of digital inclusion in NER and actions taken there upon? What has been the policy and programme priority in digital empowerment of communities in NER at state, regional and national level? How effective and inspiring has been the IT leadership in NER as driving force to transform the region as India's next digital inclusion hot spot through its ICT focus? What has been the ICT emphasis in academic pursuits and discourses having ground relevance with policy and programmes? Whether there have been effective partnership collaborations between public, private, civil society and academic stakeholders towards R&D, solutions and field implementations for community empowerment? What has been the state pursuit and urgency in connectivity and access in the region which constitutes the backbone of national and global connectivity? Whether the state budgetary allocations rational enough in ICT and digital inclusion programmes which have wider social and economic ramifications for the region and for its 40 million plus population?



### The Current ICT Credibility is Low

A visit to few places on ground and review of ICT emphasis of NER states gives the obvious impression of a poor and uninspiring ICT scenario in the region with the states less than enthusiastic to ideate, adopt and implement ICT programmes towards digital inclusion and ICT enabled growth and development. The government inclusiveness is on poor light if visibility of public interfaces on the web is considered as the first parameter of digital inclusion in NER. This has denied a strong and yet powerful means to the masses to be timely informed, and access public schemes information services and entitlements. Even if few government websites exist, to seek updated information has been a major disappointment for many. The greater public awareness, need and relevance for digital inclusion and ICT for development and good governance practices have been an enigma. This level of awareness is abysmally poor among political and administrative heads which can sound very alarming and threatening in near future.

The development concern could aggravate without any policy and implementation focus on gearing up the NE states towards global knowledge society and economic competitiveness. The lack of urgency here is perhaps threatening to the very sustenance and progressiveness of NE societies. The missing element of ICT emphasis in academic discourses and debates in the region has denied a platform to the young researchers and faculty to engage on a domain which is driving global societies to the next level of evolution. None of the universities in the region does have an ICT Chair of Excellence to research, pursue policy and programme relevance agenda in digital inclusion for development in the region or in a state. If e-governance is still struggling with the basics in e-infrastructure set ups and continuous delay in rolling out citizen services, what is more disturbing is lack of an ICT entrepreneurship environment in the region that promotes, nurtures, encourages and supports digital solutions, innovations and practices that is relevant for the NE states and wider community needs. The news of young 'e' startups is permanently rare. While the national and global emphasis is on exploring the mobile phone platforms to roll out information and services and use as device in complimenting development and governance efforts, the NE states are nowhere in the sight except in few unenthusiastic attempts in states like Nagaland with its pilot mGov project. The social and development sector in the region is much out of the ICT purview.

How much receptive and adoption has been the concept of digital inclusion in NER and actions taken there upon? What has been the policy and programme priority in digital empowerment of communities in NER at state, regional and national level? How effective and inspiring has been the IT leadership in NER as driving force to transform the region as India's next digital inclusion hot spot through its ICT focus? What has been the ICT emphasis in academic pursuits and discourses having ground relevance with policy and programmes?



The laggardness is more appalling to see the more 0.2 million NGOs / voluntary agencies out of the ICT purview. The level of digital literacy is abysmally low and negligible including poor level of institutional digital literacy to serve citizens with information and services. The judicious distribution of budgetary allocation in ICT sector is not that encouraging. While the annual budget outlay on average is little above Rupees 10 crore, but major emphasis has been in science and technology (S&T) domain and in Information Technology (IT) hardware and software, while allocation for social and community ICT needs is hardly being accommodated in budget allocation. In 2013-14 annual budget outlay, while Tripura allocated little above 12 crore in planned expense in S&T, Assam allocated little above 15 crore. In that yardstick, it needs to be analysed how much of budgetary allocation is available, if at all, in every department in each state that is exclusively focused on IT / ICT needs of citizen centric programmes. The reason is, the inclusion of ICT component has become universal across development and governance sectors be it for education, health, financial and other core services and programme delivery.

The fallouts from the above could be a sign of failure to anticipate, ideate, visualize and adopt timely and relevant digital inclusion measures till date in NER. This has certainly denied the much desired progressiveness and forward looking development and governance priority in NER states. The continuous siege of the NE states in regressive causes of political economy pursuit, driven by political and socially divisive patronages and power pursuits, have fundamentally denied a progressive governance and development agenda including an forward looking ICT agenda for majority of the NE states. The fact surprising could be even concerned nodal Ministry and Council for development of NE states may not have realized the seriousness of the long term impact in not encouraging a progressive ICT and digital inclusion thrust for the NE states.

### State Digital Inclusion Missions Must in NER

It is perhaps increasingly felt that the fundamental ICT gaps in the NER then calls for digital inclusion missions by the NER states. It calls for a fast track IT/ICT driven knowledge society agenda on a mission

The missing element of ICT emphasis in academic discourses and debates in the region has denied a platform to the young researchers and faculty to engage on a domain which is driving global societies to the next level of evolution.



mode pursuit. While an umbrella North East ICT Mission may not be a wise thought, a state level mission in every NER states with in the line of - Arunachal Pradesh Digital Inclusion Mission or Nagaland Digital Inclusion Mission - could well serve a wider digital inclusion need of NER states. While the digital inclusion mandate shall be well served by the IT Missions, the other objective to serve on a mission driven mode is strengthening public and private institutions and agencies responsible for delivery of citizen services and entitlements. This will certainly drive the knowledge growth curve upwards.

The priority areas of the State digital Missions in NER could lie in multiple programme areas that serve e-governance, e-infrastructure, knowledge and inclusion, skill upgradation, literacy needs across individuals, communities, and institutions, and ITeS objectives. The Missions could very well prioritise and acknowledge the critical importance of IT and ICT as instrument for the overall development of respective states in time bound manner. The Missions shall drive the commitment of the State leaderships in dissemination of IT / ICT as crucial accelerating force of inclusive social and economic growth and also means to increasing productivity and speed up transparency in governance. It can very well lead to a focus approach in exploring the potential of IT/ITeS through an incentivized ITeS entrepreneurship environment.

Apart the wider e-governance and infrastructure thrust of the State digital inclusion Missions, the focus shall be on core and common applications in skill development, information dissemination channels, e-literacy, and digital inclusiveness interventions for the minorities, tribal, women, and other digitally excluded groups and communities. Another critical objective could be integration of all public institutions of states with the web platform as a mandatory requirement to display and disseminate accurate, relevant and need based information and content for citizens and wider audience. Perhaps this particular initiative very well supports the mainstreaming efforts of connecting the NER with rest of India and world with the rapid and proactive use of ICT tools and platforms. This digital inclusiveness thrust has a wider relevance in developing the traditional occupation and economic clusters in NER, a region very strong in handloom and handicrafts segments. Developing and scaling up clusters including weavers' clusters with ICTs have significant economic and social advantages, as examples are widespread including the Chanderi

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Weavers Clusters in Madhya Pradesh. The thrust in the e-infrastructure segment has to dwell on alternative means and methods of connectivity and access provisions. It could be surprising for technology evangelists that the North East Region with its hilly terrain has not widely opted for wireless connectivity solutions to reach out to the remotest parts of its difficult terrain. It is not surmise anymore that wireless programmes in India (Wireless for Communities), Nepal (Nepal Wireless) has brought in innovative approach in connecting communities and citizens in affordable and accessible ways.

Towards accomplishment of the above, the fundamental necessity shall lie in pro-active political and administrative leadership to ideate, visualize, plan and implement time bound programmes towards holistic and wider digital inclusion and growth. The Mission objectives while incorporating the current IT policy frameworks, shall call for qualified manpower at both administrative and implementation level with timely inputs from panel of experts. Placing the right man at the right place shall go a long way in achieving efficiency and objectives of the IT / ICT Missions without letting the agenda go backward. It is extremely important to understand the fact that IT / ICT are not only about e-governance or e-infrastructure but incorporates the wider digital inclusion mandate and mission to empower citizens with social and economic solutions powered by information communication technology inputs. The onus can lie in the Ministry of Development of North Eastern Region (MDoNER) or the North Eastern Council (NEC), the two important support pillars of inclusive development and growth in NER, more open to include ICT and digital inclusion missions within its policy and programme mandate and support the same for adopting by NER states. And the sooner is the better.

