



## ICT for Development Community



# Solution Exchange for the Information and Communication Technology for Development Community Consolidated Reply

*Query: ICT4D Impact Assessment and Social Return on Investment Analysis - Advice; Examples*

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From [Naimur Rahman](#), OneWorld South Asia, New Delhi

Posted 2 December 2008

The need for impact assessment with reference to ICT for development interventions has gained prominence in recent years. The novelty of the technological approach and the high levels of investments required, create a pressing need for impact assessment in the ICT4D sector. Some degree of enquiry has been initiated in this direction, including an impact assessment exercise undertaken by the global alliance for [Building Communication Opportunities](#), and a workshop undertaken recently by OneWorld South Asia in New Delhi (read report here <http://www.solutionexchange-un.net.in/ictd/cr/res02120801.pdf>, Size: 380 KB).

The paucity of comprehensive or relevant data (primarily sourced from project evaluation reports), the range and variety of ICT4D projects and the fact that most interventions are in their early stages, the difficulty of establishing quantitative outcomes or economic or tangible returns from the project are some of the issues that have been raised.

Specifics in terms of the issue of attribution (given the plurality of factors at play in the ICT4D arena), methodological concerns pertaining to the impact assessment process, the distinction between impact assessment and evaluation, the weighing of qualitative and quantitative analysis and establishing a value for qualitative responses, seeking measures beyond the economic for a comprehensive assessment of the impact of development intervention (underpinned by information and communication, or ICTs) have also been highlighted.

Following from the above, we invite the community to draw from their experience and knowledge, to address some of the questions towards developing an ICT4D impact assessment framework:

- What are the specific concerns or conditions (methodological and circumstantial) attached to assessing the impact of ICT4D?
- How can impact assessment be incorporated into ICT4D project or programme frameworks as a concurrent and ongoing process?
- What are development indicators that can be used to measure progress and impact of an ICT4D project or programme?

- What is the proportion to which qualitative and quantitative indicators can be used for a realistic assessment of impact?
- What are possible solutions to funding constraints, especially in terms of impact assessment exercises in the sector?

Responses from members would contribute to the construction of an impact assessment framework based on shared experiences and learnings that can be deployed by ICT4D partners in South Asia.

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### Responses were received, with thanks, from

1. Richard Heeks, University of Manchester, Manchester, United Kingdom ([Response 1](#); [Response 2](#))
2. [D. S. K. Rao](#), Global IT and Innovation Consultant, Hyderabad
3. [Parminder Jeet Singh](#), IT for Change, Bangalore
4. [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd, Anand, Gujarat
5. [Chetan Sharma](#), Datamation Foundation Trust, New Delhi
6. Korath V. Mathew, Madhya Pradesh Urban Services for the Poor Programme (MPUSP), Department for International Development (DFID), Bhopal ([Response 1](#); [Response 2](#))
7. Anup Kumar Das , Information Specialist (Consultant), New Delhi ([Response 1](#); [Response 2](#))
8. [Geeta Malhotra](#), Read India, New Delhi
9. U. C. Pandey, School of Good Governance and Policy Analysis, Government of Madhya Pradesh, Bhopal ([Response 1](#); [Response 2](#))
10. [Jitendra Prasad](#), India Development Gateway Project, C-DAC, Hyderabad
11. [Hitesh Gosain](#), Consultant, e-Governance, Gurgaon

*Further contributions are welcome!*

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[Summary of Responses](#)  
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### Summary of Responses

It is widely assumed that ICT for Development (ICT4D) projects in India have accelerated productivity and improved welfare of communities, therefore, the need of standards for assessment is felt to quantify the impact of ICT for Development Projects on communities, specifically in India. The query requested suggestions and inputs on the need for impact assessment with reference to ICT4D interventions.

Members responded by highlighting existing [references to resources](#) for ICT4D impact assessment frameworks. Respondents emphasized on the need for studies and research work to overcome the perpetual pilot syndrome, which many ICT4d projects in India suffer from. This syndrome could be due to the lack of understanding of ICT interventions and due to lack of researched and documented learning's from previous pilots of a similar nature.

Members also questioned the understanding of who the beneficiaries of the assessment methodology were and what benefited stakeholders. Respondents appreciated the query for raising the need for an impact assessment taking into consideration that the government was undertaking mega projects under

the [e governance plans](#). The importance for a systemic impact assessment was highlighted with indicators for evaluation.

The example of the e governance framework developed by Government of India was cited as an excellent framework for assessing the impact of ICT interventions for government initiatives. Members further pointed out the [SaaS model](#) as being most effective, emphasising that a public private partnership model would be best for such requirements.

Members supported the need for assessment with references to material already published by [multinational](#) and [UN agencies](#). References to papers published were also cited which could add value to developing a framework. The need for voice research was expressed as an option. The assessment by the **Karnataka** Government on its [Bhoomi project](#) was cited as a good practice.

Projects where ICTs are used to enhance livelihood for Dairy Farmers in [Gujarat](#) and for Fishermen in [Kerala](#) were mentioned. Members quoted evaluations of the [Community Multimedia Centre project of UNESCO](#) that combines community radio by local people in local languages with community telecentre facilities (computers with Internet and e-mail, phone, fax and photocopying services).

Respondents expressed that the essence of impact assessment was to focus on the goals of the ICT intervention rather than the means to the goal which seem to have overshadowed the intended purpose. Members also opined that assessment of a [number of large projects](#) could help in mid course correction of projects which may not be delivering the intended benefits. Members cited the experiences of abandoned ICT interventions by the corporate sector which failed due to not addressing ground realities, this holds true to ICT interventions even at the present time.

