



# Solution Exchange ICT for Development Community Consolidated Reply

## *Query: ICT and Livelihoods - Experiences*

Compiled by [Sajan Venniyoor](#), Resource Person and [Gitanjali Sah](#), Research Associate  
22 January 2007

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**From Anita Gurumurthy, IT for Change, Bangalore**  
**Posted 9 December 2006**

Dear Members,

My organization, IT for Change works on research and policy advocacy in the information society area and also implements demonstration and action research projects. We seek to push for perspectives that address social justice and equity. One challenge that seems to come up in the ICT area is how to reconcile economic empowerment issues with social empowerment / community rights issues. Since both these issues are critical, I am interested in a discussion on how this balance is achieved.

There are clear illustrations where telecentres are seen as offering openings for employment in rural areas; small businesses - as in the case of Kudumbashree - that pertain to ICT hardware have been explored; and in the case of SEWA, we have seen the potential of ICT to provide a systemic backbone to existing organizational systems in job creation. SEWA also seems to have used eCommerce platforms for furthering their market reach. Then there are models linked to ICT-based training curricula that equip learners with new skills for livelihoods.

I would be interested if members could share the experiences they know about:

- How, and in what ways, have ICT been used to take existing livelihood interventions to the next level – through offering greater access to markets, easier aggregation, higher turnover etc?
- Whether and how ICT-based livelihoods transform people's lives, and if project-level experiences on this suggest economic and social impacts.

I am particularly interested in looking at livelihoods programs that have been based in community contexts for sometime, and have subsequently introduced ICTs. In these cases, we will have a clear set of learnings on what conditions pertaining to community mobilization, organizational systems etc need to exist for maximizing ICTs in the livelihoods domain.

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## Responses received with thanks from

1. [Santanu Sengupta](#), GRASSO (Grameen Sanchar Society), Kolkata
2. [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd., Anand, Gujarat
3. [Ashish Sen](#), Voices-Madhyam Communications, Bangalore

4. [Surekha Sule](#), National Institute of Rural Development, Hyderabad
5. [Ujjal Hazarika](#), NASSCOM Foundation, Delhi
6. [Harshavardhan](#), IT for Social Change, Mumbai
7. [Surender Rana](#), TARAhaat, New Delhi
8. [M. Moni](#), NIC, New Delhi
9. [G.V. Ramanjaneyulu](#), Centre for Sustainable Agriculture, Secunderabad

*Further contributions are welcome!*

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## Summary of Responses

A query seeking experiences of members on the socio-economic impact of Information and Communication Technology (ICT) interventions on existing livelihood projects received responses that identified projects and experiences from rural and urban India. ICT initiatives which demonstrate the correlation between ICT and socio-economic empowerment of **agricultural farmers, dairy farmers, fishermen, rural youth and women**, among others, were discussed. India being predominantly rural, members stated that special attention needs to be given to rural livelihoods. These examples are proof that ICTs, when unleashed in villages, can do as much for development as in urban areas.

Akashganga in [Gujarat](#) uses simple but appropriate ICT solutions that facilitate timely collection of milk and thereby generates higher earnings for **milk producers** in rural India. For several years, computers have been used for a very basic activity like collection of milk, earning the confidence of its rural beneficiaries. This has resulted in speedier collection of milk, timely disbursement of payments, lower prevalence of corrupt practices, and has helped improve the overall effectiveness of Dairy Cooperative Societies (DCS).

In **the agricultural sector**, ICTs have spurred the development of innovative programmes and research. In the Manvat District in [Maharashtra](#) and in [Chennai](#) ICTs are used to obtain market information, information on what crops to plant, where to sell their produce and buy inputs, how to bypass middle-men and get better prices for their products. The Department of Information Technology has set up various [web portals](#) for this purpose. ICTs have empowered farmers by rationalising supply chains which improve productivity.

In [Kerala](#) and [Pondicherry](#) ICTs are being used as a medium to deliver key services to **fishermen**. Regular weather reports of the Indian meteorological office can be accessed through computers, weather reports are then 'narrowcast' over loudspeakers and also through Very High Frequency (VHF) radios enabling the fishermen to determine low and high tide before sailing off. The content also includes discussions and expert opinions on livelihood options and market information.

In the villages of [Maharashtra](#), through the One Village One Computer (1V1C) project, near-literate village folks have learnt not only handle computers but also to solve some of their pressing livelihood problems through computer applications. The **local youth** in the Parbhani district of Maharashtra generated computerised databases of the unemployed eligible for the central government's Employment Guarantee Scheme (EGS) and communicated this to the administration through the internet. This two-

way flow of information brought development: investment in agriculture, water works and sanitation resulting in employment.

In [West Bengal](#), the rural youth are doing business over mobile phones and at community information centres. They earn a substantial income while staying at their own villages, and remain relatively unburdened with flexible loan repayment options. [TARAhaat's](#) multi-media tools train the youth on basic entrepreneurship skills, helping them become entrepreneurs in any business area they choose to pursue.

In rural, urban and semi-urban areas - for example in [New Delhi](#), [Tamil Nadu](#) and [Karnataka](#) - women and their Self-Help Group (SHG) networks are using ICTs in familiar and empowering spaces with content developed specifically to meet their needs. Interactive multimedia content is being used to support vocational and life-skills training, where particular attention is given to income generating activities and the need for innovative production and marketing.