**Syed S. Kazi**

Lead Partner

North East Development Foundation

kazi@nedfindia.org

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# North East --- Award 2013

# North East Award 2013 @ a Glance

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Nominations Received

**53**

Nominations screened for review

**46**

## Category Wise Nominations

- 18:** E-Governance & Citizen Services Delivery
- 05:** E-Commerce & Business
- 03:** E-Culture & Heritage
- 02:** E-Environment & Tourism
- 03:** E-Financial Inclusion
- 05:** E-Health
- 05:** E-Livelihood & Enterprise
- 03:** E-News & Media
- 09:** E-NGO

## State Wise Nominations

- 06:** Arunachal Pradesh
- 19:** Assam
- 02:** Manipur
- 04:** Meghalaya
- 03:** Mizoram
- 01:** Nagaland
- 04:** Sikkim
- 03:** Tripura
- 11:** Other

# eNorth East Award: Grand Jury Members

The expert jury process for selection of the finalists for the 4th eNorth East Award Challenge 2013 concluded on November 1, 2013. The jury exercise underwent 3 processes of screening and reviewing the accepted nominations. In other words, the finalists' nominations were shortlisted in 3 stages. A total of 12 Juror experts were engaged for the 2013 Jury process.



## Osama Manzar

Founder & Director, Digital Empowerment Foundation

Osama Manzar is a convert social entrepreneur spearheading the mission to overcome the information barrier between India's rural sector, and the so-called developed society, through Digital Empowerment Foundation (DEF) - the not-for-profit organization founded to accomplish the mission. He is a Member, Working

Group, Internet Governance Forum of Ministry of Communication & IT and was a Member, Task Force on Growth of IT, ITES & Electronics HW Manufacturing Industry, Ministry of Comm & IT, India.



## Amitabh Singhal

Amitabh currently sits on the Board of .ORG, the Public Interest Registry, based in Reston, Virginia. He was a Founder and former President of Internet Service Providers Association of India. He also was a founder, Board Director and CEO of National Internet Exchange of India (NIXI). He helped conceptualize and set up NIXI as a public private partnership between ISPAI and Department of Electronics & Information Technology, Government of India and

was involved in restructuring NIXI as an autonomous Registry and Regulator of the .IN Domain (Indian ccTLD), including its commercial launch, drafting and implementing the INDRP, and appointment of Registrars, etc. He is also associated with Internet Governance Group of the Department of Electronics & IT (Govt. of India) as a member of working committee. He is the Director of Telxess Consulting Services Pvt. Ltd. and Vcon Services Ltd.



## Gyana Ranjan Swain

Gyana is currently the Executive Director at Voice & Data, a publication from Cyber Media House, based out of Gurgaon. He has been a journalist with Press Trust of India (PTI) prior to joining Cyber Media.



## Ashish Garg

Mrs. Ashish Garg is an authority on K-12 Education and Youth Development. She is currently President at Global Young Group. In the past, she has been holding responsibility as Asia Regional Coordinator at Global eSchools and Communities Initiative (founded by UN ICT Task Force). Her other assignments included Country Director - India at Global e Schools and Communities Initiative (founded by UN ICT Task Force); and regional coordinator at

WorldLinks in India at the World Bank. She was one of the minds that spearheaded the creation of India's first national policy on ICTs in school education. She has over 15 years of experience in the international education industry.



## C K Nayak

Nayak has been Special Correspondent and Bureau Chief of "The Shilong Times", the premier and the second oldest English daily of the North East India, since 1996. He is presently working as stringer for Reuters at New Delhi. He also served with Press Trust of India (PTI), the premier national news agency for 15 years in New Delhi, Bhubaneswar, Agartala and Guwahati in different capacities. He had been former Member of the Media Advisory Committee of the

Lok Sabha, Parliament of India. He also worked as visiting Professor in Journalism in Gauhati University. He also worked with BBC, All India Radio, Doordarshan, Lok Sabha TV and many other domestic and foreign news channels.



## Kartik Taneja

Kartik heads the channel Sales business for Google and is responsible for leading the strategy for channel expansion and growth for Google in India. Kartik has been working very closely with SME's and has worked with Tata Infomedia, Indiatimes and Verisign helping to grow the online SME ecosystem in India. Kartik and his team at Google are helping SME's in India use the power and potential of the digital medium to grow their business. His educational affil-

iation is with Devi Ahilya Vishwavidyalaya, Barkatullah Vishwavidyalaya, and Wynberg Allen School.



### **Geeta Malhotra**

Geeta is currently the Country Director, Rural Education and Development (READ) India. She has been working with READ India since June 2008 and has helped bring four community library resource centers to life in multiple states of this expansive country. Since 1981, she has been actively working in the social sector to implement grassroots programs across India. This includes work for One World South Asia, Open Knowledge Network, Digital Empowerment Foundation and Population Foundation of India. Geeta holds multiple degrees from Delhi University and Annamali University. She has recently completed her thesis on Elected Women's Roles in Reproductive and Child Health. She worked as Director-Grassroots Communications at Digital Empowerment Foundation; and Senior Programme Manager at OneWorld South Asia.



### **Rajen Varada**

Rajen Varada is a core group member of a think tank group of technology and knowledge management innovators who have been instrumental in the formation of "The Open Knowledge Community" which is being co-founded by UNESCO and civil society organisations. Rajen is the current CEO of the Open Knowledge Community. He has been an ICT practitioner since 1995. He has developed solutions for health & early childhood care: (Sisu Samrakshak UNICEF),

disaster: (SMS4help - Solution Exchange), district e-governance: (Parishkaram & Samadhan - Govt of AP& West Bengal) and 'Labnet' a migrant labour tracking and services portal. He worked as the Moderator/ Resource Person of the United Nations Solution Exchange ICT for development Unit - a community of practice focusing on information and communication technologies for development with a membership of over 3000 members. He continues to be involved with Technology for the People (TFTP), an NGO which works on ICT solutions for the social sector.



### **S De Sarkar**

Mr. Sarkar is the Director at Department of Information Technology, Govt. of Arunachal Pradesh. Currently, he is engaged in implementing various programme components of National e-Governance Plan in the State including SWAN and Common Services Centres. In the past he holds important portfolios in education department as well.



### **Dr. Monica Banerjee**

Dr. Monica Banerjee has been with the National Foundation for India (NFI), a grant making organisation based out of New Delhi. She has been with NFI for over 10 years now. Currently, she is Programme Director at NFI. In her professional obligation, she has been closely associated in implementing educational programmes in North East India. She is a PhD from IIT Delhi.



### **Ranjana Saikia**

Mrs. Saikia is the Director, Educating Youth for Sustainable Development Division at The Energy Research Institute (TERI). She joined TERI in 1999 and has since been working on projects with children and youth across the country. Mrs Saikia has over 24 years of experience in the field of environment, education, community development, etc. and has undertaken several projects and awareness activities with focus on environment. Her career as a teacher began

in 1984. She has been a visiting Researcher to IGES, Japan. Mrs Saikia has authored several books and publications. She has a Masters in History followed by a degree in Education from Guwahati University.



### **Subho Ray**

Currently, Mr. Subho Ray is working as the president of Internet & Mobile Association India (IAMA). In his current role, has been instrumental in some crucial steps for the development of the digital industry. Under Mr Subho Ray's leadership, IAMA has also been recognized as the leader in all Internet and mobile value added services research in India. IAMA has grown seven-fold in terms of membership and has been at the forefront of the advocacy for ecommerce, online advertisement, ICT for SMEs, internet penetration and an equitable business regime for mobile value added services industry. Dr Subho Ray obtained his PhD in history from the School of Oriental and African Studies, University of London.

Before joining IAMA, Subho was director for the ICT vertical at the Confederation of Indian Industry (India's largest industry body) in New Delhi where he worked since 1998 with a 2 year stint at the Confederation's London office. In eNorth East Jury 2013, he was the virtual juror.



# e-Governance & Citizen Services Delivery

This category has been instituted to recognize meaningful and sustainable projects that use need based and relevant ICT tools, applications and networks to streamline and improve citizen services delivery in North East India or in any State there in. the practices recognized are inclusive of any initiatives by the government, industry, and independent agencies that has shown demonstrable output and outcomes to bridge the gaps in services delivery including information services in the region. The focus is equally on the digital content and services that is being delivered to focused beneficiaries and communities through designated projects. The look is for interventions that carry a working model for sustainability, scaling up and replication.