Discussants expressed the difficulty in quantifying the social returns on ICT investments as many ICT interventions tend to have intangible results or facilitate other interventions

#### **Moderators input:**

The discussion on the methodologies to assess ICT4D has brought out many interesting points of view. The challenge seems to be able to collate the numerous recommended assessment methodologies to establish framework standards for ICT assessment in India. Without doubt every reference and indicators offered by members does have a certain approach and added value.

It would be appropriate to acknowledge that over the past few years much effort has been put into the research for developing indicators for evaluating ICT projects. A few collaborative efforts have also been initiated between some agencies. However, it could be more fruitful if a focused collaborative effort involving multiple agencies with different skill sets could come up with a base framework and instrument which can be then taken forward for testing and fine tuning by implementing institutions. This could be an iterative process aimed at a two year cycle and the feedback could be collated into a universally accepted guidelines.

Reaffirming the query poser's objective, the moderator would like to request the responding members, and others interested community members, if they are interested in forming a collaborative resource group online to formulate a guidelines/framework for ICTs assessments in India. Could members explore the possibilities of working together to facilitate the development of guidelines for a framework? The objective would be to define the categories/ thematic and aspects of the ICT interventions providing a consensus on indicators for a framework? This may enable us to be able to define a common ground for impact assessment and have a universal acceptance of research studies and assessments.

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## Comparative Experiences

### Gujarat

**Evaluation of ICT Tools Help Dairy Farmers** (from [Ujval Parghi](#), *Shree Kamdhenu Electronics Pvt. Ltd, Anand, Gujarat*)

Manual collection of milk often resulted in milk getting spoilt because the Dairy Farmers had to wait in long queues to sell their products, and delayed payments. Akashganga uses a simple technology that enables the timely collection of milk and accurate fat measurement. Impact assessment studies conducted show that this has eliminated the need for intermediaries, thereby enabling the farmers to get higher profits. Read [more](#)

### Kerala

**Impact of Mobile Phones on Fishermen** (from [Richard Heeks](#), *University of Manchester, Manchester, United Kingdom*; [response 2](#))

It is assumed that ICTs may improve market performance and increase welfare of Communities. Between 1997 and 2001, mobile phone service was introduced throughout Kerala, a state with a large fishing industry. Using microlevel survey data, it was evaluated that the adoption of mobile phones by fishermen and wholesalers was associated with a dramatic reduction in price dispersion, the complete elimination of waste. Read [more](#)

### Research study on impact of ICTs on Fishermen

Hypothesis stating that ICTs, by virtue of being carriers and conduits of information play a role in correcting large-scale information asymmetries and inefficiencies that exist in developing countries, was formulated and tested. Field work was conducted at 12 locations in Kerala to study the impact of ICTs on Fishermen. Study shows that using mobile phones at sea, fishermen are able to respond quickly to market demand and prevent unnecessary wastage of catch. Read [more](#)

### Karnataka

**Computerization of Land Records** (from *U. C. Pandey, School of Good Governance and Policy Analysis, Government of Madhya Pradesh, Bhopal*; [response 2](#))

The project of on-line delivery and management of land records in Karnataka. It provides transparency in land records management with better citizen services and takes discretion away from civil servants at operating levels. Has an inbuilt monitoring and assessment mechanism since farmers can access the database and are empowered to follow up. If the revenue inspector does not complete the mutation within 45 days and can approach a senior officer person with their grievance. Read [more](#)

### Multiple States and Countries

**Assessment of UNESCO's Community Multimedia Centres (CMC)**, (from *Anup Kumar Das, Information Specialist (Consultant), New Delhi*; [response 1](#))

Community Multimedia Centres (CMCs) offer both community radio broadcasting and telecentre services; it is believed that these provide significant support to community development by strengthening economic opportunities, an evaluation was conducted to assess if the initiative met its stated goals and objectives. Evaluation provides inputs to strengthen the CMC model and improve UNESCO's programming for future. Read [more](#)

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## Related Resources

### *Recommended Documentation*

From Anup Kumar Das, Information Specialist (Consultant), New Delhi; [response 1](#)

### **How to get started and keep going- A guide to Community Media Centres**

Guide; Edited by Stella Hughes, Suchitra Eashwar, Venus Easwaran Jennings; UNESCO; New Delhi; 2004  
Available at <http://unesdoc.unesco.org/images/0013/001346/134602e.pdf> (PDF 2000 KB)

*A collection of articles and studies about Community Media Centres (CMCs); contains chapters that analyse and assess the impact of ICT's on communities where CMC's have been set up*

### **What we have learned: Key Findings from an Independent Evaluation of UNESCO's Community Multimedia Centres: Final Report**

Report; by UNESCO; 2006; Paris

Available at <http://unesdoc.unesco.org/images/0014/001492/149280e.pdf> ( PDF 646 KB)

*Evaluation informs that the Community Multimedia Centres have contributed to improving quality of life by satisfying basic needs related to access to information.*

### **Evaluation of UNESCO's CMC's-Final report**

Report; by Heather Greech, International Institute of Sustainable Development (IISD) in collaboration with Ousmane Berth, Anna Paula Assubuji, Indira Mansingh and Maja Anjelkovic; UNESCO; Paris; April 2006.

