

Role of ICTs in Rural Development

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Introduction: Importance of ICTs for Rural Development

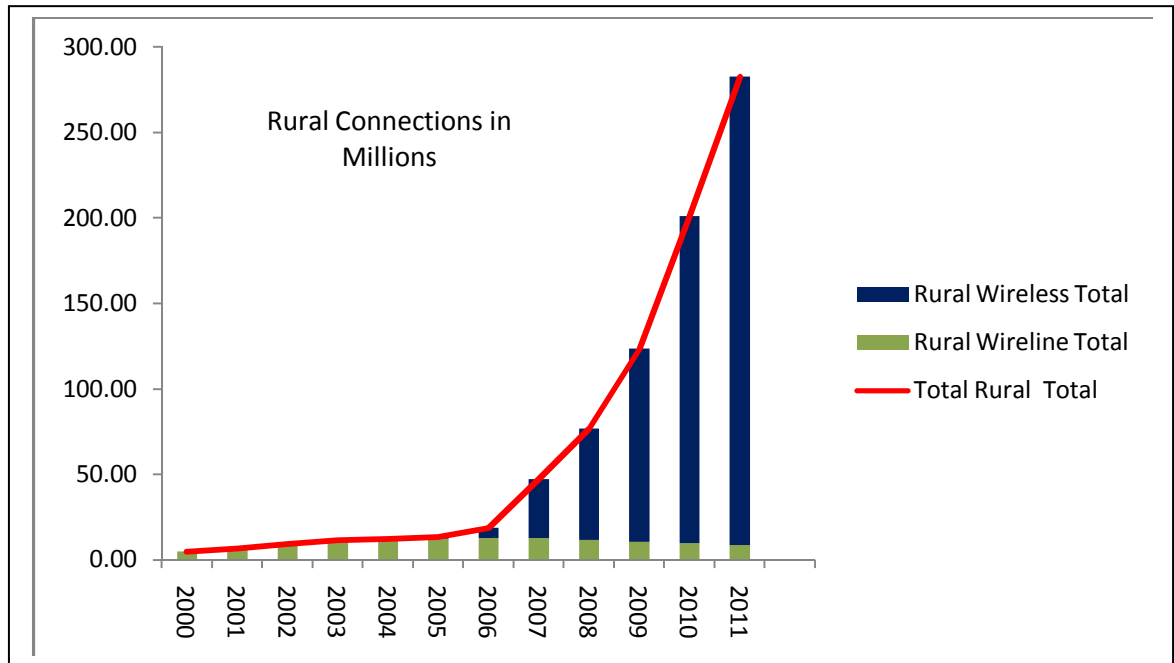
Given the importance of Information and Communication Technologies (ICTs) in national development, countries across the globe have put in place mechanisms such as Universal Service Funds and other forms of Government intervention to achieve Universal Access to ICTs. These focus inter alia on bridging the digital divide between urban areas/populations and rural areas/populations. The significance of bridging this divide in developing countries stems mainly from the fact that rural areas often lack or lag behind urban areas in terms of essential infrastructure and services such as transportation, health, education and government services. This creates a politically and ethically unacceptable inequality of services and opportunities for rural populations and prevents them from participating appropriately and fully in socio-economic and political life of the nation. Rural isolation and deprivation can negatively impact growth and certainly growth cannot be sustainable unless it is inclusive. This is especially true of a nation like India where more than 70% of population resides in rural areas and is largely engaged in low productivity agriculture and allied activities. ICTs can overcome many infrastructural constraints. Through ICTs people in rural areas can connect with the local, regional and national economy and access markets, banking/financial services and employment opportunities. ICTs serve also as a instrument of awareness creation and feedback giving rural people a voice in the nation's socio-political life. ICTs can act as a channel of delivery of e-Government services including health and education. Thus bridging the digital divide also bridges the overall infrastructural gap and addresses other constraints faced by rural areas. ICTs can help mainstream rural populations.