- >> Flood Early Warning System (FLEWS) in Assam - **Winner**
- >> REDRH (Reconstruction of Earthquake Damaged Rural Houses) Management Information System, Sikkim - **Winner**
- >> Automation of Arunachal Pradesh Inner Line Permit System - **Winner**
- >> Paperless e-Way Bill system, Mizoram - **Special Mention**
- >> e-Tendering/e-Procurement System for Govt. of Assam/Arunachal Pradesh/Mizoram and Meghalaya - **Special Mention**



## Flood Early Warning System (FLEWS)

### ORIGINAL TITLE

Flood Early Warning System

### PRODUCER

North Eastern Space Applications Centre (NESAC) for Assam State Disaster Management Authority

### LANGUAGE

English & Assamese

### PROJECT LOCATION

Assam

### MEDIA FORMAT

Offline (GIS based)

### WEBSITE

<http://nesac.gov.in>  
<http://asdma.gov.in>

This project has been able to achieve an average lead time of 12 to 18 hours for flood warning at revenue circle level. Its success in Assam has prompted authorities from other states like Arunachal, Meghalaya, Sikkim to show interest in implementing the same system.

Floods are chronic disasters occurring almost every year in the state of Assam. Apart from environmental damage, the loss of human life afflicts flood prone areas with regularity in each rainy season. If there were some means to predict and warn authorities and local populations of imminent disaster, a large amount of losses could be mitigated.

In order to achieve this, the North Eastern Space Applications Centre (NESAC) under Department of Space, Government of India at Umiam near Shillong in Meghalaya has developed an operational flood warning system for the state of Assam on behalf of Assam State Disaster Management Authority (ASDMA), by using geospatial technology coupled with established relationships among important hydro-meteorological parameters. The technology used comprises of hydrological modeling with inputs from numerical weather prediction model for forecasting of flood discharge. The hardware involves the use of HPC Cluster computer, and high end work stations.

After its successful implementation in 2009 in the district of Lakhimpur in Assam as a pilot, it is now being used in 15 flood prone districts of Assam, with over eighty major and minor tributaries in the Brahmaputra and Barak valleys.

This project has been able to achieve an average lead time of 12 to 18 hours for flood warning at revenue circle level. Its success in Assam has prompted authorities from other states like Arunachal, Meghalaya, Sikkim to show interest in implementing the same system. Apart from contribution in mitigating flood disasters, the project's implementation has prompted a change in holistic scientific thinking in disaster management in the North East Region, and in other parts of the country.



# REDRH (Reconstruction of Earthquake Damaged Rural Houses) Management Information System

**ORIGINAL TITLE**

REDRH

**PRODUCER**

Department of IT,  
 Government of Sikkim, along  
 with Rural Management and  
 Development Department,  
 Sikkim

**LANGUAGE**

English

**PROJECT LOCATION**

Sikkim

**MEDIA FORMAT**

Online & offline

**WEBSITE**

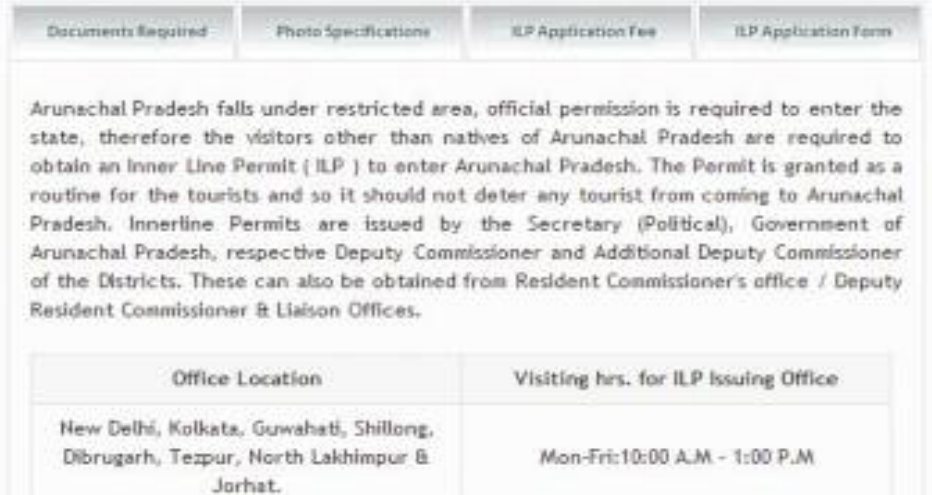
www.sikkimrmd.gov.in

The REDRH system reduces and removes the necessity for paperwork, while its dynamic entries keep charts and progress reports continually updated. These entries can be made anytime anywhere with the help of a device and an internet connection, and covers the entire state.

Disaster Management is always a challenge for government authorities. Sikkim, as most of the North East Region, is prone to earthquakes and landslides. After the devastating earthquake in the state of Sikkim on the 18th Sept. 2011 that damaged half of its 92,000 rural houses, the State Rural Management and Development Department, with the help of the State Department of IT, developed an online management system for distribution of relief materials termed the 'Reconstruction of Earthquake Damaged Rural Houses (REDRH)' project. It was officially launched on the 18th September 2012, exactly a year after the major catastrophe.

The main objective of the system was to manage the distribution of raw materials to the beneficiaries and also to keep track of the progress of the entire REDRH Project. The REDRH Management Information System (MIS) provides the platform for various blocks and districts to make entries about the materials that has been indented and received and also the details of the beneficiaries. With a provision for access by general users, as well as safeguards in place for authorised users, this application maintains transparency and efficiency at the same time. The initiative has helped the government to plan and respond quickly and efficiently and keep the beneficiaries informed and updated about relief and rehabilitation measures.

The REDRH system reduces and removes the necessity for paperwork, while its dynamic entries keep charts and progress reports continually updated. These entries can be made anytime anywhere with the help of a device and an internet connection, and covers the entire state.



## Automation of Arunachal Pradesh Inner Line Permit System

### ORIGINAL TITLE

Automation of Arunachal Pradesh Inner Line Permit System

### PRODUCER

: Secretary (Political), Government of Arunachal Pradesh & Bohniman Systems (P) Limited

### LANGUAGE

English

### PROJECT LOCATION

Arunachal Pradesh

### MEDIA FORMAT

Internet; Mobile

### WEBSITE

www.arunachalilp.com

Now, with all offices connected through the web, data is transferred in real time using GSM based SMS system. Visitors applying for ILP are now provided with a permit within 24 to 72 hours.

As the state of Arunachal Pradesh is a restricted area, official permission is required to enter the State for citizens from outside the State. This means that visitors other than natives of Arunachal Pradesh are required to obtain an Inner Line Permit (ILP) to enter it.

In the earlier manual Inner Line permit System people intending to apply for an ILP had to visit the concerned Deputy Resident Commissioner (DRC) offices, located across different cities in North East and India, to obtain the Inner Line permit, sometimes waiting for days to receive it.

After the automation of the ILP system, all users now have to do is to access the website <http://www.arunachalilp.com>, and apply online for the same, with an option of checking their application status online.

It has meant a huge saving for the state government as well. Before the automation, entry from any one of the 25 gates of the state had to be manually coordinated by 16 district offices, 10 Additional Deputy Commissioner (ADC) Offices, 2 Deputy Resident Commissioner, 1 resident Commissioner office and 5 liaison officer's office. Now, with all offices connected through the web, data is transferred in real time using GSM based SMS system. Visitors applying for ILP are now provided with a permit within 24 to 72 hours. The new system has transformed the scenario with the help of technology into a simple single window one, in a win-win situation for all involved.





## Paperless e-Way Bill system

**ORIGINAL TITLE**  
Paperless e-Way Bill system

**PRODUCER**  
Department of Taxes,  
Government of Mizoram

**LANGUAGE**  
English

**PROJECT LOCATION**  
Mizoram

**MEDIA FORMAT**  
Web & Mobile

**WEBSITE**  
www.zotax.nic.in

The system is also integrated with SMS facility. The dealer receives a password on his mobile phone the moment he generates an e-way bill, as well as a confirmatory SMS as soon as his consignment is verified at the check post.

In Mizoram, like in all other states of India, every consignment moving through the state's borders needs to have a proper Road Permit, or a Way Bill. Earlier, dealers would apply for a way bill manually at the Taxation Office (like submission of an application in plain paper etc.). Scrutiny and issue of the bill would take one or two days.

With the introduction of e-way bill, the dealer can now directly generate a blank way bill, print it out and update the invoice details from their computer. The whole process takes just a few minutes. The transporter just needs to provide the e-way bill number for verification at check posts at the border. When this number is entered into the system, all related details are provided by the system, taking just a few minutes.

The system is also integrated with SMS facility. The dealer receives a password on his mobile phone the moment he generates an e-way bill, as well as a confirmatory SMS as soon as his consignment is verified at the check post. The genuineness of the e-way bill can be verified by anyone through the "Verify e-way bill" option in the website www.zotax.nic.in by entering the e-way bill number.

