Title:
PANeGOV: Understanding Democratic eGovernance in Asia"

Subtitle:
Community Empowerment through ICTs: Evidences from Grassroots in Bangladesh and India

By:
Ananya Raihan
Gopal Kumar
Afrina Tanzin

Report Type:
Final Technical Report

Date:
November 25, 2011

Period covered by the Report:
July, 2009 – November, 2011

Published by:
D.Net
Location:
Dhaka
IDRC Project Number: 104935Sub3-A
IDRC Project Title: **PANeGOV: Understanding Democratic eGovernance in Asia"**
***Name(s) of Researcher/Members of Research Team and Contact Information:**
Ananya Raihan: ananya@dnet.org.bd
Gopal Kumar: gopal.kumar@dnet.org.bd
Afrina Tanzin: afrina@dnet.org.bd
Md. Mokhlesur Rahman
Md. Helal Hossain Dhali
Mizanur Rahman

*Country/Region: *Bangladesh and India*
*Full Name of Research Institution: D.Net (Development Research Network)
*Address of Research Institution:
Mailing address: D.Net, 6/8 Humayun Road, Block- B, Mohamadpur
Dhaka – 1207, Bangladesh
Telephone number (include country and area codes): +88-02-9129779, 8124976, 9131424
Facsimile number (include country and area codes): +88-02-8142021
E-mail address: ananya@dent.org.bd , ananya@raihan.net

Table of Contents

The Research Problem

Development interventions that have evolved in response to ground requirements, been multi-stakeholder and community-led, and pursued inclusive and participative approaches have shown to be far more sustainable than others that have been super imposed from above. Although these insights are well documented, they are yet to be fully integrated into many large ICT4D projects and programmes, which have tended to focus on the technology rather than on the capacity building and empowerment aspects of the ICTs [Gurumurthy A et al, 2006]. There is a reasonable volume of literature on the impact of ICTs on communities (AOCH,2006, Gurumurthy, 2004, Molla A and Al-Jaghoub, 2007, Odame, 2005, Sundararajan, 2006, North, 1990, Raihan et al, 2007, Raihan et al, 2005). However, the relationship between community empowerment and ICTs has not been unfolded there systematically.

The community empowerment is a process of engagement of community members in community governance and various individual or collective efforts for improving livelihood and community well being. In this research paper, community empowerment is defined as informed decision making in electing representatives of local government and national assembly, exercising rights for attaining various entitlements demarcated for various community members by the government and concern of community members about the issues which are not directly linked with the community affairs. The interface of community empowerment with ICTs is access to information and knowledge through various provisions of ICTs available to community members. At the initial phase, access to information provides scope for being informed, which leads gradually to the process of consultation among community members about various issues, which may or may not lead to involvement of community members attaining one or more community level aspirations. The involvement gradually leads towards collaboration and eventually engagement in various processes for enhancing community well being.

As ICTs have been globally influencing different spheres of life, starting from economic activities and market landscape to the exercise of political power, it has become imperative to understand whether the use of ICTs by different players in a community can enhance democratic practices, collective decision making, informed exercise of rights and ensure better transparency.

Objectives

The primary objective of the research was to understand whether there is any relationship between access to ICTs and community empowerment and the nature of such relationship. Largely, the research objective was fulfilled. It was found that the relationship depends on some determining factors. The research was helpful to also draw some policy recommendations.

The specific objectives of the study were as follows:

- ✓ **To map the use of ICTs by different agents in selected communities and understand linkage between community empowerment variables: welfare, access, conscientization, mobilization, and control:** For Bangladesh, a detailed methodology was applied for capturing level of ICT penetration both at household level and community level. Due to resource limitation, such penetration analysis was not designed. As planned, secondary sources have been used for India for capturing level of ICT penetration.

- ✓ **To understand factors which lead to community empowerment through ICTs:** The major factor identified was that the community needs specialized intervention for community empowerment through ICTs. Household level or community level access and use of ICTs also lead to community empowerment, however those factors were not strong enough.

- ✓ To determine outcome and impact (where possible), both positive and negative, of access to ICTs on community empowerment, where level of community engagement with local government is high: Other than individual sporadic evidences, systematic outcome and impact were not possible to capture through the study. The reasons was that ICTs as a phenomenon is relatively new in rural communities both in India and Bangladesh.