Growth in Rural Telecommunications

In the past decade, India has seen a veritable telecommunications revolution which is the result of effective regulatory and policy environment coupled with an enterprising telecommunications sector made of both public and private service providers. The growth of rural Teledensity is remarkable as it has risen to 36% as on 30th August 2011 from a mere 1.7% in 2004. In fact, today rural teledensity is growing at a much faster rate than urban teledensity. At the beginning of 2011, there were 282.29 million rural connections (most of which are wireless), as compared to a mere 4.84 million (only landline) phones in the year 2000. Practically all growth has come from mobile telephony and the private sector has played a huge role in this expansion. With an average family size of five, it may be assumed that almost every rural household owns a mobile phone. If not, then there are Public Calling Offices and Universal Service Obligation Fund sponsored Village Public Telephones in almost every inhabited census

village in the country¹. Rural India is certainly well connected through telephones though not to such an extent by the internet. Yet, even in small towns and villages a good percentage, of Indians do access the internet regularly in shared spaces (public kiosks, offices, educational institutions etc). The smart phone is the leading mode for individual internet access suggesting a good market potential for wireless broadband services.² Certainly the growth of rural telephony, especially mobile telephony has brought about improved connectivity. However, much more needs to be done if the benefits of telecommunications connectivity are to translate into overall rural development. Improving broadband penetration is one key focus area and this is being addressed actively by the Department of Telecommunications. Thus the Universal Service Obligation Fund has launched a Wire line Broadband scheme in 2009 and is at an advanced stage of formulation of a rural Wireless Broadband scheme. It is also to fund the National Optic Fibre Network (NOFN) which shall connect 2,50,000 village panchayats³ and co-located Bharat Nirman Kendras (erstwhile Common Service Centres (CSCs)) with Optic Fibre thereby providing high speed broadband facilities. Bandwidth from NOFN will also be available to all licensed telecom service providers to provide broadband services in rural areas.

Figure 1: **Growth of Rural Connections**



Why is Mere Connectivity not Enough:

¹¹ www.usof.gov.in

² "Smartphones preferred over PCs for surfing web: Survey" Financial Express, August 30 2011

³ Village local self-government unit

It is increasingly being realized and articulated that Universal Telecommunications Access/Service or connectivity is a necessary but not sufficient condition for bringing about positive outcomes such as improved socio-economic status and greater political participation. (These are the beneficial results traditionally associated with ICTs.) To achieve these ultimate objectives, ICTs should not only be available and affordable, but must also deliver relevant and usable content and the target beneficiaries. The latter must in turn be able to access, assimilate and make meaningful use of the services and content delivered through ICTs. Both content and capacity building are essential if ICTs are to achieve their promised impact on rural development. This is depicted in the figures 2 and 3 below.

Figure 2: **Desired Outcomes of Connectivity**

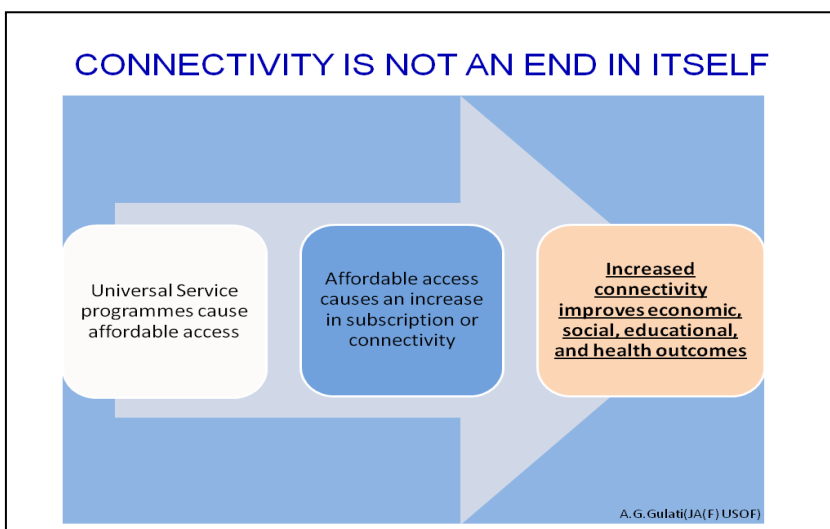
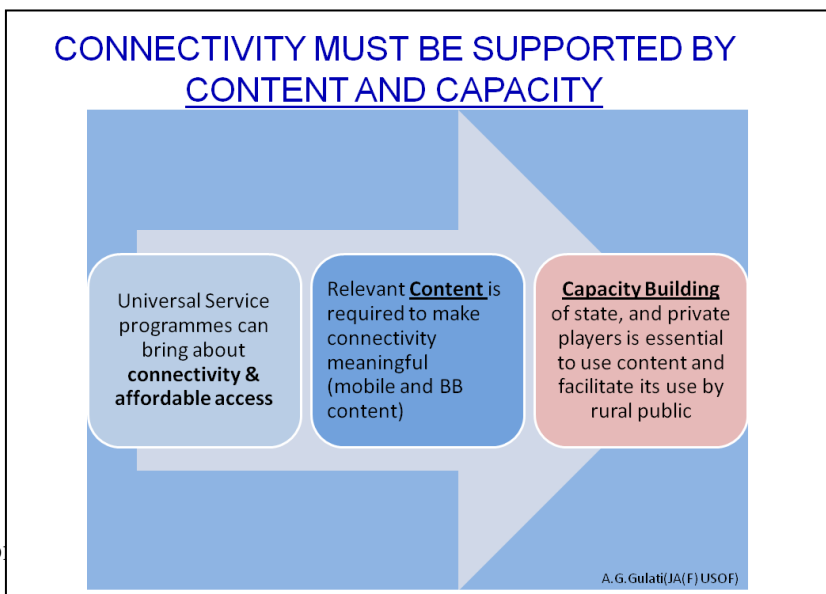


