Sustaining ICT-enabled Development: Practice makes Perfect?

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Sustaining ICT-enabled Development: Practice makes Perfect?

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EXECUTIVE SUMMARY

One of today's most pressing global challenges is to reduce by half the number of people living in absolute poverty by 2015. This requires political commitment as well as effective actions on the ground – actions that provide **opportunities** for poor people, actions that **empower** people by helping them to actually make use of opportunities and to shape their own lives, and actions that help reduce their **vulnerability** to sickness, disaster, and misfortune.

New information and communications technologies (ICTs) are seen by many as tools to help combat poverty and to achieve sustainable human development. However, there is little hard evidence regarding their impact on poverty and there is a feeling that high-cost, high-tech solutions are difficult to sustain in resource-poor environments.

To learn more about the issue of sustainability and ICT-enabled development, and particularly to explore ways to make such activities more sustainable, the International Institute for Communication and Development (IICD) convened a workshop in May 2002. Since the process used was participatory, only part of the many wide-ranging and diverse discussions could be captured. Hence, this summary only gives a flavour of the issues discussed. Nevertheless, the main ideas and suggestions can help us to design and re-design our efforts to make them more sustainable.

Some **key conclusions** from the discussions are:

- Despite the ICT-focus of the workshop, classic organisational and developmental factors (like human and institutional capacities, culture, ownership, participation, political will, etc.) recur over and over as the real issues to be tackled in our search for sustainability. ICTs are not themselves inherently more or less sustainable than other development instruments. However, the ways in which they are employed, and the processes used to formulate and implement ICT projects, do affect the effectiveness and sustainability of the wider development activity.

- ICT-enabled development has some specific characteristics and effects on the people and institutions engaged in it. As examples, it expands and accelerates flows of information, it leads to shorter and perhaps more complex decision making, it allows for potentially more transparent and participatory processes, and it poses often significant challenges and even threats to individuals that need to adjust to new ways. Ultimately, these may be more significant as factors affecting the sustainability and effectiveness of the wider development activity than any specific ICT elements.

- ICTs are fast-evolving and they accelerate business processes. Perhaps because of this, they are often considered to be a 'quick fix' for development challenges. However, just like in other change processes, the time factor is critical to the sustainability of the effort. Moving too fast, perhaps overlooking or underestimating essential local social and contextual factors, will jeopardise sustainability later.

- Lack of basic infrastructure is a serious problem for a development activity that relies on ICTs to address poverty. Even where the poor might want to use ICTs or where they could afford access, inadequate or non-existing infrastructure excludes most of them from the direct opportunities and benefits that ICTs can bring. It is not the end of the story however. Poor people do benefit *indirectly* from the use of ICTs by others, even though they have no access themselves. ICT use in business, government, and entertainment as well as by non-governmental organisations already has an influence on almost everyone's lives. When ICTs make public services and utilities more efficient, or when they improve the quality of local radio, the benefits accrue even to those who have never seen a computer or made a phone call.

These conclusions can help us to better understand the relationship between sustainability and ICT-enabled development.

More concretely, by practicing the following steps, organisations working in ICT-enabled development can perfect and enhance their contributions to sustainable development.

1. **Stimulate ownership** from the start. Include and engage all relevant and interested stakeholders, including any beneficiaries, providing opportunities for them to participate in, and ultimately to own the process and the results.

2. **Incorporate needs and demands** into formulation and evaluation. Before and during the activity, check and continuously monitor the concerns of the stakeholders, using the results and feedback in activity design and re-design.

3. **Envision** the route ahead, the intended results and the role of ICTs in these. Prepare and plan for sustainability questions and issues from the very beginning.

4. **Integrate and anchor** ICTs in wider organisational or development activities and processes. Ensure that ICT applications are part of any wider plans and strategies, and that any broader problems or goals are addressed through the ICTs.

5. **Partner** to reach results. Public and private partnerships help to mobilise the commitments, resources, expertise and capacities needed to make ICT-enabled development sustainable.

6. **Foster creativity** and entrepreneurship. Use ICTs to innovate, to push boundaries, and to empower appropriate behavioural changes. In development, 'business as usual' is usually not sustainable.

7. **Strengthen capacities** to design, decide upon, and execute ICT-enabled activities. Make sure that all the skills and aptitudes needed are identified and can be acquired or obtained.

8. **Influence policy and practice** through networks, lobbying and dissemination. Create and exchange knowledge and lessons for use in ICT-enabled development activities, advocate at the policy level for sustainable infrastructure investments and regulatory frameworks, and educate the broader public on these issues.