With this application software, the Department has done away with the paper works. It has enabled the citizens to enjoy the services of the Department at their doorstep, online with a click of a mouse. The Department has further arranged "Facilitation Centres" to help citizens who do not have internet access or knowledge of internet to enjoy the paperless e-way bill system.

**User Login**

User Name

Password

## e-Tendering/e-Procurement system for Govt. of Assam/Arunachal Pradesh/Mizoram and Meghalaya

**ORIGINAL TITLE**

Paperless e-Way Bill system

**PRODUCER**

Nextenders India Pvt Limited

**LANGUAGE**

English

**PROJECT LOCATION**

North East

**MEDIA FORMAT**

Online

**WEBSITE**<http://pwdar.etenders.in><http://dop.ar.etenders.in>

Besides being easy to use for both bidders and buyers, it helps in fostering a climate of openness and neutrality. Its unique feature is that this system has a patented secure bid process.

With the issue of corruption being talked about generally in connection with government processes of procurement, the initiative on the part of the state governments of Arunachal Pradesh, Assam, Mizoram and Meghalaya to use a transparent and easy to use system of e tendering and procurement comes as a welcome sign. This application provides end to end procurement solutions to government organizations and PSUs (Public Sector Undertakings) in the concerned states.

Besides being easy to use for both bidders and buyers, it helps in fostering a climate of openness and neutrality. Its unique feature is that this system has a patented secure bid process. The secure bid process is basically one that protects the bids from intruders at any level, removing possibility of tampering. This system is browser independent and Operating system independent can run on any browser without help of any third party tool.

Based on Hibernate technology, hence it can run on any operating system. This application is built in java and hence it's scalable and open. And because of its secure bid process, this application is temper evident. This application is web based and hence accessible on web from anywhere. This system is very easy to use and can be operated through minimum training.

# e-Learning & Education

e-Learning is the use of information communication technology to enable people to learn anytime and anywhere. e-Learning includes educational training, the delivery of just-in-time learning information and educational guidance from experts by electronic means. It involves the use of a computer or electronic device (e.g. a mobile phone or an audio-visual tool) to provide training, educational or learning material. It involves use of Internet and Intranet networks to deliver and access learning and educational resources. E-learning is broadly inclusive of all forms of educational technology in learning and teaching and broadly synonymous with multimedia learning, technology-enhanced learning (TEL), computer-based instruction (CBI), computer-based training (CBT), computer-assisted instruction or computer-aided instruction (CAI), internet-based training (IBT), web-based training (WBT), online education, virtual education, virtual learning environments (VLE) (which are also called learning platforms), m-learning, and Integrated Technology in Education (ITE). e-Learning and education is seen as a cost effective, mass based, qualitative approach in promoting inclusive and better educational facilities. Any such practices in North East India region is promoted and recognised by this category.

>> Library Management System for Public Libraries Department in Aruanchal Pradesh - **Winner**



## Library Management System for Public Libraries Department

### ORIGINAL TITLE

Library Management System  
for Public Libraries Department

### PRODUCER

Dept of Education (Govt. of  
Arunachal Pradesh) & Ecole  
Solutions Pvt Ltd.

### LANGUAGE

English

### PROJECT LOCATION

Itanagar, Arunachal Pradesh

### MEDIA FORMAT

Intranet

### WEBSITE

www.ecoleglobal.com

The intent for this solution is not only to automate the library management processes and ensure the security of the library's resources, but also to be at par with other state central libraries in the country and connect to the mainstream of national and international libraries.

The State Central Library of Itanagar is one of the key knowledge and information hubs in the city and has 174 libraries under it, spread across the state. This Library has been provided with a fully-integrated library software solution called "Koha". It caters to the State Central Library and Raja Ram Mohan Roy Annexe, and enables the day-to-day activities of the library to be managed through automated processes.

It handles all library specific processes including book purchase, data entry, circulation, user management and generation of various statistical reports. The software includes creation of a database for 60,000 volumes affixed with Radio Frequency Identification (RFID) tags to prevent them from going missing, including books in many Indian regional languages.

Earlier, the library staffs were over-burdened with manual tasks, but after the automation, they are able to provide better services / references to the library users, which number 70-100 a day. The intent for this solution is not only to automate the library management processes and ensure the security of the library's resources, but also to be at par with other state central libraries in the country and connect to the mainstream of national and international libraries.



# e-Health

eHealth includes the rational and sustainable application of ICTs across the whole range of functions that affect the health services delivery and access. eHealth systems include tools for health authorities and professionals, doctors to the hospital manager, nurses, data processing specialists, social security administrators and the patients, as well as personalized health systems for individuals and community. e-Health initiatives include health information networks, electronic health records, telemedicine services to reach out to remote communities, personal wearable and portable communicable systems including health portals, and many other ICT-based tools assisting disease prevention, diagnosis, treatment, health monitoring and lifestyle management. Any such practices in North East India region is being recognized and promoted by this category.

- >> Project Child - **Winner**
- >> 108 Emergency Response Services in Assam & Meghalaya - **Winner**
- >> Telemedicine for Healthcare in Rural Areas of Tripura - **Winner**



## Project Child

<b>ORIGINAL TITLE</b> Project Child	<p>In 2005, it harnessed technology through its drive to improve the School Emergency Response system. In this system, all health records of students were maintained online, and the school infirmary, staffed by a nurse, a full time ambulance with driver in the school campus was in constant touch with back up by doctors via mobile communication.</p>
<b>PRODUCER</b> Society for Promotion of School Health	
<b>LANGUAGE</b> English & Assamese	
<b>PROJECT LOCATION</b> Assam	
<b>MEDIA FORMAT</b> Offline/online & mobile	
<b>WEBSITE</b> <a href="http://www.projectchild.in">www.projectchild.in</a>	

Started in 2003 by 25 doctors, Project CHILD began as a comprehensive medical program offered to schools catering to all the preventive, curative and promotional aspects of students' health. This program incorporated the recommendations of WHO, UNICEF, and the American School Health guidelines and was named project "CHILD".

As of now this program has touched the lives of more than three lakh students in Assam.

In 2005, it harnessed technology through its drive to improve the School Emergency Response system. In this system, all health records of students were maintained online, and the school infirmary, staffed by a nurse, a full time ambulance with driver in the school campus was in constant touch with back up by doctors via mobile communication. The school staff and a select group of students were trained in lifesaving techniques through PPT presentations, and demonstration.

In 2012 the project launched real time monitoring and management of the school infirmary room, in which doctors monitor the sick room of schools virtually and guide the nurse to deal with medical emergencies, a first for the North East Region, and perhaps for the country as well. Currently there are 11,000 students under this program in Guwahati (Assam)


[HOME](#)
[108 SERVICES](#)
[STATES](#)

## Welcome to GVK EMRI

GVK Emergency Management and Research Institute



# 108 Emergency Response Services

#### ORIGINAL TITLE

108 Emergency Response Services, Meghalaya

#### PRODUCER

GVK Emergency Management and Research Institute

#### LANGUAGE

English

#### PROJECT LOCATION

Meghalaya

#### MEDIA FORMAT

xxxxxxxxxxxxxxxxxxxx

#### WEBSITE

www.emri.in

GVK EMRI Meghalaya 108 has so far attended more than 14 lac calls, received 101000 emergency requests and attended to 67000 emergencies.

The 1-0-8 (toll free number) dial an ambulance service is a totally free service accessible to anyone calling from a mobile or a landline. Piloted in Andhra Pradesh by GVK EMRI, from a modest 5 towns in 2005, it now serves 13 states and 2 Union territories of India. In the North East, it serves the states of Assam and Meghalaya.

GVK EMRI Meghalaya 108 has so far attended more than 14 lac calls, received 101000 emergency requests and attended to 67000 emergencies. The 1-0-8 service responds to any emergency call (Police, Medical, Fire), reaches out to the victim (in case of medical) and provides pre-hospital care till the person is admitted to the hospital. Police, fire agencies are also informed and they use their resources to attend to the emergencies. The service providers weave telecommunication, computing, medical, and transportation technologies to provide free emergency services in tribal, rural, and urban areas.

The 1-0-8 program has contributed to improvement in several areas in Meghalaya society since 2009. Not only has it had a positive impact on healthcare, it has led to employment opportunities especially for those from rural and tribal backgrounds. GVK EMRI Meghalaya 108 has so far attended more than 14 lac calls, received 101000 emergency requests and attended to 67000 emergencies. That is a remarkable progress, one call every one and half minutes, handling 1 emergency every 28 minutes and attending on site, one emergency every 34 minutes.