Available at <http://unesdoc.unesco.org/images/0014/001456/145629e.pdf> (PDF 366 KB)

*Highlights the strengths and opportunities for improvement and expansion for UNESCO's CMC initiative; provides an evaluation methodology used to assess the impact of ICTs*

From [Anup Kumar Das](#), Information Specialist (Consultant), New Delhi; [response 2](#)

### **Poverty and Digital Inclusion-Preliminary findings of Finding a voice project**

Paper; by Andrew Skuse, Joann Fidles, J.D.Tacchi, Matin and Emma Baulch; UNESCO; New Delhi; 2007

Available at [http://portal.unesco.org/ci/en/files/25679/11970268041poverty\\_en.pdf/poverty\\_en.pdf](http://portal.unesco.org/ci/en/files/25679/11970268041poverty_en.pdf/poverty_en.pdf) (PDF 1.22 MB)

*Presents preliminary findings from a qualitative study of poverty and Information and Communication Technologies (ICTs) in India, Indonesia Sri Lanka and Nepal*

### **Forging Innovations: Community Multimedia Centres (CMCs) in Nepal**

Book; by Karma Tshering Bhutia and Kirsty Martin; UNESCO; New Delhi; 2007

Available at

[http://portal.unesco.org/ci/en/files/25723/11981456231forging\\_innovations\\_en.pdf/forging\\_innovations\\_en.pdf](http://portal.unesco.org/ci/en/files/25723/11981456231forging_innovations_en.pdf/forging_innovations_en.pdf) (1.05 MB)

*Presents case studies of CMCs in Nepal; intends to showcase the interesting and diverse growth of this initiative in spite of conflict and the lack of community radio regulation in Nepal.*

### **Participatory Content Creation for Development - Principles and Practices: Research from the Finding a Voice Project**

Book; by Edited by Jerry Watkins and Jo Tacchi; UNESCO; New Delhi; 2008

Available at:

[http://www.findingavoice.org/files/finding\\_a\\_voice\\_participatory\\_content\\_creation\\_for\\_development.pdf](http://www.findingavoice.org/files/finding_a_voice_participatory_content_creation_for_development.pdf) (PDF 23.3 MB)

*Highlights the application of participatory methods to the design, implementation and evaluation of culturally appropriate systems for local content creation using ICTs.*

### **Finding a Voice - Themes and Discussions: Research from the Finding a Voice Project**

Book; by Edited by Jo Tacchi and MS Kiran; UNESCO; New Delhi; 2008

Available at [http://www.findingavoice.org/files/finding\\_a\\_voice\\_themes\\_and\\_discussions.pdf](http://www.findingavoice.org/files/finding_a_voice_themes_and_discussions.pdf)

(PDF 15.1 MB)

*Provides an insight into the trials and tribulations of attempts to use ICT and media in development with a particular interest in local and participatory content creation.*

### **Ethnographic Action Research (EAR) - Training Handbook: A Users Handbook Designed for Information and Communication Technology (ICT) Initiatives**

Handbook; by UNESCO; New Delhi; 2008

Available at <http://ear.findingavoice.org/>

*Designed to train Ethnographic Action Research researchers to continually develop and deepen their understandings of communication in local contexts; is useful for ICT4D impact assessment*

### **Draft Report- Impact Assessment study of e-Government projects in India** (from U.C.Pandey, School of Good Governance and Policy Analysis, Government of Madhya Pradesh, Bhopal; [response 1](#))

Report; by Prof Subhash Bhatnagar (Co-ordinator), Prof T.P.Rama Rao, Prof Nupur Singh, Ranjan Vaidya and Mousmi Mandal, Centre of e-Governance, Indian Institute of Management, Ahmedabad; Department of Information Technology, Government of India, New Delhi; January 2007

Available at [http://mit.gov.in/download/impact-assessment-study-dit-31jan%20\(2\).pdf](http://mit.gov.in/download/impact-assessment-study-dit-31jan%20(2).pdf) (PDF 560 KB)

*Studies the e-Government initiatives of India and Chile to define a framework and methodology for impact assessment of e-Government policies and citizen-government service delivery.*

### **Assessing ICT4D Impact Disseminating Learnings from the BCO Impact Assessment Process** (from [Naimur Rahman](#), OneWorld South Asia, New Delhi)

Round Table Report; by OneWorld South Asia; New Delhi; 26-27 June 2008

Available at <http://www.solutionexchange-un.net.in/ictd/cr/res02120801.pdf> (PDF 380 KB)

*Informs about an evaluation that aims to understand the extent to which ICTD and community media have helped in strengthening voices, capacities and communication abilities of the poor.*

### **Impact Assessment of ICT4D Projects** (from Richard Heeks, University of Manchester, Manchester, United Kingdom; [response 1](#))

Discussion; by Richard Heeks December 3, 2008

Available at <http://ict4dblog.wordpress.com/2008/12/03/impact-assessment-of-ict4d-projects/>

*A compendium of ICT4D impact assessment frameworks - a guide to choose and use different approaches; includes examples of ICT4D project impact assessments.*

From Richard Heeks, University of Manchester, Manchester, United Kingdom; [response 2](#)

### **The Digital Provide: Information (Technology), Market Performance, and Welfare In The South Indian Fisheries Sector**

Article; by Robert Jensen. The Quarterly Journal Of Economics, Vol. CXXII August 2007 Issue 3

Available at <http://www.mitpressjournals.org/doi/pdfplus/10.1162/qjec.122.3.879> (PDF 316 KB)

*Study on ICT4D impact assessment, provides a quantitative assessment of the impact of the use of Mobile Phones by fishermen in Kerala.*

### **Mobile Phones and Economic Development: Evidence From the Fishing Industry in India**

Research Article; by Reuben Abraham; Volume 4, Number 1, Fall 2007, 5-17; The MIT Press 2008.

