

Connecting the first mile: investigating best practice for ICTs and information sharing for development

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This paper summarizes the findings from a two-year research project conducted by ITDG and Cranfield University into the use of information communication technologies (ICTs) for development. This project was managed as a Knowledge Transfer Partnership, funded in part by the Department of Trade and Industry.

Across the globe, development agencies are piloting projects to improve access to information in developing countries, many of which exploit the potential of information communication technologies (ICTs). Projects face the challenge of sharing information with people who have little experience of ICTs, low levels of literacy, little time or money, and highly contextualized knowledge and language requirements.

This paper characterizes this as the challenge of '*connecting the first mile*' and aims to answer the question "What is best practice in connecting the first mile?" through an analysis of the literature and a case study based on practical experience of an ICT for development project in Cajamarca, Peru and to offer recommendations for practitioners and suggestions for further research.

The role of information and knowledge in development is contentious. Whilst it is clear that information is central to development, practitioners struggle to define a causal link between information and development outcomes. In Section 2, we discuss the role of information and of knowledge in development and conclude that information sharing in itself does not necessarily lead to development outcomes, unless the processes are in place to support the transformation of information into knowledge.

ICTs can potentially play a valuable role in sharing information rapidly and effectively. Developments in the ICTs industry such as convergence and reducing costs lead to hopes that technology leapfrogging will help to bridge the 'digital divide'. In practice, ICT for development projects face criticism for being top-down or neglecting the local context or viewing development through a technological lens. Practitioners have difficulty identifying how a project has contributed to development goals, how to monitor and evaluate that contribution,

how to ensure the project is sustainable, and how to 'scale up' or replicate a successful project in a different context. Section 3 discusses these issues in detail.

Evidence from existing projects suggests that the success of many projects is 'situated success' in the sense that the project has worked due to a particular combination of local factors such as a strong champion or good timing. But there are also processes that most authors highlight as contributing to the success of projects in all contexts. Section 4 identifies the key factors that have contributed to the success of projects and the activities which constitute best practice. These are summarized below:

1. Start from the people, not the technology
 - Starting from community priorities
 - Understanding local power dynamics
 - Minimizing social exclusion
 - Strengthening social capital
2. Blend ICTs with traditional information systems
 - Building on existing information systems
 - Choosing appropriable technologies
 - Adapting to local infrastructure
3. Share information that users can appropriate
 - Researching information needs
 - Developing appropriable materials
 - Two way knowledge sharing
 - Creating demand for the service
4. Build strong partnerships
 - Incentivizing partners with complementary strengths
 - Working with infomediaries
 - Building capacity of infomediaries
5. Plan for a sustainable project
 - Planning for financial sustainability
 - Incorporating social and institutional sustainability
6. Share lessons from the project
 - Monitoring and evaluating
 - Sharing lessons with practitioners and donors



Users at the infocentre in Chanta Alta

The case of the Rural-Urban Information System (SIRU) project in Cajamarca, Peru, is used to illustrate how these elements apply in practice. In rural Cajamarca, the local economy depends primarily on agricultural and dairy production, extension services have been disbanded and smallholder farmers and local producers' information needs are no longer met by the state. The SIRU project was set up to meet those information needs, by using ICTs to link local information centres (infocentres) in the region to information providers such as government bodies and NGOs working in the region. The project's successes and the challenges it faces are described in Section 6.

From this case study, we argue that project success depends on attention to process and recommend two key principles that projects should adhere to. The first is that communities need to specify the development outcomes they want to achieve,

before any other choices are made e.g. about technologies or information. The second is that projects need to adopt an iterative project cycle of researching and planning, implementation, evaluation, and learning and sharing, to ensure that practitioners keep revisiting their assumptions, learning from experiences and involving the community at each stage.