## Telemedicine for Healthcare in Rural Areas of Tripura

<b>ORIGINAL TITLE</b>	
Telemedicine for Healthcare in Rural Areas of Tripura	
<b>PRODUCER</b>	
Webel Electronic Communication Systems Ltd	The iMediK multi-tier Telemedicine system in Tripura since 2004 has helped to deliver e-Health-care services over the Internet on a pilot basis in rural and remote areas.
<b>LANGUAGE</b>	
English	With the three pilot projects already been implemented at Govt. Hospitals at 3 referral and 17 nodal centers, the project so far has provided health care services to more than 35000 patients suffering from various diseases and located in different areas that include remote/rural/hilly areas.
<b>PROJECT LOCATION</b>	
Tripura	
<b>MEDIA FORMAT</b>	
Online/Offline	
<b>WEBSITE</b>	
www.webel-india.com	

Almost 72% of the total population of Tripura lives in remote, rural and hilly areas, which are underserved by health care providers. Webel ECS Ltd, in collaboration with Indian Institute of Technology (IIT), Kharagpur have piloted the provision of health care services, on behalf of Health & Family Welfare Department (Tripura) through a multi-tier telemedicine system called iMediK which delivers e-Healthcare services over the Internet.

Till date it has served more than 35000 patients from 3 referral and 17 nodal centres in Govt. Hospitals in Tripura. The beneficiaries of these projects are: people in underserved remote rural and hilly and semi-urban areas; the poor section of the society who cannot afford specialised health care; and the aged and terminally ill patients getting advantage of reduced clinical visits for long term follow-up care.

Hospitals can register into this system and the patient data of different hospitals can be stored in a central database server. Registered users of a hospital can access the patient data of that hospital. Both online and offline consultations are supported by the system.

The project was launched in March 2004 with the Phase I completed March 2009; Phase II completed March 2010; and Phase III completed March 2013.



# e-Livelihood & Enterprise

This category recognizes and promotes sustainable practices in livelihood and enterprise building and promotion using ICTs in North East India. This includes use of computers, mobile, web, social media and digital content and services to enhance livelihood and income opportunities among people in North East. This also includes community based efforts by NGOs, SHGs, government and private stakeholders that are working to promote social and community based enterprises using ICTs. This category also seeks to recognize and promote ICT based social entrepreneurship in the region.

- >> Integrated Agromet Advisory Services to farmers in Arunachal Pradesh - **Winner**
- >> m4agrinetNEI - Mobile based Agro-Advisory System in North-East India- **Winner**
- >> Intelligent Advisory System for Farmers in North East - **Winner**



## Integrated Agromet Advisory Services for North Eastern Region

### ORIGINAL TITLE

Integrated Agromet Advisory Services for North Eastern Region

### PRODUCER

ICAR Regional Centre for North Eastern Region, Arunachal Pradesh Centre, Basar - 791101

### LANGUAGE

English

### PROJECT LOCATION

Arunachal Pradesh

### MEDIA FORMAT

Mobile

### WEBSITE

www.farmer.gov.in

The Integrated Agromet Advisory Services for farmers in Arunachal Pradesh aims at timely preparing and delivering of weather forecast based agromet advisories for all the districts of Arunachal Pradesh in local languages. The major activities are data recording, data analysis, making of agromet advisory bulletin and any other crop related information beneficial to the farmers. The project in operation since 2012 has covered more than 5000 farmers across the State.

Information about the weather conditions are useful to many, but most of all to those who practice farming as a means of livelihood. The concerned government departments do publish reports at times in local newspapers, but their outreach to the end user has not been very effective, due to various reasons.

Since the growing popularity of the cell phone has ensured cell phone towers even in remote areas, the ICAR RC for NEH Region decided to use the connectivity to launch a special application. The Micromax MMX 353G Datacard was developed by the ICAR RC for NEH Region, Arunachal Pradesh Centre, Basar and launched on the 8th January, 2013.

The aim of this initiative is timely preparation and delivering of weather forecast based agro-met advisories for all the districts of Arunachal Pradesh. Based on the weather forecast, an expert advisory committee prepares the precautions to be taken for crop and livestock. These advisories along with general information about crop and animal husbandry are sent through this data card in the layman's language in simple form, and delivered as alerts on mobile phones.

The card needs an initial investment of just INR 2000/- and can be recharged thereafter for a small sum, depending on the number of farmers it services.

Registered farmers/stakeholders/officials of Krishi Vigyan Kendras (KVKs) and officials of the line departments receive the information in the form of alerts. Farmers can also call or send her/his queries through SMS instantly, to which he receives responses.

- Home
- Education
- Professional Experience
- Academic Achievements
- Research
- Publications
- Contact Information

## Publications

### Books

1. Saravanan, R., (2008), (Ed.) *Agricultural Extension: Worldwide Innovations*, New India Publishing Agency (NIPA), New Delhi.



## m4agrinetNEI

### ORIGINAL TITLE

m4agrinetNEI

### PRODUCER

Central Agricultural University (CAU), Imphal, Manipur & Media Lab Asia (MoC & IT, Gol), New Delhi

### LANGUAGE

Khasi & Garo dialect (IVRS application), Knowledge portal in English & Khasi dialect

### PROJECT LOCATION

Meghalaya

### MEDIA FORMAT

Mobile

### WEBSITE

www.saravananraj.net

The m4agriNEI is a mobile based agro advisory system in operation since 2012 in the State of Meghalaya. It aims to empower farmers by providing the right information related to crops, animal care, and credit access at the right time via the mobile phone. With provision of data transmission through voice, text, images and videos from both end (farmers to expert and back), the project since inception has covered more than 2000 small and marginal tribal farmers from the Ri-Bhoi district of Meghalaya.

Launched on 1st June 2012, the m4agriNEI is a mobile based agro advisory system in the north east region. It aims to empower farmers by providing the right information at the right time via the mobile phone.

In this system, there is a smart phone based mobile interface at the front end for the farmers and web interface at the back end for the agricultural experts. Information includes advisories related to crops, animal care, banking, etc. Data can be transmitted through voice, text, images and videos from both end (farmers to expert and back).

The farmer can also call the system for receiving any information and agro-advisory services. Farmers receive information in preferred mode (SMS / Voice Call/ Picture/ Video clippings) based on which service they have subscribed to during the registration. The experts at back end (m4agriNEI agro-advisory laboratory with domain experts and virtual subject matter experts) can access the database of the farmers (farmer particulars, farm history-land & crop details, and previous interactions with the m4agriNEI agro-advisory system) while responding the farmer's queries.

From launch date to May 2013, around 2000 small and marginal tribal farmers from the Ri-Bhoi district of Meghalaya were serviced under this project. Since May, 2013, the project has serviced 3000 farmers across West Garo hills, East Khasi hills and West Jaintia hills district of the state. From October 2013 to May 2014, an additional 10,000 farmers are expected to benefit from the project.



<p><b>WHAT'S NEW</b></p> <ul style="list-style-type: none"> <li>IASF in Garo Language</li> <li>IASF in Bengali Language</li> <li>SMS FULL service for Fertilizer Dose</li> <li>Rice Variety</li> </ul> <p><b>PACKAGE &amp; PRACTICES</b></p>	<p>Language Selection/ Jied ia ka Ktien/Badia kursikrangko jakkala/দেপাল খবদা</p> <p> <input checked="" type="radio"/> ENGLISH                 <input type="radio"/> KHASI                 <input type="radio"/> GARO                 <input type="radio"/> মনিপুরি             </p> <p><b>GET A SOLUTION OF YOUR QUERY</b></p> <p> Insect Management: Consult expert to use right pesticide in right quantity.</p> <p> Disease Management: Timely application of Pesticides/ Insecticides above all selection of disease free quality planting materials.</p>	<p><b>Expert's Login:</b></p> <p>User Id' <input type="text"/> <input type="button" value="Login"/></p> <p>Password' <input type="password"/></p> <p><a href="#">New Expert?</a> <a href="#">Forgot password?</a></p> <hr/> <p><b>Farmer's/Student's Login:</b></p> <p>User Code : * <input type="text"/> <input type="button" value="Login"/></p>
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# Intelligent Advisory System for Farmers

<p><b>ORIGINAL TITLE</b> Intelligent Advisory System for Farmers</p> <p><b>PRODUCER</b> Directorate of Agriculture Meghalaya on behalf of CDAC, Mumbai and the roject partners.</p> <p><b>LANGUAGE</b> English - with Khasi, Bengali, Manipuri and Garo Interface</p> <p><b>PROJECT LOCATION</b> Meghalaya</p> <p><b>MEDIA FORMAT</b> Internet</p> <p><b>WEBSITE</b> <a href="http://iasf.cdacmumbai.in">http://iasf.cdacmumbai.in</a></p>	<p>The web based Intelligent Advisory System for Farmers (IASF) since 2010 is helping farmers in critical times with agro information in Meghalaya and Manipur. The IASF system as a web-based advisory system for answering farmer's queries is currently benefiting more than 1500 registered farmers in 15 districts in both the States. The system supported by 50 Subject Matter Specialist registered in the portal to respond to farmer's queries in real time is supported with a dedicated SMS facility at 51969.</p>
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Launched on the 1st of June 2010, the Intelligent Advisory System for Farmers (IASF) is an web based advisory system for answering farmers' queries related to farming activities in their own language, carried out in Northeastern states of India.

