



Improving health, fighting poverty: the role of information and communication technology (ICT)

Introduction

New information and communication technologies (ICTs) offer potentially powerful tools to improve health, contribute to poverty elimination and speed up the process of human development. But there is a 'real risk' of marginalising poor people and poor countries.¹

Moving from potential to real benefit is a challenge. How can ICT activities foster empowerment rather than lead to new dependencies?² How can the potential of ICTs be 'harnessed systematically' to bring about improvements in the health of the poor?³

Learning lessons from previous attempts to transfer technology is essential.⁴ Panos refers to a history of 'failed initiatives to transfer technologies to developing countries',⁵ caused in part by a lack of participation by the supposed beneficiaries.

Ethical issues abound when introducing technology into a society.⁶ Concepts to consider include: who has access to and control of the technology, what resources are needed to sustain and maintain it, who benefits and who is left out,⁷ whose needs are being met⁸ and what the risks are.⁹

Communication: the first priority

It is useful to distinguish between the parts of information and communication technology by looking at the:

- technology itself
- information that the technology helps to convey
- communication process that the technology is meant to facilitate and through which the information is meant to flow.

Most attention is paid to the technology, particularly access to it. Communication and computer companies play a lead role in encouraging this focus. Some attention is now being paid to the information¹⁰ – in terms of improved access to it and who decides what information is needed and where and how it is produced.¹¹ But the term at the centre of the phrase – communication – is still largely unconsidered.

What is an ICT?

ICTs include a broad spectrum of communication technologies from radio, film, television, press, telephone and Internet to more participatory forms such as theatre, video or story telling. 'New' ICTs tend to focus on the electronic or digital end of the spectrum such as e-mail, the Internet, mobile phones and digital (video) cameras.

Key points

1. Communication, not technology, should be the central concern.
2. Strong health systems and other basic services are essential for effective use of ICTs.
3. Increased capacity to access, organise, repackage and use information effectively is a major priority.
4. Local ownership, participation and content improve the relevance of ICT activities.
5. ICTs should complement other communication work and be integrated into broader programmes.

Communication should be the central concern. Evidence is emerging that where attention is paid to communication processes and systems in introducing ICTs,¹² their use, relevance and contribution to development increases.¹³

Development can never be reduced to technology.¹⁴ Where it is, warns Richard Heeks, attention switches from the political, economic and social factors underpinning development. Then, those with political, economic and social power are able to reinforce their position at the expense of those without such power.¹⁵

A digital divide?

A factor driving the technological push is the concept of a 'digital divide'. The G-8 Digital Opportunity Taskforce (DOT Force) defines it as 'unequal possibilities to access and contribute to information, knowledge and networks as well as to benefit from the development enhancing capabilities of ICT'.¹⁶

However, to see the 'digital divide' simply in terms of technology is to miss the point.¹⁷ Chris Zielinski talks about the 'information rich' and the 'information poor' as a more useful concept,¹⁸ one that brings in a sense of the underlying social, political and economic inequities both within and between societies. This reinforces David Woolnough's point that the digital divide is not a new phenomenon, 'but largely a manifestation of existing economic and social divides'. He calls for sharper analysis to identify the policy steps that can reduce rather than increase these pre-existing divides,¹⁹ a view that is echoed by the 2001 Human Development Report.²⁰

Where is the evidence?

Clear evidence would help shape new policies. However, there is 'an alarming lack of empirical evidence, or analyses, of *actual* experiences of applying ICTs locally and their impact upon poor people's economic and social livelihoods'.²¹

Few projects monitor and evaluate ICT outcomes, especially local impact. Where ICT evaluation has been carried out, for example with telecentres in Latin America and the Caribbean, results tend to be used by external donors, rather than by the people involved.²²

The Economic Commission for Africa describes health-related ICT approaches in Africa as 'islands of donor-supported projects that have little impact on the growing health crisis because they often prove too costly to be replicable'. It says an African-driven approach could lead to more appropriate interventions to meet the continent's needs.²³

Researcher Mike Chivanga agrees that 'top-down approaches ... have done little to improve the information needs' of most people in sub-Saharan Africa. He says little or no analysis of information needs or sociological and ethnographic studies of information consumers have been carried out.²⁴

Overall, says researcher Richard Heeks, 'estimates suggest that the majority of ICT-based initiatives end in *total failure* of a system that never works; *partial failure* in which major goals are unattained or in which there are significant undesirable outcomes; *sustainability failures* that succeeds initially but then fails after a year or so; or *replication failure* of a pilot scheme that cannot be reproduced.'²⁵

Such a collection of failures could be a useful guide to developing better approaches, if it were not for what Chris Zielinski calls the lack of organisational memory among many information and communication projects.²⁶ The projects come and go and the lessons that could be learned from them are dispersed with the staff who take up new areas of work.

Lessons to consider

Nevertheless, lessons can be drawn about how to increase the relevance of ICTs as tools for better health and development. These include the need to:

- strengthen and build upon basic systems and infrastructure
- invest heavily in strengthening local human resources and capacity
- focus on community-led initiatives that use relevant local content
- involve women in planning and use
- encourage long-term planning and policies
- seek cooperative partnerships
- combine old and new technologies.