- ✓ **To determine factors when access to ICTs trigger changes at functional levels in selected local government institutions, which influence livelihood and social inclusion of selected communities:** There are evidences found in this regard both in Bangladesh and India.

- ✓ **To generate lessons learned and good practices (if any), for the selected communities, of access to ICTs for community empowerment:** Very limited number of good practices was possible to capture both in Bangladesh and India.

- ✓ **To understand whether community members (women and men) can take informed decisions in electing representatives in local government and national assembly and how access to ICTs influence such informed decision making:** This specific objective was possible to accomplish.

- ✓ **To understand if, how, and for whom (individuals, groups, including marginalized) access to ICTs facilitate exercising rights for entitlements demarcated by the government:** the study found, without an agent on the ground, just information available through ICTs is not enough for this purpose.

- ✓ **To understand whether access to ICTs facilitate community members to mobilize against domestic violence:** The research could gather some evidences in this regard.

- ✓ **To understand the level of awareness among community members (both male and female) on local, national and international issues and relation of awareness with access to information through ICTs:** accomplished.

- ✓ **To understand whether local government has improved citizen services offered to whole community including women through the use of ICT:** accomplished.

- ✓ **To examine the level of participation of ordinary citizens (women and men) in activities and decision making by selected local government institutions (local resource planning and mobilization):** accomplished.

- ✓ **To examine whether the use of ICTs in selected local government institutions improves transparency and accountability in decision making/spending by local government institutions:** accomplished.

- ✓ **To recommend policies and a plan of action that will promote engendered community empowerment:** It was found difficult to propose any plan of action for community empowerment through ICTs, however recommendations cover possible actions.

Methodology

The underlying assumptions for investigating relationship of level of access to ICTs and community empowerment are that a community has access to various resources of ICTs available for them within the community. For operationalising the study, the scope of the research was identified as follows:

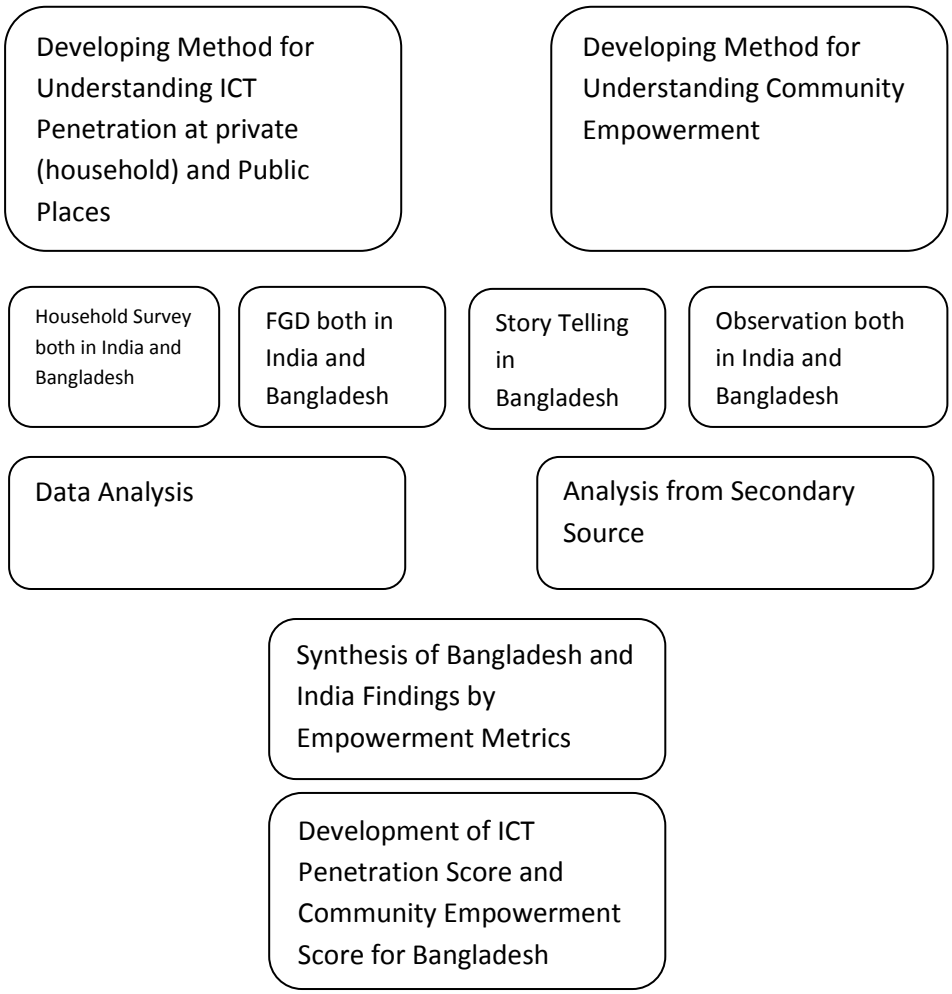
- ✓ As community empowerment is a complex phenomenon, for the sake of feasibility the study was proposed to be confined within the relationship of a community with a local governance institution (primary unit), which has a direct relationship with the community on a number of issues, related to livelihood and civic engagement of a community. This approach was found effective.