IASF is also a self learning system that acquires new problems and corresponding solutions. The system responds to five major farming activities (Insect Management, Disease Management, Weed Management, Rice Variety Selection and Fertilizer Management) which required an expert's advice relating to diagnostic and remedial measures.

A farmer can ask a question related to farming activities supported by IASF and the system automatically produces a highly probable solution from a large database containing collection of queries and expert opinion given by a team of agriculture experts and subject matter specialist.

Currently, 2255 registered farmers in 5 districts of Meghalaya and 9 districts of Manipur are using this service. The project expects this number to increase to 5000 by the 2013 year end.

A unique feature of the system is that it has the capability to give advanced information to experts of impending pests and diseases outbreak. The project can be easily scaled and rolled out with localised content and languages. This is the first of its kind project in North East India, where ICT has come to the rescue of resource poor farmers residing in remote and inaccessible part of the country.



# e-Commerce & Business

This category has been introduced to recognize and promote innovative, sustainable practices in using ICT tools and applications including the web platform to promote commerce and business especially by micro and community entrepreneurs from the region.

It seeks to find excitement and dedication to deploy digital content and technology to promote products and services specific from the region and relevant to wider markets in the region, national and international platforms. It is strongly believed that use of ICTs in most innovative way can largely impact and promote traditional and the vast handloom and handicrafts business in the region apart from promoting new commerce practices.

>> [Artexdirect.com](http://Artexdirect.com) - Winner



## Online Shopping Portal for Traditional Ornaments, Dress and Paintings

### ORIGINAL TITLE

www.artexdirect.com (an online shopping portal for Traditional Ornaments, Dress and Paintings)

### PRODUCER

Mr. Prasanta Kumar Nath

### LANGUAGE

English

### PROJECT LOCATION

Assam & North East India

### MEDIA FORMAT

Online

### WEBSITE

www.artexdirect.com

Launched in 2012, the main aim of this project is to promote the unique north-eastern traditional handicrafts and paintings in to the global platform. By now, the portal has reached out to all the 8 North Eastern States in procuring items for wider regional, national and international markets online.

The northeast is very rich in handicrafts made with locally available raw materials. When an entrepreneurial initiative preserves culture and heritage, and helps provide a viable means of livelihood to local people, besides making them take pride in their work ad heritage, it needs to be appreciated.

www.artexdirect.com is an online shop that sells traditional ornaments, paintings and different handicraft materials that are created and made by locals that reflect the culture of the different tribes and communities of the peoples of the North-Eastern region. The aim is to introduce and promote the cultural heritage of the North East to people across the world.

The website acts as a platform for both buyers and sellers, offering a 24/7 real time buying and selling experience with secure payment facilities and a customer information protection system. It also offers add-ons like, write ups on the artists, online art competition for children, the latest news updates (mainly cultural), etc.

# e-Culture & Heritage

This category seeks to scout, recognize and promote public and private efforts to preserve and promote indigenous and pristine art, culture and heritage of North East India especially its tribal culture and heritage wealth. As traditional culture and heritage remains are under threat of concrete modernization and industrialization, worldwide efforts are on to preserve, promote and safeguard cultural practices and heritage wealth through use of ICTs including web technology. Digitization is the efforts taken up in a big way. Any effort that aims to promote and preserve such traditional wealth and treasures in North East India is recognized under this category.

>> Assam Kart - Winner

>> Kolong Kala Kendra - Winner



## Assam Kart

<b>ORIGINAL TITLE</b> Assam Kart	<p>Since 2012 AssamKart has been propagating Assamese culture of books and its richness by offering Assamese ebooks and English ebooks written by Assamese writers. With the ebooks readable using Android mobile phones, Android Tablets, iPhones and iPads that can be downloaded and read instantly from any part of the world, the platform has reached out to more than 2000 followers and visitors. By now, more than 200 users have transacted through AssamKart.</p>
<b>PRODUCER</b> Bikash Kalita	
<b>LANGUAGE</b> Assamese and English	
<b>PROJECT LOCATION</b> Assam	
<b>MEDIA FORMAT</b> Online	
<b>WEBSITE</b> www.assamkart.com	

With the rapid spread of the internet, among all the advantages involving empowerment of people due to enhanced connectivity, there is at least one area that lies largely ignored. That is the area of the regional language. With English becoming the universal language of communication, people whose mother tongue is not English find it hard to access worthwhile literature and writings in it. When a language dwindles or dies, the culture it represents in its users also follows the same path.

In September 2012, AssamKart was launched as an option to not only fill this gap but also propagate a love for it in today's internet savvy generation by offering Assamese ebooks and English ebooks written by Assamese writers.

AssamKart sees itself as a cultural ambassador for Assamese language and literature. The ebooks can be read using Android mobile phones, Android Tablets, iPhones and iPads that can be downloaded and read instantly from any part of the world.

Readers can sample upto 10 free ebooks, and then, if interested, can buy the Assamese books they want right from the site or from the free Android and iOS apps and when they want.

The business model includes both writers and publishers who produce the content (the ebooks). AssamKart, through its e-publishing division - Nirvana Sutra, creates the ebooks that can be read using AssamKart's free Android app and iOS app. The publishers and authors get royalty for each sale made through AssamKart.

The vision is to take the Assamese language to every Assamese anywhere in the world. The initiative can be applied to other sectors like education, health, etc., and can be replicated for other regional languages.



# “WELCOME TO KOLONG KOLA KENDRA “

Kolong Kala Kendra (KKK), registered under Societies Registration Act, 1860 with Registration No. NG/254/D/12 of 2000 is a socio-economic.

Annual Report



The mission of Kolong Kala Kendra is to send the society the message containing the song

## Mask Making at Kolong Kala Kendra

<b>ORIGINAL TITLE</b> Mask Making at Kolong Kala Kendra	Through its website <a href="http://www.kolongkalakendra.org">www.kolongkalakendra.org</a> , the Kolong Kala Kendra shares data, annual reports, photographs, core activities etc. with the rest of the world. This has enabled interested people all over the world to contact the organization and acquire knowledge on Folk Art (sanchi bark making, wood carving, mask making, weaving, etc.). Their number may be over 5000.
<b>PRODUCER</b> Kolong Kala Kendra	
<b>LANGUAGE</b> Assamese and English	
<b>PROJECT LOCATION</b> Assam	
<b>MEDIA FORMAT</b> Online	
<b>WEBSITE</b> <a href="http://www.kolongkolakendra.org">www.kolongkolakendra.org</a>	

Launched on the 1st of January, 2000 by Mr. Chitaranjan Borah, Kolong Kala Kendra describes itself as a socio economic cultural organization situated in the Nagaon and Morigaon districts of Assam, and has worked with a cultural perspective in sectors like health, education, environment, tourism, livelihoods, etc.

One of its core activities is preserving the tradition of traditional mask making by offering training in the same. These masks, usually representing mythological characters, are used in the traditional Assamese theatre called “Bhaona”, and are made from materials like bamboo, terracotta, metals, etc.

Trainers at the Kolong Kola Kendra use technology like the internet, and computers to teach its students the traditional art. Data like designs and old art forms are stored using modern technology

Through its website [www.kolongkalakendra.org](http://www.kolongkalakendra.org), the Kolong Kala Kendra shares data, annual reports, photographs, core activities etc. with the rest of the world. This has enabled interested people all over the world to contact the organization and acquire knowledge on Folk Art (sanchi bark making, wood carving, mask making, weaving, etc.). Their number may be over 5000.