Members agreed that the cumulative efforts of the micro-level economic impact of these programmes derive macro-level social impact. These initiatives clearly show the capacity of such interventions both to enlist and expand existing networks and to bring diverse and excluded people within a common social place. This can increase the flow of information, improve communications and enhance the individual's confidence and capacity to benefit from wider social networks. ICT projects have helped women participants move from the domestic to the public sphere through interactions at ICT centres.

ICT centres have shown a considerable capacity to overcome ethnic, religious and caste barriers.

Members' experiences show that ICTs can have a significant socio-economic impact in improving livelihoods and the need is to create a networked society where knowledge takes central place in economic opportunities. It is clear that existing livelihood programmes can be strengthened with ICT inputs. Members concluded that "Mahiti (Suchana) Saksharata" (Information literacy) is the base of "Arthasaksharata" (Economic literacy).

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## Comparative Experiences

### Gujarat

**Akashganga's ICT tools for the Indian dairy Industry** (from [Ujval Parghi](#), *Shree Kamdhenu Electronics Pvt. Ltd., Anand, Gujarat*)

Milk collection activities were performed manually due to which milk would often get spoilt (while the producers waited in long queues), and delayed payments. Akashganga uses a simple technology that enables the timely collection of milk, accurate fat measurement, and also the elimination of middlemen, thereby enabling the farmers to get higher profits. [Read more](#)

### Maharashtra

From [Surekha Sule](#), *National Institute of Rural Development (NIRD), Hyderabad*

#### **Youth solve pressing livelihood problems through computer applications, Parbhani District**

In the village of Manvat, in Maharashtra's Parbhani district, the local youth generated a computerized database of unemployed persons eligible for the central government's Employment Guarantee Scheme (EGS) and communicated this to the administration through the Internet. This two-way flow of information brought the area around Rs.70 lakhs worth of development investment in agriculture, water works and sanitation, employing 4000 persons from 22 villages around Manvat.

### **Youth solve pressing livelihood problems through computer applications Raigarh District**

In Rodpali, in Raigarh district, the villagers' land was acquired by the government during the development of New Bombay. The village youth prepared a computerized database on their educational background and negotiated placement of 21 young persons in the company that came up on the land they once tilled.

### **Agricultural Information to farmers**

In Manvat, the Computer Support Team of farmers works on agricultural information; they have prepared a proposal for the government's Krishi Bajarbhav Kendra scheme, to establish a market rate center for agricultural products.

### **West Bengal**

#### **Mobile PCOs generating employment/revenue for Rural Youth** (from [Santanu Sengupta](#), GRASSO, Grameen Sanchar Society, Kolkata)

The rural unemployed youth are conducting business over mobile phones/CISC/CTLC (Community Information and Service center/Community Training and Learning Center). They enjoy a handsome monthly income while staying within their own villages, with flexible loan repayments in the EMI (Equated Monthly Installment) mode. [Read more](#)

### **Karnataka**

#### **Local ICT Network run by women's self-help groups in Budikote** (from [Ashish Sen](#), Voices-Madhyam Communications, Bangalore)

Namma Dhvani is run by and centered on a network of women's self-help groups linked to a local development resource centre. It delivers radio to local households, with daily community radio programming that addresses local information and communication needs.

### **Tamil Nadu**

#### **Empowering resource-poor women to use ICT in Chennai, Kancheepuram and Cuddalore** (from [Ashish Sen](#), Voices-Madhyam Communications, Bangalore)

The initiative has put computers with internet connectivity into the homes of women's self-help group (SHG) members. In rural, urban and semi-urban areas, women and their SHG networks are using ICTs in familiar, empowering spaces with content developed specifically to meet their needs. Particular attention is given to income generating activities and the need for innovation product development and marketing.

*From Gitanjali Sah, Research Associate*

### **Innovative programmes and research in the Agricultural Sector**

M.S. Swaminathan Foundation provides locale specific information to farmers, relating to prices of agricultural inputs (such as seeds, fertilisers, pesticides) and outputs (rice, vegetables), entitlement (schemes of the central and state governments), markets, banks, health care, cattle diseases, transport (road conditions, cancellation of bus trips), weather and related conditions (appropriate time for sowing, fish location, wave height) etc. [Read more](#)

### **ICTs deliver key services to fishermen**

M.S. Swaminathan Research Foundation (MSSRF) launched the Pondicherry 'Information Village Research Project' for the Pondicherry fishermen. ICT is the medium of delivering key services to these fishermen and has proven to be life saving on many occasions. [Read More](#)

## New Delhi

### **ICT learning centre facilitating marketing of products made by women** (from [Ashish Sen](#), *Voices-Madhyam Communications, Bangalore*)

The Seelampur centre is an open learning space with full ICT facility for girls and women located at an inner-city *madarsa* (Islamic school) in a high-density, low-income area of New Delhi. Interactive multimedia content is developed and used to support vocational and life-skills training, to provide rights-based information to poor girls and women and to build their awareness of health issues and livelihood opportunities.