- ✓ The study considered both traditional and new ICTs (for example, radio and television as traditional ICTs and computer, internet and mobile phone as new ICTs). The research vindicated this approach as it was found that traditional ICTs are still more powerful that new ICTs for community empowerment.

- ✓ The research was conducted only in two south Asian countries, Bangladesh and India. While in Bangladesh it was possible to conduct systematic survey in selected locations for two years, in India, given its size and logistical concerns, the survey was conducted in limited scale only once. Conducting the survey only once, instead of twice within a short period of one year was felt to be adequate, since it was a survey and not an experimental study with an intervention planned. However, application of qualitative methods facilitated to fill the gap between the survey data of the two countries.

The application of research methods and their flows are presented in Figure 1.

Figure 1. Research Methods and Flow Chart



Initially, a method for measuring level of ICT penetration and level of community empowerment was developed and applied in Bangladesh. Locations for study were selected by application of existing data about level of ICT penetration. Based on that data 12 locations were selected in Bangladesh for in-depth study. In India, 5 communities were identified in 5 states through local NGOs. The data collection in Bangladesh took place in two points of time, one is early January, 2010 and another is first quarter of January, 2011. Along with surveys FGDs were conducted in 10 selected communities. In India the survey was conducted in mid 2010 and FGDS were in conducted in 5 locations at that time.

For mapping use (access) of ICTs by various agents within a community and linkage between community empowerment variables FGDs were conducted with different groups, with

women group separately. Efforts were made to ensure the equal representation of women, especially in the FGDs.

Evolution and Modification of Metrics for Measuring ICT Penetration: The basic premise of the research is to find correlation, if any, between level of ICT penetration and level of empowerment in a community. The research attempted to develop a methodology for measuring level of ICT penetration in a community and for measuring empowerment level of community vis-a-vis local government institutions.

Level of Penetration of ICT: At the early stage of the research the idea about level of ICT penetration was discrete. The level of penetration was identified as elementary- the lowest level, and advanced - the highest level [see Figure 2].

As the ICTs in the study include both traditional and new ICTs the metric of level of ICT penetration includes both types of ICTs, viz., radio, television, mobile phone without internet, mobile phone with internet, computer without internet, computer with internet.

Figure 2 : Level of ICT Penetration

Elementary	Low	Moderate	High	Very High	Advanced
Radio	Radio	Radio	Radio	Radio	Radio
	Television	Television	Television	Television	Television
		Mobile Phone (without Internet connection)	Mobile Phone (without Internet connection)	Mobile Phone (without Internet connection)	Mobile Phone (without Internet connection)
			Computer (without Internet connection)	Computer (without Internet connection)	Computer (without Internet connection)
				Mobile Phone (with Internet connection)	Mobile Phone (with Internet connection)
					Computer (with Internet connection)

Initially, the study team developed the metric in the following manner. If in a community there is only penetration of radio, then ICT penetration is considered as elementary. The higher level from 'elementary' is 'low', which entails presence of radio and television together in a community. The next level 'moderate' is defined as presence of radio, television and mobile phone without internet. As mobile phone gives only individualized access, it is put below the situation where there is both availability of computer and mobile phone with Internet. The level higher than 'moderate' was defined as ' high', which adds availability of computer without internet in the community. The level 'very high' differs from 'high' for addition of mobile phone with internet. And finally, the 'advanced' level is inclusion of computer with internet connection. One can argue, why computer with Internet is put ahead of mobile phone with internet is, a computer with internet can be accessed by many people, where as mobile phone gives only individualized access. Furthermore, behavioral analysis shows that people in rural areas use mobile phone mainly for voice call. Advanced services like *sms* or internet is almost absent in rural communities.