Figure 3: **To Achieve Desired Outcomes, Connectivity must be supplemented by Content and Capacity**



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ation who would benefit from
ate, employed/self employed

persons who can understand and benefit from the available English language content. However for the vast majority in rural India, language if not literacy would be a major barrier. At present, the overall literacy rate in India is 75% and rural literacy stands at 68.9%.⁴ Even if literacy is not an issue, relevant content would need to be available in regional languages. Most rural Indians who are as it is struggling to eke a living in agriculture or allied activities would have no use for broadband beyond mere entertainment and it is debatable whether they would use it at all, even if it were available and affordable. Improving the status of access for women and the disabled would raise even more difficult challenges in terms of relevant and accessible technologies and content. This raises the question of 'How then would broadband availability in rural areas translate into rural development'? Even in countries like Malaysia with much higher rural literacy rates of almost 89% and broadband coverage of more than 50% of population, the Government has to make active efforts to popularize the use of subsidized rural Community Broadband Centres (CBC). They run customized training courses on broadband usage tailored to the needs and interests of various age groups of rural society. They integrate its use in school curriculums and encourage children to learn online games and crafts and to use Facebook at special training classes held in the CBC. The franchisees running the CBC are specially trained and may even go door to door to promote broadband usage. We would need similar efforts to popularize broadband usage in rural India.

Relevant applications and content would draw people to broadband usage as rural Indians would easily recognize their potential to augment incomes and access useful e-services. Such a 'pull' would result for example when National Rural Employment Guarantee Schemes (NREGS) wages, Government pensions, subsidy for food and fertilizers etc are delivered through mobile/broadband enabled bank accounts facilitated by trained Rural Business Correspondents and supported by online bio-metric authentication enabled by Adhaar⁵. Similar results would flow from wider availability of services such as Department of Agriculture's *Kisan*⁶ call Centres where farmers would obtain crop/weather/market advise and information through mobiles/broadband. An SMS/online feedback and grievance redress system for all government services on the lines of NREGS would encourage rural Indians to contact the Government through ICTs. This would empower them while also generating a much needed transparency and accountability in Government service delivery.

In this regard it is heartening to note that the stated objectives of the draft National IT policy include the goals of making at least one individual of every household e-literate and of leveraging ICTs for key social sector initiatives like education, health, rural development and financial services to promote equity and quality. Equally significant are the objectives of enabling access to content and ICT applications by differently-abled people to foster inclusive development and of encouraging use of mobile phones for value added services and transactional

⁴ <http://makanaka.wordpress.com/2011/04/01/indias-2011-census-a-population-turning-point/>

⁵ Unique Identification Authority of India's Identification Number

⁶ Farmer

services such as financial services. Indeed the mobile phone can be much more than a tool of connectivity when supported by relevant content and services. The stated mission draft National Telecom Policy 2011 includes creating a knowledge based society through proliferation of broadband facilities in every part of the country. Its objectives include enabling citizens to participate in and contribute to e-governance in key sectors like health, education, banking etc to ensure equitable and inclusive growth. and to reposition the mobile phone from a mere communication device to an instrument of empowerment that combines communication with proof of identity, fully secure financial and other transaction capability, multi-lingual services and a whole range of other capabilities that ride on them and transcend the literacy barrier. The strategies proposed to achieve this include not only recognizing telecom and broadband connectivity as a basic necessity like education and health and to work towards a right to broadband but also and importantly, developing an eco-system for broadband in close coordination with stakeholder ministries to ensure its availability along with and that of low cost customer premises equipment and an environment for vigorous development of relevant applications. The policy document also indicates that the Department of Telecommunications would work closely with Department of IT to promote content creation in vernacular languages to stimulate the demand for broadband. India could consider a model adopted by other nations such as Singapore whereby a high level nodal authority oversees the adoption of broadband including inter alia capacity building and content development