## Kerala

### **Community Radio for fishermen** (from *Sajan Venniyoor, Resource Person*)

'Radio Alakal' has been conceived as a community-operated network, to reach out to families on the coast and fishermen at sea. Weather information and disaster warning are 'narrowcast' using loudspeakers at fish-landing centres along the coast. Community audio is used for weather forecast, tidal height, conditions at sea and disaster warning, and the programme content includes discussions and expert opinions on livelihood options, market information and interviews. [Read more](#)

## Multiple States

### **Training and management support to improve livelihoods** (from [Surender Rana](#), *TARAhaat, New Delhi*)

TARAhaat provides training and management support to its network of franchised TARAkendras to enable them to provide standardized services and also acts as a central provider of the products and services needed, adapting them to meet the local needs of each region. These courses are specifically designed to meet the needs of the rural student and the demands of the present day job market.

## International

### Bangladesh

#### **Youth-led digital opportunities** (from [Ashish Sen](#), *Voices-Madhyam Communications, Bangalore*)

Rural ICT centres in Sitakund, Bangladesh are linked to grassroot youth development. The network works to address root causes of poverty and key areas of social and economic development. It promotes the empowerment of marginalized youth through ICT skills training, access to computer, internet and other multimedia facilities.

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## Related Resources

### *Recommended Organizations*

From [Ashish Sen](#), *Voices-Madhyam Communications, Bangalore*

#### **VOICES, Bangalore**

165, First Floor, 9th Cross, 1st Stage, Indira Nagar, Bangalore, 560038; Tel.: 080-25213902/3; [voices3@vsnl.net](mailto:voices3@vsnl.net); [www.voices4all.org](http://www.voices4all.org)

*A development communications NGO concerned with democratisation of the media, which focuses on ICT interventions for social and economic change.*

### **UNESCO, New Delhi**

B-5/29, Safdarjung Enclave, New Delhi 110029; Tel.: 91-11-26713000; Fax: 91-11-26-13001/713002; [newdelhi@unesco.org](mailto:newdelhi@unesco.org), Click [here](#) to view site

*Supports research on the socio economic impacts of ICT based livelihoods amongst other communication and information initiatives.*

### **ICT in the hands of the Poor**

<http://ictpr.nic.in/>

*A research network for initiatives that share a common focus on the application of ICTs for development, particularly poverty eradication*

### **Namma Dhwani project, Kolar District, Karnataka**

165, First Floor, 9th Cross, 1st Stage, Indira Nagar, Bangalore, 560038; Tel.:080-25213902 ,25213903; [voices3@vsnl.net](mailto:voices3@vsnl.net); [http://www.voices4all.org/About\\_NammaDhwani.htm](http://www.voices4all.org/About_NammaDhwani.htm)

*Community audio project that uses an audio cable network and loudspeakers to deliver need-based content to rural households.*

### **Akashganga, Gujarat (from [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd., Anand, Gujarat)**

Shree Kamdhenu Electronics Pvt. Ltd, 102, Shivam Complex, Nanabazar, Vallabh Vidyanagar, 388 120, Gujarat, India; Tel. +91-2692-235390/232636; Fax: +91-2692-232636; [info@akashganga.in](mailto:info@akashganga.in); <http://akashganga.in/>

*Identifies milk cooperative societies where cattle owners sell milk .Automated the routine milk collection process that was earlier done manually.*

From [Anita Gurumurthy](#), IT for Change, Bangalore

**Kudumbashree, Kerala**, State Poverty Eradication Mission, TC 14/582-1, Nandavanam, Vikas Bhavan,Thiruvananthapuram,33;Tel:04712324205,2323902;Fax:04712324205;

[kudumbashree@gmail.com](mailto:kudumbashree@gmail.com); <http://www.kudumbashree.org/>

*Poverty reduction programme for women using ICTs as the basis of some of its ventures, including training, hardware assembly/maintenance, data entry and digitisation.*

### **Self Employed Women's Association (SEWA), Ahmedabad**

SEWA Reception Centre, Opp. Victoria Garden, Bhadra, Ahmedabad - 380 001. India; Tel: 91-79-25506444, 25506477, 25506441; Fax: 91-79-25506446; [mail@sewa.org](mailto:mail@sewa.org); <http://www.sewa.org/>

*SEWA uses eCommerce platforms for furthering their market reach. They have models linked to ICT-based training curricula that equip learners with new skills for livelihoods.*

### **GRASSO (Grameen Sanchar Society), Kolkata (from [Santanu Sengupta](#), GRASSO Kolkata)**

<http://www.grassoportal.com/contactus.asp>; <http://www.grassoportal.com/>

*GRASSO's mission is to transform the unemployed but enthusiastic rural youth into a successful network through innovative self-employment schemes.*

From [Surekha Sule](#), National Institute of Rural Development (NIRD), Hyderabad

### **National Institute of Rural Development (NIRD), Hyderabad**

Rajendranagar, Hyderabad-500030; Tel: 91-40-24008448/472/473/466/526; Fax: 91-40 24015277, 24016500; [anil@nird.gov.in](mailto:anil@nird.gov.in); <http://www.nird.org.in/>

*NIRD undertakes training, research, action research and consultancy functions in the rural development sector.*

### **Asha for Education**

<http://www.ashanet.org/index.php?page=feedback>; <http://www.ashanet.org/>

*Dedicated to change in India by focusing on basic education, in the belief that education is a critical requisite for socio-economic change.*