INTRODUCTION

Innovative opportunities and actions are required if we are to reach the Millennium Development Goal of reducing by half the number of people living in absolute poverty by 2015.

Broadly, this means finding ways to ensure that the voices of all people – the poor as well as the rich, women and children as well as men – are heard when decisions are made that affect their livelihoods. To include this 'silent majority' in decision-making, we must overcome and reduce the social and economic divides that exclude people from participation, opportunity and choice, and ultimately from society.

New information and communications technologies (ICTs) are seen to offer ways to overcome these divides. Properly used, ICTs empower individuals and communities. They can also extend opportunities to people who traditionally fall out of the system. The reality is not so simple. Already, there are fears that a 'digital divide' between those who can and cannot use the new ICTs will add to existing social and economic divides, instead of helping to reduce them. This digital divide, it is argued, will further exclude anyone who has neither the necessary skills to participate in the emerging 'information society' nor the resources like computers, telephones, and other applications that power the information revolution.

Sceptics and proponents alike ask how ICTs can most effectively be applied in sustainable development – to help eradicate poverty, to expand access to economic, social and democratic opportunities, and to empower poor individuals and communities. A rapid 'population explosion' of 'ICT-enabled' development projects and activities can help us to answer the question above. Indeed, these provide initial evidence that ICTs do contribute to the achievement of various development goals.

However, these experiences are scattered and researchers, policy makers and practitioners are beginning to ask some serious questions. One question is whether ICT-enabled development activities are sustainable and, if so, how is this sustainability achieved.

To answer these and other questions, in May 2002, IICD convened a workshop to discuss how the sustainability of 'ICT-enabled' development activities can be realised. This report focuses on four of the main themes that were discussed: Ownership, human factors, enabling environments, and ICT infrastructure and accessibility.

Definitions

Information and Communication Technologies *(ICTs) are technologies that facilitate the communication and the processing and transmission of information by electronic means. This encompasses the full range of ICTs, from radio and television to telephones, computers and the Internet.*

(DFID)

Sustainable development *is development that meets the needs of the present, without compromising the ability of future generations to meet their own needs.*

(IISD)

Sustainable development requires us to look at the social, environmental and economic implications of our actions. It implies finding solutions to problems, at a local level and on a scale that people can grasp.

(WSIS)

OWNERSHIP

A critical issue in the sustainability of ICT-enabled development activities is the notion of ownership. Local ownership means that a local development actor or actors takes responsibility for the conceptualisation, formulation and implementation of an activity, or parts of it. It implies that the vision, goals and objectives of the activity as well as its results and achievements (or failures) are fully internalised by the actor(s) concerned. It is not just the ICT component that needs to be owned. The wider development activity should also be owned by and respond to the needs of its other stakeholders. It is not enough that an ICT activity is owned by an ICT manager or specialist. It must also be owned by the organisation or initiative in which it is based.

Demand Responsiveness

A key element of ownership is 'demand responsiveness.' This basically refers to the extent that the activity directly responds to the needs of various stakeholders and beneficiaries, and provides opportunities for these groups to themselves determine the priorities to be followed and the actions to be implemented.

Greater demand responsiveness of an activity is likely to lead to greater ownership. Therefore, determining 'whose' demands need to be addressed is critical for the sustainability of any activity. There are many, sometimes conflicting parties involved (donors, providers, organisations, NGOs, beneficiaries). Open and accessible processes and mechanisms to assess, respond to and update demands are critical to this process.

Demand is inherently tied to socio-cultural and political processes and is therefore a dynamic process. Flexibility in programme design and execution is required to ensure its sustainability. Demands change, as expectations and awareness increase. There is a strong relationship between local socio-cultural, political and economic processes and the way in which a development activity evolves. Only by understanding these dynamics do we understand what allows a project to be(come) successful and sustainable.

Mobilising Stakeholders

Ownership can be enhanced by ensuring the active involvement of public, private and not-for-profit actors in the identification, formulation and implementation of activities. This stimulates awareness and acceptance of an activity and helps to provide a firm foundation within a community.