It has also helped promote the culture of Assam, especially mask making, and popularize it worldwide. In this way, a traditional art form which is in its dying stages is being helped to survive using information and communication technology.



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# e-Environment & Tourism

The concern and efforts to promote sustainable environment and tourism practices is a global phenomenon. This has become all the more important due to increasing damage to our richness in environment and damage to our tourism relevant natural treasure.

There are multiple efforts to use ICTs including web and mobile technology and platforms to promote community driven environment and tourism programmes. Being one of the most environmental hot spots in the world, the North East India region perhaps require need based and working ICT deployments to promote its environment and tourism in the most naturally convenient manner. Any such practices by the public and the private sector including civil society efforts that promote such good initiatives in the region are being recognized by this category.

>> Amazing Arunachal - Winner



## Amazing Arunachal

### ORIGINAL TITLE

Amazing Arunachal

### PRODUCER

Amazingarunachal.com

### LANGUAGE

English

### PROJECT LOCATION

Arunachal Pradesh

### MEDIA FORMAT

Online

### WEBSITE

www.amazingarunachal.com

The information is put across in simple yet precise manner which has proved a boon in planning holidays to Arunachal Pradesh. The portal has estimated more than 5000 visitors since inception.

www.amazingarunachal.com is a website dedicated to promote tourism in the State of Arunachal Pradesh. The portal since 2007 has details of all the districts of Arunachal Pradesh. It has regular updates of information and imagery of every festival that brings about immense trust and regular usage of the website. The online platform has an exhaustive list of information related to: Places and Festival of tourist interest, Hotel Information, Travel Information and itineraries, information and imagery tribes and cultures.

The www.amazingarunachal.com is determined to emphasize the exquisiteness of this shrouded paradise through the spectacular photographs. Basically it's a photo based website. The central concept of the website is to display the amazing things God has endowed to this emerald terrain of lively tribes. The portal has many unique features. For instance, the Holiday idea section (Tour Planning Guide) of the site is the first of its kind for this state of Arunachal Pradesh online. The information on the site is very well complimented with vast and breathtaking range of photographs covering both nature as well as the people of this amazing state.

Since its launch in year 2007, www.amazingarunachal.com has been providing constantly updated and relevant information to tourist about the Arunachal Pradesh. The online platform has an exhaustive list of information related to: Places and Festival of tourist interest, Hotel Information, Travel Information and itineraries, information and imagery on tribes and cultures.



# e-Financial Inclusion

This category has been instituted to recognize meaningful and sustainable projects that use need based and relevant ICT tools, applications and networks to streamline and improve financial services delivery in North East India or in any State there in. The practices recognized are inclusive of any initiatives by the public and private sector banking and financial institutions including role played by SHGs and NGOs in credit delivery, financial awareness, account opening, and financial literacy and other efforts. Practices that have shown demonstrable output and outcomes to bridge the gaps in financial services delivery including information services in the region are being recognized by this category.

- >> Tripura Bamboo and Cane Development Centre (TRIBAC)  
- **Winner**
- >> Banking Service for Socio Economic Development of Rural Community of North East India through Drishtee Customer Service Point - **Special Mention**



## Tripura Bamboo and Cane Development Centre (TRIBAC)

### ORIGINAL TITLE

Tripura Bamboo and Cane Development Centre (TRIBAC)

### PRODUCER

Tripura Bamboo and Cane Development Centre (TRIBAC)

### LANGUAGE

English, Bengali & Kokborok

### PROJECT LOCATION

Tripura

### MEDIA FORMAT

Mobile; Offline; Community;

### WEBSITE

www.tribac.in

Since 2003 and 2008 TRIBAC has been using the power of the basic ICT tools like the PCs and the mobile phone network to promote financial inclusion among the thousands of small and marginal bamboo entrepreneurs. The usage of mobile has helped in linking the producers with the market and credit facilities on real time basis and thereby promoting sustainable rural business. Through its dedicated website [www.tribac.in](http://www.tribac.in), TRIBAC has been able to link the demand and supply side of the rural bamboo based enterprise development.

Tripura Bamboo and Cane Development Centre (TRIBAC) is an autonomous, community-based non-profit organization - registered under section 25 of the companies act, conceptualized and initiated by INBAR, an International Network for Bamboo and Rattan, which has been created by 30 member states of the United Nations and has headquarters at Beijing, China. The TRIBAC was incepted on May 2003 with a mission to implement assorted employment generating cluster development activities based on bamboo through active community participation and handholding to the small producer's community.

Over a period, TRIBAC is facilitating mobile phone network among the small producer in particularly women. The PRA exercise found that most of the small entrepreneurs could not access the services of the common facility centre(CFC) and also facing the problems on market information, timely procurement of raw materials, supply the finished goods to the buyers and price negotiation. Piloting mobile phones network within the cluster has solved the problems drastically and the impacts found on livelihood and develop the enterprises.

The community cluster enterprises have been linked with mobile phone inventory system, which runs by TRIBAC. The mobile phone system enables CECs and TRIBAC to manage team of SHGs, as well as build effective partnerships with private enterprise. Under the project 15 community cluster enterprise centre developed wherein 318 small MSE involved. Each centre provided a low cost mobile hand set and small producers necessary information passed through an operator land phone operator at help desk mechanized with GPS hand-set to locate the CEC and contact immediately for next follow-up action.


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## Banking service for rural community of North East India

### ORIGINAL TITLE

Banking Service for Socio Economic Development of Rural Community of North East India through Drishtee Customer Service Point

### PRODUCER

Drishtee Development and communication Ltd.

### LANGUAGE

English, and local languages

### PROJECT LOCATION

North East India

### MEDIA FORMAT

Online/Offline

### WEBSITE

[www.drishtee.in](http://www.drishtee.in)

Towards financial inclusion in North East India, and to provide banking service at the door step of rural community and to meet the financial Inclusion mission, Drishtee and State Bank of India (SBI) have joined hands to form an alliance in providing financial and Banking service to the unbanked rural communities in the North Eastern of India . since 2006, Drishtee has more than 1350 plus Business Correspondent franchisees covering around 3000 plus villages in 6 states of North East viz Assam , Manipur , Nagaland , Meghalaya ,Arunachal Pradesh and Tripura. The initiative has helped to reach out to more than 5000 citizen clients.

Drishtee and State Bank of India, with the objective to fulfill the gap of unavailability of options to save money and distress migration of people from rural to urban formed a national alliance in providing banking service to unbanked rural communities in North East of India in 2006. Drishtee uses local entrepreneurs and information technology to build a unique 'last mile' banking network. The entrepreneur being local is available 24x7 in the village and the technology enables to connect the community through the entrepreneur to the bank. Initially Drishtee and SBI tested various technologies but faced challenges like non-availability of electricity and training the entrepreneur on technology.

Drishtee is currently uses the kiosk banking technology developed by TCS, which uses a netbook -a low power consuming and has built-in power backup device and has a simple to use interface. This being a real-time transaction technology minimizes the risk of fraud. After successful testing Drishtee has expanded to more than 3500 villages with help of 1350 CSP in 6 northeast India i.e Assam, Manipur, Meghalaya, Nagaland, Arunachal Pradesh and Tripura. The entrepreneur runs it with commercially viable operation by charging the community a nominal fee for the services provided.



# For over 20 years, the Internet Society has been involved in Internet development work around the globe.

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Specific project examples include Internet exchange point development around the world, more cost-effective routing and network deployment, and wireless projects in rural India to promote connectivity and economic development.

For more information on our Wireless for Communities project in India visit [www.wforc.in](http://www.wforc.in), or to become a member of the Internet Society and help support efforts like this visit <http://www.internetsociety.org/join>





# e-News & Media

Dissemination of news and media content has become easier and better with ICTs support including mobile and web technology. This has resulted in more widespread reach of news content and information to wider population even in remote and furthest location. With ICTs there have emerged alternative channels to publish and disseminate news and information. For the citizens, there are today better choices available to subscribe to news and content as relevant for knowledge and daily use. This category recognizes and promotes such news and media practices in North East India that uses ICTs innovatively to promote daily happenings in the region and other parts of India and the world to citizens especially catering to the youth and educated populace in the region.