### **Barefoot College, Tilonia, Rajasthan**

Village Tilonia, via Madanganj, District Ajmer, Rajasthan 305816; Tel: 1463288204; Fax: 1463288206; [barefootcollege@gmail.com](mailto:barefootcollege@gmail.com); <http://www.barefootcollege.org/>

*Addresses problems of drinking water, education of the girl child, health & sanitation, rural unemployment, income generation, electricity and power in rural communities*

### **Pan Asia Network**

<http://www.idrc.ca/panasia/>

*The PAN program initiative supports research into innovative ways of adopting ICTs to address key development challenges.*

From [Ujjal Hazarika](#), NASSCOM Foundation, Delhi

### **TARahaat Information and Marketing Services Ltd, New Delhi (from [Surender Rana](#))**

111/9-Z, Kishangarh, Aruna Asaf Ali Marg, Vasant Kunj, New Delhi 110070; Tel.: 11-26122881/2; Fax: 11-26122896; [tarahaat@tarahaat.com](mailto:tarahaat@tarahaat.com); <http://tarahaat.com/tara/home>

*Uses Information and Communication Technologies (ICT) to deliver a broad spectrum of services and products designed for the rural and peri-urban citizens of India*

From [Ramanjaneyulu](#), Centre for Sustainable Agriculture, Secunderabad

### **Centre for Sustainable Agriculture (CSA)**

Street No - 1, Tarnaka, Secunderabad-500 017, India; Tel: 40-27017735, 40-27014302; Fax: +91-40-27005342; [csa@csa-india.org](mailto:csa@csa-india.org); <http://www.csa-india.org/>

*Promotes sustainable agricultural technologies that are based on farmers' knowledge and skills, their innovation based on local conditions and their use of nature.*

### **Society for Elimination of Rural Poverty (SERP)**

Velugu, III Floor, Summit Apartments, Door No 5-10-188/2, Hill Fort Road, Hyderabad - 500 004; Tel: +91-40-55660315/6 ; Fax: +91-40-23211848 ; [steer@velugu.org](mailto:steer@velugu.org); <http://www.velugu.org/>

*Works towards empowering the poor to overcome social, economic, cultural and psychological barriers through self-managed institutions.*

### **Department of Information Technology (DIT) (from [M. Moni](#), NIC, New Delhi)**

Department of Information Technology, Ministry of Communications & Information Technology , (Govt. of India), Electronics Niketan, 6, CGO Complex, Lodi Road, New Delhi 110003; [webmaster@mit.gov.in](mailto:webmaster@mit.gov.in); <http://www.mit.gov.in/>

*Deals with policy matters relating to Information Technology, electronics and the Internet (all matters other than licensing of Internet Service Providers)*

### **Kerala Independent Fish Workers Federation (KSMTF), Kerala (from [Sajan Venniyoor](#), Resource Person)**

Cherureshmi Centre, Valiyathura P.O., Trivandrum-6950 08; Tel.: (91) 71-2505216; [ksmtf@keralafishworkers.org](mailto:ksmtf@keralafishworkers.org); <http://www.keralafishworkers.org/>

*Works for the socio-economic and political welfare of all fish workers including those workers engaged in marketing and distribution, both in the marine and inland sectors*

From [Gitanjali Sah](#), Research Associate

### **ITC eChoupal**

<http://www.itcportal.com/contactus/default.html>

*Uses IT to reorganize the agri-commodity supply chains, simultaneously improving the competitiveness of small farmer agriculture and enhancing rural prosperity*

#### **M. S. Swaminathan Research Foundation (MSSRF), Chennai**

3rd Cross Street, Institutional Area, Taramani, Chennai - 600113, India; Ph: +91-44-22542698, 22541229; Fax: +91-44-22541319; [web@mssrf.res.in](mailto:web@mssrf.res.in) ; <http://www.mssrf.org/>

*Imparts pro-poor women orientation to a job-led economic growth strategy in rural areas, by harnessing science and technology for sustainable and socially equitable development*

#### **ToeHold Artisans Collaborative, Bangalore**

ToeHold Artisans Collaborative, ASCENT, 132, 17th Cross, 11th Main Road, Malleswaram, Bangalore 560 055 (INDIA); Tel: 91-80-334 6264, 91-80-3318748; Fax: 91-80-3347076;; [ascent.bangalore@vsnl.com](mailto:ascent.bangalore@vsnl.com); [www.toeholdindia.com](http://www.toeholdindia.com)

*Catapults rural artisans to the thresholds of global footwear fashion by providing design and technical inputs, creates road maps to entrepreneurial initiatives and market linkages.*

#### **Drishtee, Delhi NCR**

Ground Floor, A-11, Sector 2, Noida - UP – 201301; Tel: +91-120-2545968/69/70; Fax: +91-120-2545967; [info@drishtee.com](mailto:info@drishtee.com); <http://www.drishtee.com/role.html>

*Creates a platform of entrepreneurship for the development of rural economy and society through the use of ICTs*

### ***Recommended Documentation***

From [Harshvardhan](#), *IT for Social Change*, Mumbai

#### **National Rural Employee Guarantee Scheme (NREGS)**

<http://nrega.nic.in/>

*An act to provide for the enhancement of livelihood security of the households in rural areas providing guaranteed wage employment*