Integrating Content and Capacity Building into ICT Promotion Schemes

It is clearly the content and services delivered through mobiles and broadband that have the power to transform rural India. One important step would be to provide the entire content suite at the *Bharat Nirman Krendras* (CSCs) located in the village panchayats. This would include e-government services, telemedicine facilities, distance learning facilities and ICT training facilities etc. Apart from this, commercial PCO type public access points can provide rural public with a place from which to access either general or specialized services including entertainment services. Health Centres and Schools in villages would need to be broadband enabled with relevant services and content and schools can also serve as a public access points/broadband training venues after school hours. However, a key requirement is proper training of officials/franchisees who run these services. Support from the Government by way of not only its own e-content development but also funding for private entrepreneurs engaged in rural-centric content development and training facilities is a must.

There are excellent existing examples of mobile based value added services being provided to rural population. Celebrated examples such as ITC's e-Choupal and Kerala Government's *Akshaya* project show us the way. As mentioned earlier, certain groups of society such as women and the disabled face unique challenges and need special efforts to make available ICTs accessible and meaningful. The Department of Telecommunication's Universal Service Obligation Fund has recently launched *Sanchar Shakti* a scheme aimed at ICTs for rural women's Self Help groups (SHGs) which includes projects to provide pertinent information to

rural women in local language through their mobile phones. Nine projects have been initiated which provide mobile value added services (information on education, health, financial literacy, government schemes, social issues, vocational training, input and output prices and other market related information) specifically tailored to the entrepreneurial activities being carried out by these women (bee keeping, livestock rearing, agriculture, textile work etc). The projects would cover about 20,000 rural women in nine states of India. The unique feature of this project is the multi-stakeholder approach which makes it a path breaking effort to ensure success of the project by focusing not only on technology but also content and capacity building. In these projects, the Telecom Service Provider (TSP) who has the overall responsibility for the project must ensure that it partners with an NGO which will help identify the SHGs' livelihood related content needs. (A Content Developer/Provider partner would develop content for the project.) The NGO will also assist the TSP to train the SHG members in use of mobile phone so as to enable them to access the content (delivered through SMS and Integrated Voice Response Systems (IVRS)), assimilate it through group discussions and training sessions and to utilize it to improve their awareness and independence levels. (Figure 4). As the Proof of Concept stage of this programme is being implemented it has become apparent that the local government bodies and district administrations would constitute another important stakeholder whose involvement will ensure delivery of relevant information and services to the rural SHGs without the content provider TSP having to search for it.

USOF's programme for the persons with disabilities (PwDs) in rural India⁷ similarly lays stress on multi-stakeholder participation and partnerships as an essential elements.(Figure 5). This programme invites TSPs to apply for subsidy for Rural ICT centres equipped with Assistive Technologies (ATs) and relevant content and to provide rural PwDs with AT enabled mobile phones with/without access to specialized content. Here again, specific role and responsibilities have been assigned to each stakeholder including related Ministries and Departments (Human Resources, Social Justice and Empowerment etc) so as to ensure programme success. Most of all it has been stressed by PwDs during the consultation process that there should be 'nothing about us without us' implying thereby the active involvement of the target beneficiaries and their representatives in programme evolution and implementation. This aspect should be quite obvious but is actually often overlooked in the design of Government schemes.

Figure 4: USOF's *Sanchar Shakti* Programme: Stakeholder Partners and Responsibilities