Strengthening systems

Building on existing layers of infrastructure is an important way to move forward, says Iqbal Qadir, the founder of Grameen Phone – a major programme in Bangladesh that provides cellular phones to village women as an income-generating technology.²⁷ However, in many countries, as University of Zimbabwe medical librarian, Helga Patrikios points out, the basic infrastructure to support ICT use is lacking.²⁸ In such settings, failure to address the underlying issues of improving basic social systems and services, including strengthening the health system, will mean that new ICTs will not play 'more than a marginal role'.²⁹

Building capacity

A key to strengthening health and other social systems is to improve the skills of the people within those systems. Increased effort is going into improving information technology skills. But there is also a need to improve information management, repackaging and communication skills, as well as building basic organisational capacity. This means making a significant time and resource commitment to invest in training and in 'understanding people's problems before applying technology to solve them'.³⁰

A US Peace Corps project in the Gambia found the process of ensuring sustainability was 'more difficult and time consuming than bringing in the actual hardware'. The lesson learned was that development 'is done by building the human resource base, and ensuring that the community feels included every step of the way'.³¹

Ensuring local content and ownership

Richard Fuchs says people need to be encouraged to become involved in information seeking behaviour. 'Before we decide what information will be good for the farmer, the midwife or the entrepreneur, we need to spend some time helping them understand the value of information and the tools that can be used to access it', and letting them decide which information they need from which sources.³²

Identifying the existing channels of information and seeing how to tap into them without disturbing their inherent structure³³ would enable ICTs to be used to support and strengthen existing social networks.

Locally-generated, relevant content that resonates with end users and helps to meet their information needs is more likely to stimulate use of new technologies.³⁴ Facilitating the development and delivery of relevant local content takes time, training and new techniques.³⁵ There is a role here to involve a range of intermediary organisations to act as 'staging posts'³⁶ to adapt information for local audiences and to reflect local knowledge to wider international audiences. Done well, with sufficient resources, such an approach could benefit from the use of ICTs.

Without local leadership, the focus on ICT-based information will mean that information systems and knowledge arising from within poor communities will be 'systematically ignored and overridden'.³⁷

This type of local participation involves shifting and redistributing power at many levels. As such, it directly threatens those whose position depends upon power and its exercise over others.³⁸

Including women

A clear power dimension to be resolved has to do with women's access to information and their use of ICTs. Women's information needs are different from those of men, and quite often these needs are ignored. As well, women's 'access to information from sources outside their social networks and communities are often restricted by their men'.³⁹

Women's freedom of access to and ability to act fully and safely in public spaces is the key to their full participation in the world's future, says Marie-Hélène Mottin Sylla of ENDA Tiers Monde in Senegal. 'Unless (African) women can participate fully in cyberspace, they will face a new form of exclusion from society'.⁴⁰

Designing long-term policies

Much current policy debate is around connectivity issues and ensuring that national policies are in place to enable easy access to telecommunications systems. Important as these policies are, they are only part of the solution. Policy debates need to recognise the potential social and economic inequalities that new technologies may exacerbate. The poverty reduction potential of new technologies 'should be measured against a thorough understanding of the social impacts that they generate'.⁴¹

The policy focus has also been on achieving short-term 'fixes' rather than dealing with the underlying systemic problems. Placing short- to medium-term achievements within the context of much longer cycles of change (up to 25 years) is needed.⁴²

Working together

There is a clear need to encourage more collaborative efforts. WHO refers to the impressive long list of ICT initiatives underway – more than 200 in Africa alone⁴³ – but then asks: 'has any effort been made to get them to work synergistically?'⁴⁴

Educationalist Neil Butcher says, 'more collaboration between organisations with clearly focused objectives may result in more balanced partnerships, ultimately having a greater effect'.⁴⁵ A more balanced partnership could be a new collaboration involving the Dutch and UK

development cooperation agencies (DGIS and DFID) and five other organisations. Objectives include strengthening local capacity to address policy and regulatory issues, supporting demand-led pilot projects, information inclusion with a focus on mixed media, capacity development, knowledge and research, and ICT resource networks.⁴⁶

Combining technologies

Underlying the usual lack of collaboration is the tendency to look at ICTs 'as if they exist in a communications vacuum', or are direct substitutes for existing communication technologies.⁴⁷

Combining new technologies with older technologies – such as radio, print, or face-to-face communication – is increasingly being seen as more productive in terms of poverty eradication.⁴⁸ That includes paying attention to supporting initiatives that go beyond 'the wired world' and enable 'the information poor and ICT-excluded' to be included.⁴⁹ Some evidence is beginning to emerge on the benefits of doing that.⁵⁰

Conclusions

Successful ICT initiatives are usually those that respond to 'real social needs' rather than being prescribed by 'technology pushers'.⁵¹ In contrast, initiatives where technical and contextual knowledge are disconnected, and where the control is located outside the community, are more likely to fail.⁵²

More attention needs to be paid to innovative ways of applying ICTs to the specific information needs of communities and local groups. That includes focusing on building local skills to encourage the process of local appropriation⁵³ and reinforcing traditional information communication networks.⁵⁴

FAO argues for '*socially and culturally responsible connectivity*' strategies. These are strategies that embrace a holistic approach by fostering *equitable access*, supporting *meaningful use* of ICTs and encouraging community and group *self-empowerment* through local ICT appropriation.⁵⁵

Using new ICTs effectively to communicate health and development, in the words of Funredes – a Latin American NGO dedicated to the dissemination of new ICTs – 'is not about plugging and playing, chatting and surfing, getting info abroad, converging to one language, one culture and one market. It's more about empowering persons and communities, collaborating and social networking, producing local content, facilitating diversity of languages, cultures and opinions. Communication above technology'.⁵⁶

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