#### **Right To Information Act (RTI)**

<http://persmin.nic.in/RTI/WelcomeRTI.htm>

*Provides material on the Right to Information Act, a legislation designed to give citizens to secure access to information under the control of public authorities*

From [Ashish Sen](#), *Voices-Madhyam Communications*, Bangalore

#### **Profiles and Experiences : ICT innovation for poverty reduction**

Edited by Ian Pringle and Sanithri Subramanian; United Nations Educational Scientific and Cultural Organization (UNESCO); 2004

[http://cirac.gut.edu.au/ictpr/downloads/unesco\\_profile.pdf](http://cirac.gut.edu.au/ictpr/downloads/unesco_profile.pdf)

*Combines research with technological and social innovation to develop ICT models that empower people living in poverty in nine locations of South Asia.*

#### **Research ICT Innovations for Poverty Reduction**

By Don Slater and Jo Tacchi; United Nations Educational Scientific and Cultural Organization (UNESCO); 2004

<http://cirac.gut.edu.au/ictpr/downloads/research.pdf>

*Shares the preliminary finding and analysis of the ethnographic action research on ICT innovations for poverty reduction undertaken in five countries of South Asia*

### **Local Information Networks**

By Seema Nair, Megan Jennaway, Andrew Skuse; United Nations Educational Scientific and Cultural Organization (UNESCO); 2006

*Aimed at understanding the nature and importance of various configurations of social and technological networks in community settings*

**Automatic Milk Collection Systems at village milk cooperative** (from [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd., Anand, Gujarat)

<http://video.google.com/videoplay?docid=-4798081312524005219&pr=goog-sl>

*Video clipping displaying the Automatic Milk Collection System used by Milk cooperatives*

From Gitanjali Sah, Research Associate

### **ICT and rural livelihoods**

By C. P. Chandrashekhar; Mainstreaming ICTs Achieving the Millennium Development Goals, Vol. II, No. 2 March-April 2005

<http://www.digitalopportunity.org/article/view/112994/>

*Shows how ICTs, when used in a participatory, collaborative and locally relevant manner, can play a significant role in improving livelihoods and alleviating poverty.*

### **ICT for Sustainable Rural Livelihoods**

By M. Moni; Mainstreaming ICTs Achieving the Millennium Development Goals, Vol. II, No. 2 ; March-April 2005

<http://www.digitalopportunity.org/article/view/113259/>

*Use digital networks for farmers, e-cooperatives, digital SMEs to usher in a "digital inclusion" for fostering rural prosperity and grassroots level development.*

### **Recommended Portals and Information Bases**

From [M. Moni](#), Deputy Director General, NIC

#### **AGMARKNET**

<http://agmarknet.nic.in>

*Empowers farming community with the knowledge of latest commodity prices and arrivals by networking wholesale markets in the country*

#### **SEEDNET**

<http://seednet.gov.in>

*Gives details related to Seed information for e.g. on research and development on seeds, legal and administrative framework of seeds in India etc.*

#### **DACNET**

<http://dacnet.nic.in>.

*Aims to achieve knowledge society in agriculture, provides important on line agricultural information on weather, plants, market prices and so on.*

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## **Responses in Full**

### **Santanu Sengupta, GRASSO (Grameen Sanchar Society), Kolkata**

I would like to share GRASSO's knowledge and experiences related to ICTD for a plausible elucidation of the vital question raised by Ms. Gurumurthy. The way out is to maintain a critical balance of economic

empowerment with social empowerment and community rights through ICT, and from there to seek higher livelihood standards.

The GRASSO model is a classical hub and spoke concept. In each location (say a Block), we set up a CISC/CTLC (Community Information and Service center/Community Training and Learning Center) at a central place i.e., block head quarter, and situate several mobile PCOs (WiLL-CDMA based) around it in different surrounding villages under respective GPs (Gram Panchayats). All the mobile PCOs have voice connectivity with the respective CISC/CTLC as well as local call/STD/ISD facilities. At any time, by installing a PC with a FWP (fixed wireless phone i.e. the WiLL set), we can have data connectivity with the hub or the outer world as well.

At present, there are such 250 CISC/CTLC and more than 5000 mobile PCOs of Grasso in rural West Bengal, with total coverage of 97% blocks and 58% GPs implemented as per the above fashion.

Now the issue of economic empowerment becomes clear, as the rural unemployed youth are doing business with the mobile phones/CISC/CTLC, and they are enjoying a handsome monthly income while staying at their own villages, with flexible loan repayments in the EMI (Equated Monthly Installment) mode. Moreover, the concept of high value project (high down payment high return) is the key to developing rural entrepreneurship at micro level.

This brings us to the social empowerment issue. It is obvious that due to implementation of PCOs in remotest locations, many of which had not seen a public phone booth until then, as well as block level CISC/CTLC with web portal access facility (for e-governance activity of Grasso), different off-line jobs including village studio ability, Microsoft certified computer literacy programme etc, the common people of the village, gram Panchayat and block level are accessing the outer world with an enhanced capacity to get modern facilities. The rural-urban gap is being narrowed down by digital magic. There is no doubt that the cumulative effect of all these micro level social impacts will derive macro level social impact.