The research team conducted a pilot with this approach and found that it is very difficult to measure level of ICT penetration using the abovementioned metric. The study team found a few flaws in the metric:

a. It was very difficult to find an area where there is no ICT. Most importantly, it was found that use of radio has declined sharply over the last one decade even in rural areas. Penetration of television was found very high. Availability of low cost black & white television set and cheap colour television has been replacing the use of radio in rural Bangladesh. A black & white television is now available for USD 60 and a low cost television costs USD 110. It was also surprising that in the areas, where there is no electricity; people use car battery for running the television sets.

b. It was difficult to find an area, where the study team could find only mobile phone or only computer. Thus, category "moderate' and 'high' could not be differentiated. Except in a few *Upazillas* (sub-district level administrative unit) of Hill Districts, whole country is now under the coverage of mobile telecommunications network. Even in those areas, where mobile phone network is not yet available, young people obtains mobile phone in anticipation of immediate coverage and use the phones for listening to music, both with head phone and with loud speaker in common places.

c. It was also found that both radio and television provides both private and public access. In many cases the team found that one radio is accessed by a group of fellow listeners. In the same vein, most the television sets have viewers from more than one household. In case of mobile phone and computer three types of use were found: exclusively private, private but accessed by fellows and exclusively public. The study team found it is important to capture private and public access to ICTs in measuring level of ICT penetration.

d. It was also very difficult to find communities, where there is no mobile phone without feature for Internet access. However, number of such mobile phone sets is figure countable and people who have such phone do not use them for accessing Internet.

As a whole, there was strong argument for revision of the metric. The basic flaw in the metric was found that it fails to capture the magnitude of ICT penetration and incapable to capture presence of various types of ICTs simultaneously.

The team came up with a revised metric for measuring level of ICT penetration. The metric has been developed as a scoring system. In the newly proposed metric, access to ICTs is divided into two parts: private access and public access. Private access is defined here as availability of an ICT device in a household. On the other hand, public access to ICT is availability of an ICT device in a public place of location. Each location is the lowest unit of local government territory. For example, if there is 10 public places in a location and 3 places have public access to mobile phone, then penetration of mobile phone is 30%.

In the revised metric, six types of access were identified through pilot: radio, television, mobile phone without Internet connection, computer without Internet connection, mobile phone with Internet connection, computer with Internet connection. Instead of giving hierarchy to each type of access, as was done in the initial metric, here weight for each type of access was given separately for private access and public access. The exercise of assigning weight to each type of access was conducted through consultation with 7 groups of rural stakeholders. After assigning weight to each type of access (both for private and public), the next step was to collect data for penetration of each type of ICT. For collection and verification of data related to ICT penetration, 7 groups of stakeholders were consulted separately. The seven groups are: poor segment of the community, non-poor segment of the community, representatives of organised bodies (NGO, club, society etc.), representatives of party in power, representatives of parties in opposition, current Chairperson of *Union Parishad* and former Chairperson of *Union Parishad*. For ensuring comparability of data of penetration, reference to process of generation of penetration data in other location was made.

It was also observed that community stakeholders give priority to public access over private access. For example, in a household a television is possible to use by 5 persons. The same television can be accessed by around 50 people a day in a public place. A private computer in a household can be accessed by maximum 5 users, considering that all five members of a household are computer literate. On the other hand, potential users of a computer with Internet connection is the whole community irrespective of their computer and information literacy as there is a persons who assist access to ICTs. Based on the common feedback from all pilot locations, a weight of 0.35 was assigned for overall score for private access, and overall score for public access was given 0.65. Then, two scores were combined for getting a score of level of ICT penetration in a location [Table 1].

Table 1. Revised Metric for Measuring Level of ICT Penetration in a Rural Community

Example: ICT Penetration Scoring : Purbacharbata, Subarnachar, Noakhali

	Private Access weight	**Penetration at household level (%)**	**Weighted Average**	**Public Access Weight**	**Penetrastion (public places) (%)**	**Weighted Average**
Radio	10	25%	3	10	10%	1
Television	20	40%	8	20	60%	12
Phone (without Internet connection)	15	55%	8	20	85%	17
Computer (without Internet connection)	15	3%	0	20	15%	3
Mobile Phone (with Internet connection)	20	5%	1	0	0%	0
Computer (with Internet connection)	20	2%	0	30	20%	6
Total	100		20.6	100		39
Weight for Private Access			35%			65%
Overall Weight	**32.56**					

Methodology for Measuring Community Empowerment: In the scope of the research, it was defined that empowerment of the community primarily in relation to community's interface with local government. Eight specific indicators were identified which capture community empowerment as a whole as well as in relation with local government institution [see column 1 for Table 2]. For each of the indicators mentioned in the column 1, a set of questions have been prepared to check with all 7 stakeholders of the community identified before, which are not elaborated here. Based on the discussion with each of the stakeholder groups scores have been assigned for each of the indicators. Thus, the participants agreed with the level of maturity for each of the indicators.