- >> Voice of Sikkim - *Winner*
- >> North East Jobs - *Special Mention*



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## Voice of Sikkim

<b>ORIGINAL TITLE</b> VOSB	
<b>PRODUCER</b> Voice of Sikkim	The 'Voice of Sikkim' Android News Apps "VOSB"
<b>LANGUAGE</b> Multilingual	application since 2012-13 has been providing SMS based news and information
<b>PROJECT LOCATION</b> Sikkim	delivery to citizens in Sikkim in remote locations. The pilot project has turned out to be
<b>MEDIA FORMAT</b> Online	a magic boon for the vast people across the state. By
<b>WEBSITE</b> www.voiceofsikkim.com	now it has more than 1500 subscriptions and more than 40000 users.

In a state where the delivery of newspapers can often be disrupted due to bad weather conditions or landslides, a service that delivers the latest, relevant news in SMS format can become very popular.

VOSBUZZ, or the Voice of Sikkim app, launched on June 2012-13, also found such a response. It received 1500 subscriptions within a week of release, and at the time of filling in the nomination forms for this award, it boasted of 43,000 users.

An Android App, it delivers news/notifications/detailed stories similar like an sms on the users' phone and is usable anywhere across the world. This application uses GCM technology to deliver in depth news as fast as possible to its users.

Along with general news items, it provides locally relevant news weather updates, natural disaster alerts, examination/admission alerts, etc. and is easily accessible regardless of physical access being hampered due to landslides, etc.



## North East Jobs

### ORIGINAL TITLE

North East Jobs

### PRODUCER

Dinesh Basumatari & Narayan

### LANGUAGE

English

### PROJECT LOCATION

North East Region

### MEDIA FORMAT

Online

### WEBSITE

www.northeastjobs.in

By now the platform has more than 5000 visitors providing employment opportunity news which is a critical need for the youths today.

The requirements of job seekers are different in various parts of the country. If region specific information related to their job searches can be provided to them, they stand to benefit greatly.

The sending and receiving of information is a challenge in the North East Region of the country due to various factors. This becomes a major obstacle in the way of job seekers, as they have no way of knowing of vacancies, exam and interview dates. Initiative like www.northeastjobs.in has helped in bridging this information gap.

The www.northeastjobs.in is a job portal that offers information about vacancies, exam and interview alerts and other related information for jobs in sectors like banks, defence, oil, central government, education, etc.

Launched in June 2012, it claims to have benefitted around a 1000 people.

With options for searching its database state wise, position wise, sector wise, qualification wise, etc. it offers a wide range to job seekers. It also offers sample papers and exam results, and has been 'liked' by 164 people on facebook till date.

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## e-NGO

This category seeks to recognize and promote Non-Governmental Organisation (NGOs) in North East India that is using Information Communication Technology (ICT) and digital media for good governance practices benefiting societies and communities at large. It seeks to recognise, salute and honour best NGO practices using ICT in any State of North East or in entire region. The recognition is specific to practices by NGOs promoting advocacy, social commerce, and sustainable development using ICTs. It seeks to promote practices by NGOs using ICTs towards communication and outreach, and organizational efficiency.

- >> Eco Tourism Society of North East (ESNE) - **Winner**
- >> Gram Vikas Parishad - **Winner**
- >> NIMS Educational & Social Association (NESA) - **Winner**



## Eco Tourism Society of North East

<b>ORIGINAL TITLE</b> Eco Tourism Society	<p>The Ecotourism Society of North East (ESNE) has taken a responsible step towards highlighting its specialties while speaking of being environment friendly in the same breath. ESNE, recognizing and appreciating the relevance of ICT tools, has been promoting the cause of responsible and sustainable tourism as a social enterprise with a bright scope in the future.</p>
<b>PRODUCER</b> Eco Tourism Society	
<b>LANGUAGE</b> English	
<b>PROJECT LOCATION</b> Assam	
<b>MEDIA FORMAT</b> Online	
<b>WEBSITE</b> <a href="http://www.ecotourismsociety.in">www.ecotourismsociety.in</a>	

The Ecotourism Society of North East (ESNE), established in the year 2010, is an organization dedicated to the development and promotion of tourism in a sustainable way in North East India. Run by a group of young professionals with diverse backgrounds (tourism, hospitality, yoga, languages, etc.), they have offices and staff in five to six locations across Assam.

The group harnesses local customs and rituals and builds events and tours around the same, giving tourists a more integrated and wholesome experience, while at the same time exhorting them to stay tuned in to environmental issues.

The detailed and exhaustive website of the organization is full of events (past, present and future) and pictures, giving a satisfying virtual glimpse of the region and the group's activities. It also shows that although they have offices in various parts of the state, much of their work, interaction, etc. is conducted virtually.

Additionally, having a Facebook page and a Twitter handle helps them in communicating with people of all age groups and professions. The number of visitors on their website as on 25th of Sep 2013 was 39,851.

The use of mobile telephony and e-mail for internal and external communication is a given, as are other ICT tools (laptops, desktops, printers, scanners, digital cameras, etc.)



## Gram Vikas Parishad

### ORIGINAL TITLE

Gram Vikas Parishad

### PRODUCER

Gram Vikas Parishad

### LANGUAGE

English

### PROJECT LOCATION

Nagaon District, Assam

### MEDIA FORMAT

Online

### WEBSITE

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

The area that the GVP works in is remote and spread out. The adoption of ICT especially the website domain since 2008-09 is a big boost for it in terms of time and money saving, helping them to redirect thus saving manpower and financial resources in implementing their initiatives in a more effective manner. GVP's outlook of ensuring efficiency by adopting best ICT practices right from the beginning has helped in creating an eco-system of ICT by imparting computer literacy to people in the region.

The Gram Vikas Parishad is a registered NGO working for the welfare of socio-economically underprivileged people in some of the most backward districts of Assam. It is headquartered Rangaloo village, which is situated in the state's most populous districts, Nagaon, also home to the Kaziranga National Park.

GVP has been actively involved in development activities in the region since 1900-91. A majority of its activities are focused on youth and children. It is run by 11 members and over 200 hundred trained staff, and is the recipient of several awards, e.g., the National Youth Award in 2007, Chief Minister Best Community Award'2012, etc.

GVP has been using ICT tools right since its inception like fax machines, etc. and has progressively moved to using computers, scanners, printers, etc., thereby ensuring improved internal efficiency in managing and documenting data. The two resources saved thereby, time and money, has been put to greater use in the service of the people.

By harnessing the internet and mobile phones, it has acquired external visibility and a greater outreach. The launch of the GVP website five years ago and the use of mobile phones has allowed for social inclusion, to reach out to a larger number of potential and actual beneficiaries with their different initiatives.



## NIMS Educational & Social Association (NESA)

<b>ORIGINAL TITLE</b> NIMS Educational & Social Association (NESA)	<p>Usage of ICTs for community development objectives and goals is still a rare phenomenon in North East India. Adoption of ICTs in such an ICT poor environment is an inspiring and learning experience. The lead role and initiative taken by NESA since 2005-06 in promoting development objectives and services delivery in Karbi Anglong District in Assam using ICTs especially the web platform has been innovative. The adoption of introductory ICT means and practices by NESA has contributed in advocating and promoting good NGO practices in the district and in Assam.</p>
<b>PRODUCER</b> NIMS Educational & Social Association (NESA)	
<b>LANGUAGE</b> English	
<b>PROJECT LOCATION</b> Karbi Anglong District, Assam	
<b>MEDIA FORMAT</b> Online	
<b>WEBSITE</b> <a href="http://www.nimsnesa.org">www.nimsnesa.org</a>	

The predominantly tribal area of Karbi Anglong district in Assam is one of the 250 odd backward districts in Assam and India. With a population whose main occupation is shifting (jhum) agriculture, the area needs vast doses of development initiatives that will help it adopt best practices and provide its inhabitants apt choices vis-à-vis livelihood, education and health care, among other things. Adoption of Information Communication Technology (ICT) is one such intervention that has demonstrated how to accelerate effective development processes and practices.

The NIMS (National Institute of Management & Science) EDUCATIONAL & SOCIAL ASSOCIATION (NESA)<sup>1</sup>, since 2005-06, NESA, with its headquarters at Howraghat Town in the district, is one of the organisations that has stepped in to fill this gap with ICTs, especially the Internet. In the past few years, NESA has adopted the Internet / Web platform to provide educational, health and livelihood based information and services to women & children, the youth and the aged in both rural and urban areas cutting across diverse sections of the society.

Further, NESA has provided skill based training to hundreds of women and youth in computer literacy to contribute to the qualified pool of human resources in the district. While NESA adopted ICT tools from inception, the launch of its website, in 2010, [www.nimsnesa.org](http://www.nimsnesa.org), has made advocacy and communication much easier.



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