So we can say that the macro level economic, and thus social, impact has its invisible multiplier effect, which is the key element to deliver higher livelihood standards.

But what about the critical balance of this economic empowerment with stated social empowerment? It is basically a number game. We can endlessly debate the ideal number of PCOs and CISC/CTLCs which will ensure the equilibrium in a stipulated geography, but it is better to concentrate on experience.

As per our observation in West Bengal, there are 3354 number of gram Panchayats, 40782 census villages and 5.77 crores (57.7 million) rural population. The 2001 census reports that there are on an average 12 villages in each GP and 283 households in each village, while the population per GP is 17203 and per village is 1434. So our target is to implement at least 10 PCOs in each GP, with each PCO serving 1700 number of people, keeping in mind the huge recent penetration of different private players to maintain the economic sustainability of the PCO owners, with 1 CISC/CTLC serving at least 17000 people for the issue of viability.

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### **Ujval Parghi, Shree Kamdhenu Electronics Pvt. Ltd., Anand, Gujarat**

I would like to share AKASHGANGA's knowledge and experiences in providing simple but appropriate ICT solution that facilitates timely collection of milk and thereby generates higher earnings for milk producers in rural areas of India.

AKASHGANGA (meaning 'The Milky Way') is being used at the Dairy Cooperative Society (DCS), which is a farmer-owned, grass-root level unit in the cooperative structure. All the farmers (members) of the DCS congregate twice a day at its premises to sell milk. Before AKASHGANGA, all the milk collection activities were performed manually. Due to the climatic conditions, milk would often get spoiled, as producers had to

wait in long queues. Secondly, the payment for the milk sold would get held up. The simple technology used in this product has enabled the timely collection of milk and thus, generated higher profits for the producer, now paid well in time. A basic milk collection transaction done by AKASHGANGA comprises:

- Measuring weight of milk with Electronic Weighing Scale
- Fat testing using Milko Tester
- Capture of unique member ID by the PC software
- Printing of pay slip, with all this data and the amount to be paid

The key success factor in the cooperative movement is the ease and efficiency of the milk collection system, whether done manually or with IT. The elimination of the middleman, accurate fat measurement of milk, thereby enabling the producer to get higher profits are the basic pillars on which the design of the cooperative movement stands. AKASHGANGA has been implemented at more than 1000 locations. At each and every location, it is being used 365 days in a year, and for more than 6 hours in a day. The members of the DCS are so attuned and dependent on this system, that it can be compared to any online heavy-traffic application! What started out as a project is now a full-fledged product, with after sales services and so on. Earlier the member had to wait in queues and often, in the heat, the milk would spoil. Thus, he could not sell his milk at all. With AKASHGANGA his wait is reduced to a few minutes, thus assuring that not only is the quality of milk maintained, but also he gets his due money. With so many farmers dependent on dairying as a supplementary livelihood, this money goes a long way in sustaining him and his family.

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### **Ashish Sen, Voices-Madhyam Communications, Bangalore**

Anita's questions on economic and social empowerment are of vital importance for all of us. There needs to be more work in this regard. However, our (VOICES) partnership and collaboration with UNESCO in the past through the ICTPR (ICT for poverty reduction) project has enabled us to document how community media centers have changed lives of their communities both in economic and social contexts. The ICTPR research initiative comprised a project network that spanned community initiatives in India, Nepal, Bhutan, Bangladesh and Sri Lanka.

The findings of the project have been compiled and documented in the following UNESCO publications:

1. Profiles and Experiences in ICT innovation for poverty reduction
2. Research ICT Innovations for Poverty Reduction

A third publication is also on it way. More details about these publications and their information are available on the following website: [www.unesco.org/webworld](http://www.unesco.org/webworld). While I share some anecdotal data from the Namma Dhwani project below, members would get a comprehensive picture by logging onto the website or getting hold of these publications.

Namma Dhwani - A cable radio station managed by the local community complements a computer learning centre to strengthen local governance and development. Since the past year and a half, Namma Dhwani has been able to meet its running costs (which include personnel salaries) through the following programmes:

- Since 2003, Namma Dhwani regularly conducts computer training programmes in collaboration with a local entrepreneur in the nearby town of Bangarpet. These are certified diploma training programmes. In addition to being a source of revenue generation, the training programmes also help the local youth to find employment.
- Audio and video documentation of development programmes/NGOs in Kolar district.
- Capacity building and training of NGOs/CBOs in audio/radio production.

- A production house for development campaigns across the state of Karnataka. Namma Dhwani has been a production resource for campaigns like Universal Birth Registration, disability rights and legal awareness.
- Through a combination of web and audio Namma Dhwani has facilitated more engagement with the market. For example, crop and commodity prices/information are regularly cablecast/narrowcast enabling the local community to have a choice about market prices at Chennai/Kolar/Bangarpet. There are other related and indirect interactions which are linked to the market. If there is a crop disease, Namma Dhwani gets in touch with the local agricultural market at Bangarpet and provides relevant information.

Many of these initiatives have not only provided or strengthened livelihood options and facilitated economic empowerment, but also impacted on education, health and governance within the marginalized sections in the community.