Available at <http://itidjournal.org/itid/article/view/241/111> (PDF 197 KB)

*Provides an assessment of the impact of the use of Mobile phones by a fishing community in the Southwestern state of Kerala.*

From [Parminder Jeet Singh](#), IT for Change, Bangalore

### **Productivity Paradox**

Article; by Wikipedia

Available at [http://en.wikipedia.org/wiki/Productivity\\_paradox](http://en.wikipedia.org/wiki/Productivity_paradox)

*Explains the Productivity Paradox theory, one of the theories used for impact assessment of ICT projects, it states that computers have contributed negligibly to productivity.*

### **An Overview of ICT policies and e Strategies of Select Asian Economies**

Book; by Emmanuel C. Lallana; Elsevier, New Delhi and UNDP Asia Pacific Development Information Programme, Thailand; 2004

Available at <http://www.apdip.net/publications/ict4d/ict4dlallana.pdf> (PDF 751.74 kb)

*Designed to provide policy-makers the necessary tools, information and knowledge to facilitate the formulation and adoption of ICT policies and e-strategies.*

### **Aavishkaar India Micro Venture Capital Fund: A Case Study - CFED SME Small Grants** (from [Ujval Parghi](#), Shree Kamdhenu Electronics Pvt. Ltd, Anand, Gujarat)

Case Study; by Dasra, Catalyst for Social Change, CFED; May 31, 2007

Available at <http://cfed.org/imageManager/documents/Aavishkaar.pdf> (PDF 1.1 MB)

*Explains the impact of ICT intervention on milk producing farmers; provides outcomes drawn from interviews, surveys and focus groups.*

### **Gartner: SaaS to Grow in 90% of Organizations** (from Korath V. Mathew, Madhya Pradesh Urban Services for the Poor Programme (MPUSP), Department for International Development (DFID), Bhopal; [response 1](#))

Article; by Computerworld UK; 2005 CIO India; December 5, 2008

Available at [www.solutionexchange-un.net.in/ictd/cr/res02120802.pdf](http://www.solutionexchange-un.net.in/ictd/cr/res02120802.pdf) (PDF 25 KB)

*Informs about the assessment of the Software as a Service (SaaS) model of software deployment whereby a provider licenses an application to customers for use as a service on demand.*

From [Gitanjali Sah](#), Research Associate

### **Innovation and its social impacts: The role of ethnography in the evaluation and assessment of ICTD projects**

Paper; by Balaji Parthasarathy, International Institute of Information Technology, Bangalore and Janaki Srinivasan, University of California, Berkeley; Paper submitted to GLOBELICS2006; 4-7 October, Trivandrum

Available at <http://www.globelicsindia2006.org/I-3/Balaji%20Parthasarathy%20336.doc> (Word Document 99 KB)

*Argues that there are at least three aspects to assessing Socio Economic impact of ICTD projects: ICT itself, development occurred and the question of ICTD for whom.*

### **Tools for Development- Using Information and Communications Technology to Achieve the Millennium Development Goals**

Working Paper; by United Nations ICT Task Force; December 2003

Available at <http://www.researchictafrica.net/images/upload/mdg.pdf> (PDF 500 KB)

*Sets the MDGs as development indicators for ICT and maps the impact and use of ICT to facilitate the achievement of all the 8 goals.*

### **ICT Development Indices 2004 and ICT policies analysis**

Report; by United Nations Conference On Trade And Development; 2005

Available at [http://www.unctad.org/en/docs/iteipc20054\\_en.pdf](http://www.unctad.org/en/docs/iteipc20054_en.pdf) (PDF 422 KB)

*Analyses ICT policies, their implementation and research; seeks to inform policy making and enlighten decision-makers in their attempts to promote ICT, especially in developing countries.*

### **World Telecommunication Development Report 2003: Access Indicators for the Information Society**

Report; by International Telecommunications Union (ITU); 2003

Available at [http://www.itu.int/ITU-D/ict/publications/wtdr\\_03/](http://www.itu.int/ITU-D/ict/publications/wtdr_03/)

*Provides both a toolkit for measuring access to information and communication technologies (ICT) and a synopsis of the current state of readiness for the information society.*

### **Appropriate Evaluation Methods for ICT Initiatives**

Article; by B. Shadrach and Ron Summers; Loughborough University, UK; Information Technology in Developing Countries, A Newsletter of the IFIP Working Group 9.4 and Center for Electronic Governance, Indian Institute of Management, Ahmedabad; Volume 12, No. 1; Ahmedabad; April 2002

Available at <http://www.iimahd.ernet.in/egov/ifip/apr2002/article1.htm>

*Defines impact assessment of ICT projects, suggests approaches and a human rights framework to Impact Assessment of ICTs*

### **Evaluation of E-Government Systems: Project Assessment vs Development Assessment**

Paper; by Rahul De; Indian Institute of Management Bangalore, Bannerghatta Road, Bangalore; M.A. Wimmer et al. (Eds.); EGOV 2006, LNCS 4084, pp. 317–328; Bangalore; 2006

Available at [http://www.iimb.ernet.in/~rahulde/Egov2006DevEval\\_Rde.pdf](http://www.iimb.ernet.in/~rahulde/Egov2006DevEval_Rde.pdf) ( PDF 197 KB)

*Presents a case for evaluation of e-government projects by using development theory as propounded by Amartya Sen*

### **Recommended Organizations and Programmes**

From Richard Heeks, University of Manchester, Manchester, United Kingdom; [response 2](#)

#### **International Development Research Centre (IDRC), New Delhi**

208 Jor Bagh, New Delhi 103 003, India; Tel: +91-11 2461 9411/12/13; Fax: +91-11 2462 2702  
[mail\\_saro@idrc.org.in](mailto:saro@idrc.org.in); <http://www.idrc.ca/saro/>

*Undertakes research projects on ICT4D assessment that suggest various indicators to measure impact and progress of ICTD projects*

#### **Department for International Development (DFID), New Delhi**

British High commission, B-28, Tara Crescent, Qutab Institutional Area, New Delhi 100 016; Tel: +91-11 2652 9296; [query@DFID.gov.uk](mailto:query@DFID.gov.uk); <http://www.dfid.gov.uk/Where-we-work/Asia-South/India/>