Therefore we group the recommendations for best practice into a checklist, which practitioners can consult as they plan and research, implement, evaluate, and share lessons from a project:

	Choices	Activities	Practitioners	Policy makers	Community	Technical	Donors	Infomediaries	Media partners
Research and plan	Start from the people, not the technology	Work with communities	✓		✓				
		Understand power dynamics at local level	✓	✓	✓			✓	
		Focus on marginalized groups	✓		✓			✓	
		Define clear objectives	✓		✓				
		Plan realistically for implementation	✓		✓				
		Link project goals to priorities	✓		✓				
	Plan for sustainability	Identify which services provided as public good and which can be commercial	✓		✓	✓		✓	
	Share information users can appropriate	Conduct a needs assessment	✓		✓				
		Identify the target group	✓		✓				
		Involve target group in project planning and design	✓		✓				
		Research information systems of target group	✓		✓			✓	
	Forge strong partnerships	Research policy environment	✓						
		Recognize power relationships	✓						
		Incentivize partners with complementary strengths	✓			✓		✓	✓
		Identify grassroots-based infomediaries with a track record of working with poor people	✓		✓			✓	
		Find entrepreneurial infomediaries	✓		✓			✓	
	Blend ICTs and existing information systems	Analyse local infrastructure	✓			✓			
		Adopt technologies that local people can repair	✓		✓	✓			
		Choose technologies that people can afford to use	✓		✓	✓			

	Choices	Activities	Practitioners	Policy makers	Community	Technical	Donors	Informal	Media
Implement	Start from the people, not the technology	Build social capital through joint activities and communal space	✓		✓			✓	
		Promote local participation in the project	✓		✓			✓	
	Plan for sustainability	Develop an exit strategy	✓	✓	✓	✓	✓	✓	✓
		Involve the private sector	✓			✓		✓	
	Share information users can appropriate	Incorporate existing systems into project	✓		✓			✓	
		Connect to traditional knowledge	✓		✓			✓	
		Address local language issues	✓		✓			✓	
		Develop materials in the right format for use	✓		✓			✓	✓
		Provide training in efficient information provision	✓		✓			✓	
		Provide useable information resources	✓		✓			✓	✓
		Value and motivate local content through rights and incentives	✓		✓			✓	✓
		Build capacity of target group in content creation	✓		✓			✓	✓
		Incorporate local and external knowledge in information materials	✓		✓			✓	✓
		Promote knowledge sharing at a local level	✓		✓			✓	
		Connect target group to policy-makers	✓	✓	✓				
	Forge strong partnerships	Provide partners with incentives	✓		✓		✓	✓	
		Negotiate conflicting interest	✓	✓	✓	✓	✓	✓	✓
		Buy in experience, hire skilled staff or train existing staff/volunteers	✓						
		Build adaptation skills, e.g. translating content to suit local conditions	✓		✓			✓	
	Blend ICTs and existing information systems	Adopt innovative technologies	✓			✓			
		Develop more accessible devices	✓			✓			
		Blend communications approaches	✓		✓			✓	✓

	Choices	Activities	Practitioners	Policy makers	Community groups	Technical partners	Donors	Infomediaries	Media partners
Evaluate	Start from the people, not the technology	Evaluate efforts critically	✓		✓				
		Adapt the project in response to findings	✓			✓	✓		
		Monitor regularly	✓		✓				
Learn and share	Share information users can appropriate	Establish credibility, influence, and legitimacy with donors	✓						
		Recognize, document, and share good practice in knowledge sharing at grassroots	✓		✓			✓	
	Share project lessons	Communicate best practice to practitioners	✓						
		Share findings with donors	✓				✓		

The checklist aims to support practitioners in deciding who needs to be involved in which activities at which stages of a project. The paper also offers a selection of case studies and further reading to support practitioners in considering connecting the first mile. Our conclusion is that best practice in connecting the first mile involves putting the last first throughout the project process. Only then can projects truly claim to have had a development impact and ICTs can be proven to support information sharing at the first mile.