Vijaya is one of the studio managers at Namma Dhwani. Widowed at a very young age, she was compelled to return to her parents' home at Budhikote. Namma Dhwani has changed her life both economically and socially. Her programmes (which also include an interview with Sudha Murthy) have earned her respect across the community and substantially increased her confidence.

The ICTPR publications document such examples from Namma Dhwani as well as other ICT initiatives including the Seelampur project in New Delhi, the Nabanna project in Bengal, Sitakund in Bangladesh and Tansen in Nepal which demonstrate the co-relation between ICT and social and economic empowerment.

### **Surekha Sule, National Institute of Rural Development, Hyderabad**

I am currently Senior Fellow at National Institute of Rural Development (NIRD) at Hyderabad and working on media and communication issues of rural development. In response to Anita's call for sharing experiences about impact of ICT on community's economic and social situations, here's some information on a project in Maharashtra that I am familiar with.

One Village One Computer is getting near-illiterate village folk to not only handle computers but also solve some of their pressing livelihood problems through computer applications.

In the village of Manvat, in Maharashtra's Parbhani district, the local youth generated a computerized database of unemployed persons eligible for the central government's Employment Guarantee Scheme (EGS) and communicated this to the administration through the Internet. This two-way flow of information brought the area around Rs.70 lakhs worth of development investment in agriculture, water works and sanitation, employing 4000 persons from 22 villages around Manvat.

In Nitrud, in Beed district, villagers collected 4 lakh litres of water through a simple percolation technology after applying Jal Chitra's software (developed by Dr Vikram Vyas at Tilonia's Barefoot College) for water mapping and auditing.

In Rodpali, in Raigarh district, the villagers' land was acquired by the government during the development of New Bombay. The village youth prepared a computerized database on their educational background and negotiated placement of 21 young persons in the company that came up on the land they once tilled.

These examples - and there are many more - are proof that information technology, when unleashed in villages, can do as much for development as in urban areas. Anil Shaligram has worked on IVIC for over five years, and it is now a multi-agency, multi-location joint venture that is active in hundreds of villages.

IT training is provided to thousands of persons, and even village women are now comfortable with working on computers.

One can see illiterate village women learning to use these computers on a village paar (an elevated platform around a tree trunk where village folk get together informally). In Murbi village, six young girls run the IT Sewa Kendra. Even the state level resource center in New Mumbai is being run by all-women activists. In Manvat's IT Sewa Kendra, sweeper women volunteers have taken a lead role. The IT Sewa Kendra in Tuljapur is a women-only centre in collaboration with Marathmoli, and is supported through a grant from the Pan Asia Network.

1V1C has IT Sewa Kendras (service centers) in Murbi, Rodpali (Raigad), Karad (Satara), Manvat (Parbhani), Alangul (Nashik), Nitrud (Beed), Dara, Padalada (Dhule), and Mod (Nandurbar). Its list of partners includes Virtual University (A UN-led online university for mitigation of droughts), Asha for Education, the S.P Jain Business Management School, Marathmoli - an organization specializing in gender issues - and Cyberscape Multimedia Ltd., a leading multilingual Indian language solutions providers, among others. These partnerships have brought direct benefits for communities and many grassroots organizations.

The software used by the project is developed collectively, and handles Employment Guarantee Schemes, Right to Information and Financial Auditing of village Panchayats, providing market rates of commodities to farmers, water management, and a range of other community activities. For instance, in Manvat the Computer Support Team of farmers works on agricultural information; they have prepared a proposal for the government's Krishi Bajarbhav Kendra scheme, to establish a market rate center for agricultural products.

1V1C has brought together a group of socially aware individuals - young volunteers from IT, management, media, academics, and other backgrounds - who are willing to contribute their knowledge and skills to create a networked society where knowledge takes central place in economic opportunities.

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### **Ujjal Hazarika, NASSCOM Foundation, New Delhi**

I think GRASSO is a good case study for taking ICT4D to the grassroots. Having observed GRASSO's functioning for sometime now I feel that the obvious barriers to such organizations to carry the good work forward are the following:

- Having reached a threshold level organizations need to tighten their service delivery model and increase their basket of services on offer.
- Organizations need to incorporate some of the best practices of Corporate world to create a goodwill stream for themselves in a manner that their reach is properly leveraged.
- Have a concrete plan for taking the organizations work to other areas as planning at this stage will tighten up the loose ends and allow reviews and appraisals of newer works in a tangible manner hence make the working more efficient.
- Above all organizations need a good documentation process to let the ICT4D world know of its good work. As of today GRASSO's work and level of activity is hardly known across the board.

I feel that organizations like GRASSO can serve as a role model to many such organisations coming up in various states. We have to remember that the AMUL success story was taken forward by the formation of NDDDB and the success of the model ported across various states of the country.

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### **Harshavardhan, IT for Social Change, Mumbai**

Surekha wrote about "One Village One Computer", an ICT project and technology movement which Anil Shaligram founded with a few like-minded people.

The movement gave great results in villages, but we impacted more wherever we caused a change in the mindset of the village youth. These communities are now networking with society, and IT centers have become socio-politically sustainable, and are accelerating developmental processes in backward regions.

One village one computer is now evolving into ITforSocialChange, which will facilitate the "access to wealth" phenomenon wrought by NREGS (National Rural Employment Guarantee Scheme) and RTI.