*Part of the UK government that manages Britain's aid to poor countries and works to get rid of extreme poverty; has supported research on ICTD impact assessment*

From Anup Kumar Das, Information Specialist (Consultant), New Delhi; [response 2](#)

#### **United Nations Educational Scientific and Cultural Organization (UNESCO), New Delhi**

UNESCO House, B-5/29, Safdarjung Enclave. New Delhi 110 029; Tel: +91-11 26713000; Fax: +91-11 26713001  
[newdelhi@unesco.org](mailto:newdelhi@unesco.org) ; [http://portal.unesco.org/geography/en/ev.php-URL\\_ID=5991&URL\\_DO=DO\\_TOPIC&URL\\_SECTION=201.html](http://portal.unesco.org/geography/en/ev.php-URL_ID=5991&URL_DO=DO_TOPIC&URL_SECTION=201.html)

*Publishes various publication studies on ICTD impact assessment; developd indicators to measure ICTD impact and progress based on the case studies.*

#### **Queensland University of Technology, Australia**

2 George St, Brisbane QLD 4000; Tel: +617 3138 2000; [sbs.enquiries@qut.edu.au](mailto:sbs.enquiries@qut.edu.au);  
<http://www.qut.edu.au/>

*Collaborates with International as well as National agencies to understand how creative engagement with ICT can be both effective and empowering for positive social change.*

#### **University of Adelaide, Adelaide**



<http://www.adelaide.edu.au/contacts/> ; Tel: +618 3154455; <http://www.adelaide.edu.au/research/>

*Collaborates with international as well as national agencies to understand how creative engagement with ICT can be both effective and empowering for positive social change.*

#### **Swinburne University of Technology, Melbourne**

<http://www.swinburne.edu.au/contact.htm>; Tel: +613 8676 7002; Fax: +613 9818 3648  
[international@swinburne.edu.au](mailto:international@swinburne.edu.au) ; [www.international.swinburne.edu.au](http://www.international.swinburne.edu.au)

*Collaborates with international as well as national agencies to understand how creative engagement with ICT can be both effective and empowering for positive social change.*

#### **Australian Research Council, Australia**

1st floor, 8 Brindabella Circuit, Brindabella Business Park, Canberra Airport Act 2609, Australia; Tel: + 61 2 6287 6600; Fax: + 61 2 6287 6601 [info@arc.gov.au](mailto:info@arc.gov.au); <http://www.arc.gov.au/default.htm>

*Collaborates with international as well as national agencies to understand how creative engagement with ICT can be both effective and empowering for positive social change*

#### **OneWorld South Asia, New Delhi (from [Naimur Rehman](#) )**

OneWorld South Asia Office OneWorld International Foundation, C-5 Outab Institutional Area, New Delhi-110016; Tel: +91 11 41689000; Fax: +91 11 41689001; [naimur.rahman@oneworld.net](mailto:naimur.rahman@oneworld.net);  
<http://southasia.oneworld.net/news>

*Aims to use the democratic potential of ICTs to promote sustainable development and human rights in the region; conducts workshops and studies for assessing the impact of ICTD projects.*

#### **Datamation Foundation Charitable Trust, Delhi (from [Chetan Sharma](#))**

"VIMAL SHREE", B/12 Swasthaya Vihar, Delhi 110092 ; Tel: 91-11-22512161; Fax: 91-11-22240086;  
[response@datamationfoundation.org](mailto:response@datamationfoundation.org); <http://www.datamationfoundation.org/default.asp>

*Engaged in advocating, designing and implementing innovative ICT enabled initiatives to help meet Millennium Development Goals; conducts impact assessment studies of ICTD projects.*

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

Shree Kamdhenu Electronics Pvt. Ltd, 102, Shivam Complex, Nanabazar, Vallabh Vidyanagar 388120 Gujarat; Tel.: 91-2692-235390/232636; Fax: 91-2692-232636; [info@akashganga.in](mailto:info@akashganga.in) ;

<http://www.akashganga.in/CompleteSolutions.htm>

*Pioneered to bring e-Business to the rural population by introducing an automatic and easy collection procedure for dairy co-operatives.*

### ***Recommended Communities and Networks***

#### **Building Communication Opportunities (BCO) (from [Naimur Rahman](#), OneWorld South Asia, New Delhi)**

<http://www.bcoalliance.org/>

*A global network of organisations active in the field of ICT4D that are committed to learning from and collaborating with one another.*

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

#### **The Global Impact Study (from Richard Heeks, University of Manchester, Manchester, United Kingdom; [response 1](#))**

<http://globalimpactstudy.org/>; Contact [Center for Information & Society\(CIS\);  
questions@ipairesearch.org](mailto:Center_for_Information_&_Society(CIS);questions@ipairesearch.org)

*Informs about a 5 year research project that proposes to examine the impact of a range of shared public access to ICTD models*

**e Chaupal** (from Korath V. Mathew, Madhya Pradesh Urban Services for the Poor Programme (MPUSP), Department for International Development (DFID), Bhopal; [response 2](#))

<http://www.itcportal.com/rural-development/echoupal.htm>

*One of the largest initiatives among all ICT based interventions in rural India that reaches out to more than 4 million farmers; impact assessment recommended of such ICTD projects*

**Bhoomi** (from U. C. Pandey, School of Good Governance and Policy Analysis, Government of Madhya Pradesh, Bhopal; [response 2](#))

<http://bhoomi.karnataka.gov.in/>

*Informs about the Bhoomi project of Computerisation of Land Records initiated by the Government of Karnataka; an example of impact assessment inbuilt in designing the programme.*