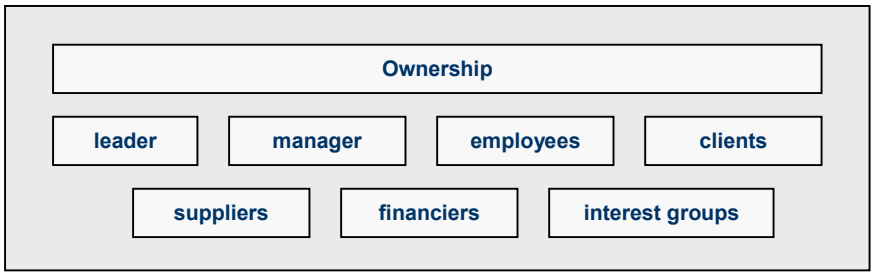
A donor attempt to create a network is a frustrating undertaking when the purpose is not sufficiently demand-driven. Therefore if the need for a formal network is identified, contributing to what is already available, if the right players are involved, may be more successful and efficient, than building something new.

> ***The only network you can build is a computer network.***
> Kees Hommes, IICD

Multi-stakeholder participation often catalyses the distribution of information, resources and partnerships. Role identification, clear definition and communication of the project vision prior to kick-off facilitates stakeholders' ability to relate to the project at hand, and can facilitate mobilisation of the participants for the goal to be achieved. Local actors should lead such communication roles to ensure that the activity is being carried by the right actors. Thus, while community access centres may require national support, community ownership ensures that the individual centres are effective.

Shared Ownership

Different types of projects require different types of ownership, and as the ownership of a project or activity is embedded in the social context and is dynamic, the type of ownership assumed by each partner during different stages of the project needs to be re-defined accordingly. To the financier (the budget owner), we need to also acknowledge the important roles of committed content owners, project owners (intellectual property), programme owners (a vision or concept of a project), etc. In other words, ownership is often decentralised.



IN a pilot phase therefore, different groups of owners should be involved in defining roles. In this process, one should distinguish between *owners* and *sponsors* (sometimes also referred to as stakeholders - the local partner, and stockholders - the development agency).

Generating ownership and awareness is a process that takes time and requires significant effort by the project owners and stakeholders. The various actors should be prepared to invest time on the issues at hand. For example, local politics can influence the outcome and the running of development activities. Both official and unofficial stakeholders may therefore need to take ownership. In networking, members need to feel ownership, otherwise there is little chance for it to become sustainable.

Scalability

Scaling or replicating suggests that an idea is ready for rollout and therefore that it can be sustained on a larger scale. The shift from a pilot project – which can generally be much more easily controlled – to a large- or full-scale programme affect ownership in various degrees: Up front awareness raising and political buy in during a piloting process can help in successfully scaling up an activity in a sustainable way; competition among different actors, power issues within an activity, or redefining the project to please a donor can have negative effects on sustainability. Lack of attention to future scaling options in the design phase is also a potential weakness.

The essence is that a project can operate at a low/semi-independent level, driven by an individual. However, once it has been scaled up to the organisational level, it immediately needs to attract other owners and sponsors and it has to compete to become accepted as a legitimate task for the organisation to spend its resources on and be responsible for. Scaling a project up involves power dynamics as well as, social, cultural, organisational and economic structures. In such processes, one can expect a shift from *individual* to *organisational* vision, resulting in a shift in ownership.

Incremental upscaling may in some cases be more appropriate than massive implementation. Trying to replicate a pilot in a larger context doesn't *necessarily* succeed. However, if a pilot or implementation project fails, this need not lead to closure, but rather should be considered as a learning process, and perhaps a signal to re-engineer the process, or to redefine the concept. Sometimes downscaling can be more appropriate in terms of sustainability.

> ***Franchising works for McDonalds, but not for development.***
> Anriette Esterhuysen, APC

When the decision on scalability is made, the questions of demand and ownership should be addressed. Scaling a successful pilot up may not be appropriate or desirable everywhere. Actions and conclusions should follow accordingly.

Donors and Development Agencies

Where funding is provided from external sources, the sustainability of an activity is closely associated with the migration path and transition from dependent project to (semi-) independence. Many projects fail when the donor funding stops, suggesting that the main owner was actually the donor.