⁷ Refer to Kurukshtetra, October 2011

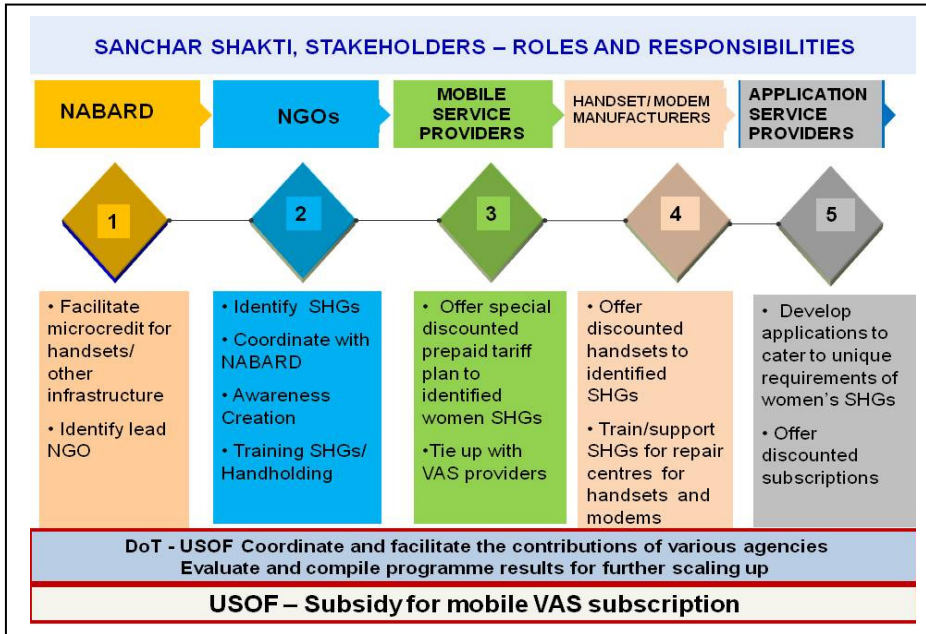
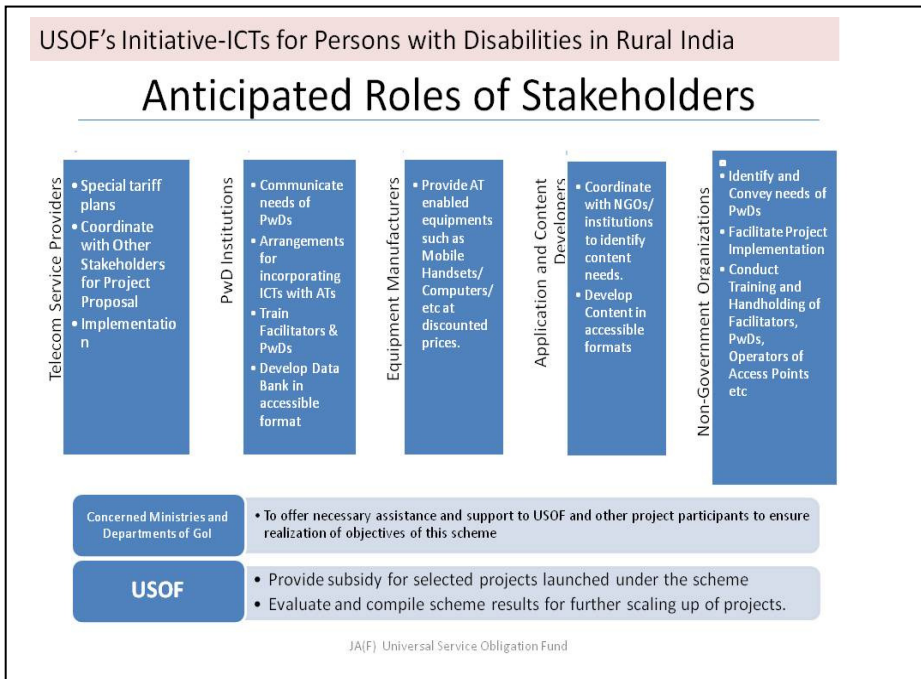


Figure 5: USOF’s Programme for UCTs for Rural PwDs: Stakeholder Partners and Responsibilities



Going Forward: Realizing the potential of ICTs to transform Rural India

India has achieved tremendous increase in rural tele-density and the Government’s focus is now squarely on rural broadband. Going ahead, apart from ubiquitous and affordable access to ICTs, greater emphasis must be placed on the availability and relevance of services and content

in local language or multi-media/accessible format as per needs of target beneficiaries. Also, capacity building of various stakeholders to use ICTs is essential for the goal of ICT enabled rural development to be achieved. This requires a shift in focus away from purely technology related issues to the evolution of policies, strategies and schemes that ensure cross-sectoral and multi-stakeholder involvement and engagement including most of all the local communities and target beneficiaries themselves. The draft National ICT and Telecom Policies of the Indian Government and the recent Special Initiatives of the USOF are steps in the right direction.

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