From [Hitesh Gosain](#), Consultant, e-Governance, Gurgaon

**Common Service Centre, Department of Information Technology, New Delhi**

<http://www.mit.gov.in/default.aspx?id=825>

*Provides information on a large ICT government initiative that can generate substantial social returns; recommended assessment of this project to evaluate success and failures.*

**National Rural Employee Guarantee Act (NREGA) , Ministry of Rural Development, Government of India, New Delhi**

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

*Provides information on a government initiative that uses IT; can generate substantial social returns; recommended assessment of this project to evaluate success and failures.*

**Rashtriya Swasthya Bima Yojna, Ministry of Labour and Employment, Government of India, New Delhi**

<http://www.rsby.in/>

*Provides information on a government initiative that uses IT; can generate substantial social returns; recommended assessment of this project to evaluate success and failures.*

**Partnership on Measuring ICT for Development, ITU, Geneva** (from [Gitanjali Sah](#), Research Associate)

<http://www.itu.int/ITU-D/ict/partnership/>

*Informs about an international, multi-stakeholder initiative to improve the availability and quality of ICT data and indicators, particularly in developing countries*

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## Responses in Full

**[Richard Heeks](#), University of Manchester, Manchester, United Kingdom** (*response 1*)

To make sure wheels don't need reinventing, I'm giving pointers to a couple of existing resources that have already moved on the issue of ICT4D impact assessment:

a) <http://ict4dblog.wordpress.com/2008/12/03/impact-assessment-of-ict4d-projects/>- this links to a Compendium of ICT4D impact assessment frameworks - basically it's a guide to how to choose and how to use different approaches. It summarises a lot of the work done so far, and includes lots of examples of actual ICT4D project impact assessments. It is intended as a key starting point for any ICT4D IA activity.

b) <http://www.ipairesearch.org/> - "Investigating the Social and Economic Impact of Public Access to Information and Communication Technology" is a joint Gates Foundation/IDRC five-year project on ICT4D impact assessment. Anyone/any organisation looking to work on ICT4D IA would be well advised to contact IPAI since it looks to me as if this is going to be the largest and most systematic project on this topic yet attempted.

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**D. S. K. Rao, Global IT & Innovation Consultant, Hyderabad**

I fully agree with [Mr. Richard Heeks's](#) observations on *not trying to reinvent the wheel*.

I also feel that what is more appropriate for study is 'Why ICT4D Projects fail beyond pilot levels in majority cases'. It is observed that many ICT4D Pilots still are being initiated without a proper analysis of previous failures.

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**Richard Heeks, University of Manchester, Manchester, United Kingdom (response 2)**

In a bid to kick off some discussion, I would just comment on the issue of quantitative vs. qualitative.

As a sweeping generalisation, I would say that quantitative work is more valuable and in shorter supply than qualitative work. By "more valuable", I mean more likely to be taken note of.

I don't know if colleagues have had the same experience but if I had to single out the most-cited piece of ICT4D impact assessment, it would be Rob Jensen's piece on mobiles and fishermen in Kerala. I attribute its influence to its strong quantitative foundation and rigour. Reuben Abraham's quantitative work on the same topic would be not far behind.

If you start backwards from the key question - who is the audience for impact assessment studies, and what will influence them? - then you might get a slightly more nuanced response: that quantitative impacts are those that tend to be used in formal sharing of evidence and creation of new policy/programme documents but that qualitative impact (or, at least, good and engaging real-life stories) tend to have the best informal influence on practitioners and policy-makers

To delve deeper into this, we'd need to get into the writings on knowledge utilisation, and the influence of research on development policy and practice. As agencies, IDRC and DFID are probably key sources for such work.

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**Parminder Jeet Singh, IT for Change, Bangalore**

Before we consider quantitative measurements in ICTD, we need to understand the context of application of ICTs to any sector. Let us examine how ICTs impacted the business sector, where the impact has reached a high level of maturity.

I quote the Wikipedia on what has been called as the 'productivity paradox.'

"The productivity paradox (also known as the Solow paradox or sometimes the Solow computer paradox) is the theory that computers have contributed negligibly to productivity, and is often summarized with Robert Solow's 1987 quip, "You can see the computer age everywhere but in the productivity statistics. The paradox has been defined as the "discrepancy between measures of investment in information technology and measures of output at the national level." It was widely believed that office automation

was boosting labor productivity (or total factor productivity). However, the growth accounts didn't seem to confirm the idea."

Now I quote an APDIP publication

"Gary Becker, the 1992 Nobel Laureate for Economics, has pointed that "from 1995 to 2000, almost all of the improvements in productivity (in the US) were either due to investments in information technology or advances in the output of information technology related goods".

Gary Becker said the above after 2000 to Solow's 1987 quip. This has a very important bearing on how we plan ICTD projects and measure impact. Simplistic quantitative measurements can obviously be hugely problematic.

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

CFED conducted a case study in May 07 (refer pages 26-30) which explains impact of ICT intervention on milk producing farmers which is self explanatory.

**Aavishkaar India Micro Venture Capital Fund: A Case Study - CFED SME Small Grants**

**Program** by Dasra, Catalyst for Social Change; CFED; May 31, 2007

Available at: [http://cfed.org/imageManager/\\_documents/Aavishkaar.pdf](http://cfed.org/imageManager/_documents/Aavishkaar.pdf) (Size: 1.1 MB)

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**Chetan Sharma, Datamation Foundation Trust, New Delhi**

This is a very pertinent issue, and indeed due to massive investments in the National e-Governance Plan (NeGP) and other ICT4D interventions across the country it is very important to have a systematic impact assessment framework.