Table 2. Indicators and Score for Each of them in 10 selected Locations

Indicator of Empowerment	Belgachi	Basail	Fathepur	Gomonmordon	Hathazari	Purbadhola	Shilkhali	PurbaCharbata	CharAmanullah	NizumDweep
Appreciation of participatory democracy and influences of ICTs over it	25	25	35	25	30	45	30	25	25	35
People's knowledge on their entitlements and exercising rights and the level of role of ICTs over it	25	25	41	25	45	25	25	25	25	41
Mobilization of community members towards social violence and the role of ICT over it.	20	25	40	25	30	55	30	20	25	40
Community involvement in the roles and responsibilities of the LG and the role of ICT over it	15	20	35	20	35	45	20	15	20	35
Level of knowledge of the community people about the local, national and international issues and the role of ICTs over it	25	25	50	60	35	60	30	25	25	50
Community involvement towards the LG's annual activity plan and resource mobilization plan	10	10	30	15	30	45	20	10	10	30
Transparency and accountability of LG towards the community and the role of ICTs over it	15	15	25	10	25	30	10	15	15	25
Presence of collaboration between local government institution and local community orgaisation regarding access to infomration through ICTs	0	50	50	0	0	50	80	0	50	50
Average Score	17	24	38	23	29	44	21	43	21	19

The average score for each of the location indicates the level of empowerment of that community. This score is then matched with the objective of the measurement was to identify position of a community on the scale of empowerment using community empowerment framework [see Table 3, AOHC, 2006]. Using the scale, scores have been assigned to it for convenience of operationalisation and comparison with ICT penetration scores.

Table 3. Stages of Community Empowerment and Assigned Score for Operationalisation of the Framework

Stages of Community Empowerment	Scoring points
Autonomy & empowerment	91-100
Delegate Authority	81-90
Partner	71-80
Collaborate	61-70
Involve	41 to 60
Consult	21 to 40
Inform	1 to 20

Project Activities

- What was done with available resources? Describe the activities supported under the project and their timelines.
- What was learned about the implementation and management of the project's activities? Were certain aspects of project management and implementation particularly important to the success of the project?

The research on "Community Empowerment through ICTs: Evidences from Grassroots in Bangladesh and India" started in July 2009. Initially, all major tasks such as field selection for in depth study, developing instruments, piloting were completed. The project activities and timelines are presented in Table 3.

Table 3. Project Accomplishment Summary

July 01, 2009 - November 25, 2011

Tasks	**Timeline**
Bangladesh	
Preparatory Tasks	July, 2009
Literature review	July – September, 2009
Instrument Design for data	July – August, 2009
Pilot Data Collection	August - September, 2009
Workshop with FGD Team	September, 2009
FGD in 30 locations	September – October, 2009
Entry of collected data;	October, 2009
Review of the data;	November, 2009
Report / synthesis of PRA reports	March, 2010, delayed for data recovery
Presentation of a paper based on methodology of ICT penetration in e-Asia 2009 in Sri Lanka	December, 2009
Main Research Activities (Year 2)	
Build instruments for survey and FGD	December, 2009
Selection of survey team	December, 2009
Workshop with survey team	January, 2010
Survey of community agents in 12 locations	February, 2010
FGDs in 12 locations	March, 2010
Entry of collected data	May, 2010
Review of the data	June, 2010
Report on the 1st year research	December, 2010
Technical and financial report for 1st year	November, 2010
Main Research Activities (Year 2)	
Modification of instruments for survey and FGD	December, 2010
Selection of survey team	December, 2010
Workshop with survey team	January, 2011
Survey of community agents in 12 locations	February, 2011
FGDs in 12 locations	March, 2011
Entry of collected data	May, 2011
Review of the data	June, 2011
India	
Selection of survey team	December, 2010
Workshop with survey team	January, 2011
Survey in 5 locations	July to September 2010
FGDs in 5 locations	Simultaneously with data collection, July to September 2010
Entry of collected data	October 2010