In such cases, it is most critical that 'donors' do not act as 'donors' but as joint partners with a stake in the success of the project. Their contribution is funding, expertise in the areas where it is limited or is lacking and perhaps political clout. A clear phasing out of donor inputs and a phasing in of local inputs is necessary. Local partners provide other inputs such as ownership and project management. This joint responsibility is needed at all phases of the project cycle. Sustainability can be enhanced by:

> ***If you drop the D from donor, you get "onor" (owner)***
> Riff Fullan, Bellanet

- Building realistic expectations from day one, outlining the up-front commitments from all the parties, a clear strategy or vision as to whether the aspirations lie in financial sustainability or macro-economical sustainability. This includes a clear role definition for the parties involved, evaluation milestones and a balance between what is donor-driven versus demand-driven.
- Building an a priori understanding of the inputs to be provided from the donor or development agency regarding the implementation and management of the project, with an emphasis on local ownership and capacity strengthening.
- Including lessons learned from both successes and failures, and a clear understanding of the local context and situation, which affect implementation trajectories. This is especially important when a donor hypothesises that a successful project in situation x is also likely to succeed in situation y.

Political Issues

Sustainability is also affected where political problems dominate the ownership issue. On a micro level, this can mean insufficient or conflicting ownership of processes (e.g. budget owners versus conceptual owners), lack of clarity on who is in charge, or an incomplete transfer of ownership along a hierarchy or organisational structure.

At a macro level, shifts in government can have significant effects on the sustainability of an initiative. Political involvement in a premature phase may hamper progress and momentum through bureaucracy or the desire to turn a project into a political statement. Politicisation may cause antipathy to a project when a new policy maker takes over. On the other hand, ownership by policy makers can provide the clout required to implement an initiative sector-wide or to gather funds, which can contribute to the sustainability. Because of the multitude of social and political contexts, there is no single solution to this dilemma; however, awareness can minimise the effects.

At both levels, these problems can be addressed by including, first of all, analysis of the organisational structure in the planning phase of the roles and structures; one can then allow time for networking and restructuring of ownership if these problems occur, thus avoiding

conflicts down the line. Furthermore, when one includes a broad buy-in and involvement of owners, ensuring that there is a constant flow of communication between them, there is a broader foundation that can sometimes buffer adverse political effects. Generating awareness amongst a multitude of owners and pre-defining ICT policies, will allow an initiative to be less vulnerable when political shifts occur and, in a bottom-up approach, generate more clout when lobbying for support from policy-makers.

Roles and Actions for Ownership

In dealing with ownership, key issues concern the definition of 'owners' versus 'stakeholders' and filling in the corresponding roles and processes accordingly. This includes defining levels of ownership, collective or individual, acknowledging the need for different approaches for different people and different projects, and sharing in accountability *and success*. Sustainable project ownership involves dynamic dialogue, negotiation between all relevant parties (including official *and* unofficial government, such as local elders or unofficial authorities), management of risks and resolving tensions.

Multiple owners imply multiple agendas/interests and the need to find ways to share and resolve these. All owners need to feel as much ownership as they want, and not all owners feel equally committed. Each member needs to feel that its concerns are being addressed if it is to take some ownership. There is a need to re-visit and re-define the ownership positions that different project owners have during the life cycle of a project. To enhance sustainability, it is important to consider the involvement of different stakeholders, including government, NGOs and private sector entities. Donors, in fact all actors, can also be owners, but only of what is agreed by all. All in all, it's the most critical and trickiest factor of sustainability.

Ultimately, ownership is an integral part of a programme at every level from day one, as the commitment and involvement of the parties involved directly affect its sustainability. By recognising strong ownership as a fundamental building block and by spending sufficient time and resources on it - not only to sustain the project, organisation or network, but also by capacity building, an idea can germinate into something sustainable. By broadening the scope of ownership, the sustainability of the project is more likely to be achieved thanks to a wider bearing surface. Although networks are not necessarily the (only) way to achieve this, they provide an important, if not essential contribution to creating sustainable ownership.

Gradual transitions are needed from a stage where the sustainability of an activity is mainly influenced by the funder(s), to a stage where the local stakeholders are themselves the critical factor in sustainability. Some concrete actions are:

- Explicitly address ownership issues in the activity design and visioning phases.
- Be flexible in allocating time and resources to develop ownership.
- Acknowledge that there are different types of ownership, and that these are affected by many socio-cultural, economic, political, and organisational factors.
- Encourage ownership by the right actors at each level (not just with those directly involved).
- Distribute roles and include key players in dynamic dialogue – include beneficiaries, donors and policy makers here as well as any activity champions. Their enthusiasm and background knowledge can catalyse the success and advocate ownership.
- Link ownership to capacity building to enhance sustainability and underline the benefit for participants to stay involved.
- Differentiate between owners and stakeholders, and identify the role of donors.