Unfortunately most work done in assessing the impact of ICT4D initiatives in India as well as elsewhere tends to be more 'anecdotal' without systematically assessing the impact with the help of a robust, stratified sample of beneficiaries and also that of other stakeholders. ICT4D is no different from other development sectors viz. health, education, livelihoods, micro-finance; and also similar to productive sectors be it FMCG, white good consumer durables; therefore if in these sectors time-tested quantitative and qualitative research tools have been applied there is no reason why we can't do the same in ICT4D.

We have been engaged in assessing the impact and social returns on ICT4D for past several years. Earlier this year, we completed an impact assessment of 12 ICT4D interventions across the country; and we applied similar quantitative tools and qualitative tools used in the impact assessment of other social sector projects. This report is available to ICT4D practitioners upon written request since it is a classified document. This methodology seeks to measure the impact assessment on below criterion:

- Minimizing distance to access
- Extending access to un-served groups
- Introducing transparency
- Simplifying transaction procedures
- Minimizing costs to citizens
- Minimizing cost to Govt. (internal efficiency)
- Increasing the Govt. revenue
- Improving the time to transact for citizens & Government
- Offering new services
- Modernization/adoption of best practices

At another level; the e-Governance Assessment Framework (EAF) developed by the Government of India is an excellent framework for assessing the impact of ICT4D and e-Governance initiatives on below attributes:

- How far has the project succeeded in achieving its purpose and objectives?
- Has the project been designed and developed as per widely accepted architecture and standards?
- Is the C2G & G2C project sustainable over long periods of time with or without the motive that initiated the project?
- Is the Project cost-effective in terms of return on investment or in terms of cost per transaction?
- Is the Project replicable in other areas?

The EAF generates a scoring model that is a very effective of gauging the impact of an ICT4D programme. The scoring model generates score on below attributes:

Service orientation - 40 points

Technology - 20 points

Sustainability- 20 points

Cost-effectiveness - 10 points

Replicability - 10 points

Each of the above attributes, has been divided into sub-attributes and key performance indicators. For e.g. Sustainability can be further sub-categorized into Institutional sustainability, Financial Sustainability and Technological Sustainability.

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**Korath V. Mathew, Madhya Pradesh Urban Services for the Poor Programme (MPUSP), Department for International Development (DFID), Bhopal (response 1)**

Please have a look at the SaaS model; it is by far the most effective. Also consider Public Private Partnerships (PPP) transaction based models. Fifty-percent of our IT requirements can come free from this model.

Click on the following link [www.solutionexchange-un.net.in/ictd/cr/res02120802.pdf](http://www.solutionexchange-un.net.in/ictd/cr/res02120802.pdf) (Size 25 KB)

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**Anup Kumar Das, Information Specialist (Consultant), New Delhi (response 1)**

UNESCO has published a number of papers and other publications that deal with impact assessment and social return on investment analysis of telecentres. Some of the recent works of UNESCO are cited below for your reference.

- **Sustainability of CMCs**  
by Alfonso Gumucio-Dagron and Hezekiel Dlamini. *In: How to Get Started and Keep Going: A Guide to CMCs*. Paris: UNESCO, 2004. pages 101-116.  
<http://unesdoc.unesco.org/images/0013/001346/134602e.pdf>
- **Research and Evaluation: The Ethnographic Action Research Approach**  
by Jo Tacchi, Don Slater and Greg Hearn. *In: How to Get Started and Keep Going: A Guide to CMCs*. Paris: UNESCO, 2004. pages 117-128.  
<http://unesdoc.unesco.org/images/0013/001346/134602e.pdf>
- **Evaluation of UNESCO's Community Multimedia Centres: Final Report** Paris: UNESCO, 2006. <http://unesdoc.unesco.org/images/0014/001456/145629e.pdf>

- **What We've Learned: Key Findings from an Independent Evaluation of UNESCO's Community Multimedia Centre Initiative** Paris: UNESCO, 2006.  
<http://unesdoc.unesco.org/images/0014/001492/149280e.pdf>

Hope you will find some specific solutions to the problems given in the query.

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**Geeta Malhotra, Read India, New Delhi**

While implementing programmes on ICT for Development, VOICE RESEARCH could be one of the options that could be considered. The impact could also be measured based on the experiences of the communities with whom we worked; their level of exposure, understanding and skill development.

The success stories are available and documented. There is a need to pool these best experiences in this field as has been shared by [Anup](#) from UNESCO.

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**U. C. Pandey, School of Good Governance and Policy Analysis, Government of Madhya Pradesh, Bhopal (response 1)**

I came across a very useful impact assessment study of e-Governance projects in India conducted by Center for e-Governance, Indian Institute of Management, Ahmedabad. This assessment was prepared by them for Department of Information Technology, Government of India, New Delhi in January 2007.

The members will find the methodology used by them very useful. The report can be seen at [http://mit.gov.in/download/impact-assessment-study-dit-31jan%20\(2\).pdf](http://mit.gov.in/download/impact-assessment-study-dit-31jan%20(2).pdf) (Size 282 KB)

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**Jitendra Prasad, Development Gateway Project, C-DAC, Hyderabad**

It is really high time we start to assess the impact of ICT for Development. During the assessment of impact of ICT, it should be clear that ICT is not our goal but only a means to achieve our real goal. Sometimes I have felt that the means to the goal were getting a centre space and real goals were lacking.

Our policy makers and Development agencies acquired this innovative tool (using ICTs for Development) with the objective of:

- a. Solving the Citizen's concerns in transparent and instant way
- b. Building Capacities of rural communities for better livelihood
- c. Providing quality education to our children
- d. Generating employment opportunities in rural areas
- e. Changing the current capital flow from Rural to Urban to Rural area
- e. Delivering the Citizen services from government offices etc

However, I observed that the above issues are not getting centre space in our present ICT campaign. Except the computerization of official document & website development, (it is also important) core issues have been left behind.