Review of the data	November 2010
Report on India	December 2010
Combined	
Synthesis of Bangladesh and India report	July – November, 2011
Final Technical and financial report	November, 2011

Project Outputs

Research:

- Research reports
  - A comprehensive report on "Community Empowerment through ICTs: Evidences from Grassroots I Bangladesh and India"
- Methodology
  - A new methodology was developed for assessment of ICT Penetration and Community Empowerment
- Milestones achieved in knowledge-building and networking
  - A paper on "Community Empowerment through ICTs: Evidences from Grassroots I Bangladesh", presented in e-Asia 2009 in Sri Lanka
  - A paper on "Community Empowerment through ICTs: Evidences from Grassroots I Bangladesh", presented in e-Gov Conference 2011 in Delft, Netherlands

Capacity:

- Forty Eight young researchers were trained of research methodology, particularly in conducting survey and FGDs
- Five persons were trained in online data management using www.gobeshona.com
- Two persons were trained in project management and communication
- Computers procured for research
- IDRC's continuous support facilitated in building D.Net's research capacity. D.Net is going to build new policy think tank on ICTs by providing support both with trained human resource and resources, which were acquired through this research project.
- D.Net has become a conceptual leader in Bangladesh in understanding community issues vis-à-vis ICTs. D.Net has become part of the global research led by IT for Change, India on Gender and ICTs, as a result of capacity building though this research.

Policy and practice:

- D.Net is going to publish a policy brief on "Community Empowerment and ICTs" based on the findings of the research.

Project Outcomes

  - Scientific, research, or knowledge innovations: D.Net contributed in building methodology of assessment of ICT Penetration and Community Empowerment. The importance of such exercise is conventional methodology does not capture context of access and use of ICTs in South Asian context, where one ICT instrument is being shared by more than one person and public access to ICTs is a very important phenomenon. The methodology takes into account the understanding of community.
  - Changes in behavior, capacities, actions, or relationships of researchers, networks, or research institutions: As a part of PAN e-Gov team, D.Net research team has better understanding of e-Gov issues and best practices in Asia pacific Region and can relate findings of other studies in the contest of Bangladesh. The network built through the research is very helpful for further collaboration. For example, the research on e-Participation in Philippines gives an opportunity to replicate the approach using platform developed by the research team. The study on ICTs and Youth provokes D.net to work on social media and social activism.
  - Policy influence (e.g., expanded policy capacities of researchers; broadening policy horizons of policymakers; and affecting policy regimes): The research played a very important role in rolling out public access facilities in Bangladesh through policy influencing.
- Cross-country coordination of research was relatively new experience for D.Net research team.
- The India segment was a later entrant in the study beginning its work after the methodologies and tools were defined, refined, and finalized. Involvment of the India survey team was, therefore, largely in data collection and not in the conceptualization of the research problem, methodologies, and tools. Due to the late entry, it was found better to follow the lead of the Bangladesh segment, rather than revisit the design of the entire project. Comparable data would also not have been possible if the India segment had proceeded to develop data collection processes and tools afresh. For this reason, and due to the limitation of resources, it was difficult to synchronize research approach in India and Bangladesh. A combination of qualitative and quantitative approach was found important for drawing conclusion on a number of important findings.
- Retention of the research team was a problem. Young researchers leave institution for higher study or better financial opportunity. Frequent change in team composition created problem.
- Lessons:
  - In conducting a research in more than one country, a budget provision is required for meeting the country teams. This would be helpful in synchronizing research approach and findings.
  - In short term research, it is not wise to collect data in more than one point of time. Repetition of data collection in two consecutive years did not give any significant value.

Overall Assessment and Recommendations

The research output will have influence in future planning od ICT intervention for community empowerment. It was very clear form the research that specially designed intervention is required for getting community engaged in decision making process of local government institutions. The communities do not have always clear understanding on how ICTs can be used for improving local governments' performance trough interaction and participation.

In research hybrid method (combination of qualitative and quantitative approach) seems very useful. However, data collection efforts in two consecutive years were not useful .

The contribution of the research in building methodology for understanding linkage of ICTs and community empowerment is significant. The methodology developed may be applied in other countries to improve the robustness of the methodology.

The research was able to unleash the emerging trends in how ICTs can be used in community empowerment. □