Iralad is a village in the Parbhani district of Maharashtra. A 1V1C center was set up 2 years ago in Manvat, 13 km away from Parbhani. 'India 700K' (a project for advancing rural development by building an integrated webpage for every village) has offered website development services to the villagers of Iralad. My core team consists of young people (7) who have learnt IT basics in the 1V1C center at Manvat, and more villagers have joined us out of sheer enthusiasm.

The core team of 1V1C volunteers and village heads met and discussed what was to be put up on the website. Along with issues of concern to the village – like employment, water, health, education and food – the villagers added entertainment. Among the concrete examples that were suggested for putting up on the website were a 'queriable database' for implementation of the Employment Guarantee Scheme, information on market rates, sale of local produce through the website etc. The villagers also liked the idea of creating an online 'mirror image' of the village, using a webcam and other tools. The connectivity in the village is good, which makes this easier to execute.

The Gram Sabha announced the decision to host information on the village on the Iralad website, covering the issues of employment, health, water, food, housing, education, etc. The villagers agreed that statistics, descriptions (write-ups), pictures and audio-visual clippings would help in describing their village. The village web site could become a "problem-solution" portal, triggering action in the village. Unfortunately, the emphasis is only on the issues of employment, the daily wages the landless labourers, etc, while other issues like health, education and women's issues are neglected.

After village data was collected, the villagers shared these observations:

- Poor people are willing to disclose personal information, but the rich tend to conceal their financial condition.
- Everyone agreed on the need to post information on various schemes on the website, and update the information regularly.
- Getting precise information from the villagers, especially labourers, requires skill and effort.
- Data on two key issues exposed these problems:
  - The ration shop in the village is not functioning at all and the person licensed needs to be questioned/changed.
  - The medical expenditure that occurs in the village on routine illnesses is at least 10 times more than necessary. This money could be saved if a doctor/paramedical professional is posted in the village itself.

As they say, "*Mahiti (Suchana) Saksharata*" (Information literacy) is the base of "*Arthasaksharata*" (Economic literacy).

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**Surender Rana, TARAhaat, New Delhi**

TARAhaat has been engaged in setting-up ICT kiosks using entrepreneurial models. At present, we have more than 175 kiosks spread over seven states of India -- Punjab, Haryana, UP, MP, Bihar, Jharkhand and Chhattisgarh.

These centres offer a range of services relevant to rural communities that include IT Literacy, Computer-based Functional Literacy, Vocational Training, E-Governance, and Entrepreneurship Development Services.

Our kiosks act as one of the important sources of livelihood generation as at least 2-3 people get employed at the kiosk from day one. Thereafter, the vocational training courses offer youth to learn skills in Computer Accounting, Hardware Assembly and Troubleshooting, Data Entry etc., which help them get jobs in the local markets as Computer instructors, operators and accountants.

Our Entrepreneurship Development Programme (EDP), which uses multi-media tools to train youth on basic entrepreneurship skills, help youth become entrepreneurs in any business area they choose to pursue. The would-be entrepreneurs are provided handholding and support in all aspects and stages of their business. Our efforts in providing entrepreneurial skills to the youth, in Bundelkhand region, have been recognised and highly appreciated by bank managers and senior executives of Nehru Yuva Kendra (NYK).

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### **M. Moni, NIC, New Delhi**

NIC is implementing the Central Sector Scheme: Disnic Programme - ICT for Micro level Planning in pilot districts Jhajjar (Haryana) and Goa [<http://disnic.gov.in>], and also Agricultural Resources Information System (AgRIS) [<http://agris.nic.in>].

The DISNIC programme is "village-centric" and the AgRIS programme is "farmer-centric". After successful implementation, these two programmes will be scaled up through out the country.

If organizations like TARAHAAT are interested to participate in these two programmes for grassroots level information dissemination, we welcome it.

AGMARKNET (<http://agmarknet.nic.in>) is providing agricultural commodity price from 2800 Agricultural Wholesale mandies in the country. Kiosk centres set up by organizations can disseminate these prices to the farmers, traders, processors etc.

SEEDNET (<http://seednet.gov.in>) gives details related to Seed information.

DACNET (<http://dacnet.nic.in>) gives various portals of the Department of Agriculture & Cooperation.

TARAHAAT and other organizations could sign a MOU with NIC to transmit information from NIC websites related to agricultural sector and facilitate us in strengthening value addition in these portals.

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### **G.V. Ramanjaneyulu, Centre for Sustainable Agriculture, Secunderabad**

Centre for Sustainable Agriculture (CSA) with Society for Elimination of Rural Poverty (SERP) a govt. of initiative focusing on poverty eradication is working on establishing a local resource based sustainable agriculture model. Last year the program was implemented in 450 villages across Andhra Pradesh and showed encouraging results. This year the program has been scaled up to 1050 villages across 17 districts covering about 2 lakh acres. With ICT inputs in these initiatives, we can strengthen the existing agriculture based livelihoods.

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*Many thanks to all who contributed to this query!*

*If you have further information to share on this topic, please send it to Solution Exchange for the ICT for Development Community in India at [se-ictd@solutionexchange-un.net.in](mailto:se-ictd@solutionexchange-un.net.in) with the subject ICT and Livelihoods – Experiences. Additional Reply.”*

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