- Our farmers are not getting the real prices for their produce
- Agriculture production is going down
- Their children are not able to get quality education and health services
- Rural women still are using conventional ways to cook food and for lighting their houses
- Rural youth are continuing to leave their villages in search of jobs.

Assessment of ICT impact should be based on above issues. We could also consider starting customization of ICT tools to tackle the above problems for a better and happy life. For better results, public participation is required at every stage and successful practices should be replicated across the state or country.

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**Anup Kumar Das, Information Specialist (Consultant), New Delhi (response 2)**

I wish to further refer to the Finding a Voice Project (2006-08), a collaboration between UNESCO, Queensland University of Technology, University of Adelaide, Swinburne University, UNDP and Australian Research Council. The project established a network of 15 local media and ICT initiatives across India, Nepal, Sri Lanka and Indonesia. Locally embedded researchers worked in each of these initiatives, with the goal of understanding how creative engagement with ICT can be both effective and empowering for positive social change.

Some of the publications of this project, dealing with Impact assessment of ICT initiatives are cited below:

- **Poverty and Digital Inclusion: Preliminary Findings of Finding a Voice Project.** by Andrew Skuse, Joann Fildes, Jo Tacchi, Kirsty Martin and Emma Baulch. New Delhi: UNESCO, 2007. [http://portal.unesco.org/ci/en/files/25679/11970268041poverty\\_en.pdf/poverty\\_en.pdf](http://portal.unesco.org/ci/en/files/25679/11970268041poverty_en.pdf/poverty_en.pdf)
  - **Forging Innovations: Community Multimedia Centres in Nepal.** by Karma Tshering Bhutia and Kirsty Martin. New Delhi: UNESCO, 2007
  - **Participatory Content Creation for Development - Principles and Practices: Research from the Finding a Voice Project.** Edited by Jerry Watkins and Jo Tacchi. New Delhi: UNESCO, 2008
  - **Finding a Voice - Themes and Discussions: Research from the Finding a Voice Project.** Edited by Jo Tacchi and MS Kiran. New Delhi: UNESCO, 2008
  - **Ethnographic Action Research - Training Handbook: A Users Handbook Designed for Information and Communication Technology (ICT) Initiatives.** New Delhi: UNESCO, 2008. <http://ear.findingavoice.org/>
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**Hitesh Gosain, Consultant, e-Governance, Gurgaon**

Some of the large ICT Gov initiatives which can generate substantial social returns are:

1. **CSC Project of MIT** - IT Kiosks - retail network for G2C & B2C services. Private partners identified in most states. Implementation is slow, ownerships are changing hands-at least in a few cases, most of the CSCs have been awarded to 4-5 major private sector players.
2. **NREGA, MoRD** - Photo-ID Cards, data-base of registration and muster-rolls (work award & payments). Implementation devolved to District level- which is a good thing, but hardly any standardised guidelines- which could be a bottleneck for integration.
3. **RSBY, Min of Labour** - Biometric Smart Cards. 1st Year. Shall go on for next five years. Proper implementation & monitoring will be a key to success.
4. **On-line APMCs (Agri)** - On-line APMCs. MP has conceptualised a good Project. Phase -II & III yet to be implemented. Add-ons, which can actually help farmers get better return for their produce, are required.
5. **Financial Inclusion** - Biometric Smart Cards. Banking at 'door-step' (POS). Data Center integrating POSs & Bank(s) on-line. An optimal combo of regularisation & flexibility required.

Assessment of impact of such large Projects as an on-going process can help in prompt mid-course corrections.

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**Korath V. Mathew, MPUSP(DFID), Bhopal (response 2)**

E-choupal has tried to alleviate some of the farmers woes. It has shown the ways ICT can do wonders for the farmers too.

Launched in June 2000, 'e-Choupal', <http://www.itcportal.com/rural-development/echoupal.htm> has already become the largest initiative among all Internet-based interventions in rural India. 'e-Choupal' services today reach out to more than 4 million farmers growing a range of crops - soyabean, coffee, wheat, rice, pulses, shrimp - in over 40,000 villages through 6450 kiosks across 8 states (Madhya Pradesh, Karnataka, Andhra Pradesh, Uttar Pradesh, Maharashtra, Rajasthan, Uttaranchal & Tamil Nadu).

The problems encountered while setting up and managing these 'e-Choupals' are primarily of infrastructural inadequacies, including power supply, telecom connectivity and bandwidth, apart from the challenge of imparting skills to the first time internet users in remote and inaccessible areas of rural India.

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**U. C. Pandey**, School of Good Governance and Policy Analysis, Government of Madhya Pradesh, Bhopal (*response 2*)

It is difficult to quantify the social returns on ICT investment precisely because the short term and long term returns are manifested in different ways mostly intangible in nature. Though it is now established beyond doubt that ICT can definitely enhance productivity I think the crucial questions we need to address for use of ICT in development are as follows:

1. Whether the target group is able to utilise the intended services and what is the extent of utilisation?
2. Whether the project will be able to maintain the economic viability keeping in view of the training & infrastructure cost and fast obsolescence in technology. Networking between different organisations for sharing of ICT resources will help such organisations to meet the need of fast technology upgradation.

Hence, the requirement of cost viability need to be interwoven in design of project itself. I wish to refer a very important project on land reforms called "**Bhoomi**" launched by government of Karnataka in which cost viability and utilisation of resources have been beautifully interwoven in the project design itself.

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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 Information Communication Technology for Development Community in India at [se-ictd@solutionexchange-un.net.in](mailto:se-ictd@solutionexchange-un.net.in) with the subject heading "Re: [se-ictd] Query: ICT4D Impact Assessment and Social Return on Investment Analysis - Advise; Examples. Additional Reply."*

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