- Development agencies should create an enabling environment rather than being creative themselves, i.e. act as stakeholders ('stockholders'), rather than owners ('project managers'). Introduce incentives that encourage ownership.
- An environment analysis that takes account of socio-cultural factors, by joint local and international teams prior to project implementation, can enhance awareness and understanding of the project setting.
- Project owners, enabling and funding partners have an important role to ensure broad buy-in to an activity. A true pro-poor strategy is often difficult to implement for development agencies because of the difficulty of reaching this group. Therefore, mobilisation of stakeholders facilitates *indirect* access to this group, e.g. via NGOs, churches, focus groups, etc. Although many needs and demands can be identified, addressing them normally requires joint action by several organisations, each with different roles and added values. This is why multi-actor approaches are critical – a single (type of) organisation cannot identify or encompass all these roles and all these values.

HUMAN FACTORS

In most developing – and developed – countries, the capacity to identify, formulate and implement ICT for development initiatives is not present in all its aspects within a single organisation. Local actors, stakeholders and users cannot become effective and efficient owners of the project, nor ca they fully achieve their aims, unless they acquire necessary skills. Capacity is required in different aspects, including technical skills and knowledge, managerial capacity, financial capacity and other less tangible qualities such as enthusiasm, interest, etc. Experience shows however that some of the key capacities are undervalued or even overlooked. The question fundamental to this discussion is; *What local capacities are required to develop and sustain ICT for development, and how can they be attained?*

Addressing any human factor at any level, whether this regards cultural differences, capacity development or hierarchy issues, boils down to effective communication, listening to other people's needs and stimulating an open learning environment where there is room for development and where the time and effort is taken to listen to participants. Such an environment is not only most satisfying for the participants themselves – encouraging them to stay within an organisation or participate in a network – but can provide innovation, creativity and dynamic dialogue for the generation of refreshing ideas and initiatives.

Dynamic Dialogue

A key capacity is to be able to engage in dynamic dialogue, or 'creating a multidirectional communication process.' This has a threefold purpose:

- First, to bridge different conceptual approaches;
- Second, to gain shared understanding among different actors and partners as the project evolves;
- Third, to answer the need for new institutional models.

Multi-directional dialogue (bottom-up, top-down, horizontal) encourages ongoing discussion and is allows actors to incorporate feedback and lessons learned.

Why is this important for sustainability? In building a knowledge society, dialogue reflects and makes explicit existing socio-cultural, political, and economic processes in society. Additionally, a communication-intensive environment stimulates sharing of experiences, which can provide valuable lessons and incentives for change as necessary. Furthermore, sectoral isolation and barriers can be overcome when multiple stakeholders and parties exchange knowledge and experiences, which, for example, can help to avoid 'reinvention of the wheel'.

> ***ICT flourishes in a society that is information and communication intensive.***
> Paul Engel, ECDPM

Dynamic dialogue encourages creativity and innovation in a communication-intensive community, it also stimulates democratisation and helps to give a voice to all groups involved in the activity.

Entrepreneurship

In Uganda a small but successful enterprise was set up using only a standard mobile telephone charger and an electricity outlet at a bus station. This enterprising individual re-charges shoppers' mobile phones for a marginal price. The resources required by the entrepreneur are limited to a phone charger and access to the electricity outlet, allowing him to keep his costs and prices low. Although the market has limited financial capacity, the creativity of the entrepreneur allows him to generate an independent livelihood.

Participant

Entrepreneurship plays a significant role in the sustainability of ICT-enabled activities. However, entrepreneurial spirit - a combination between human factors (motivation, enthusiasm…) and ownership - can fizzle out when hierarchical structures are introduced. This is a challenge during scaling up when a project manager, used to space and being creative, has to blend into more rigid structures. Donor relationships may also have an effect as they remove the critical success factor for entrepreneurship, namely the need for survival. When individuals need to be creative to gain access to financial resources, entrepreneurship blossoms; with a steady flow of outside funding, creativity and independence can be stunted.

Motivation and Incentives

At any hierarchical level and in any geographical region, nurturing and retaining talented staff are major aspects contributing to the sustainability of initiatives. When a key project member leaves, the impact on the sustainability of the project can be disastrous. An often-voiced complaint is that staff, once trained sufficiently to be of value to a team, in fact becomes invaluable for its sustainability. At the same time, such skilled people are high in demand and so may abandon projects before completion or handover.

In this sense, nurturing a strong sense of ownership, as identified above, can provide the key to involvement and motivation. Enhancing job satisfaction, even where money is short, can be the key to retaining talent through innovative motivational incentives such as training, performance evaluations, appraisal and appreciation. Investing *time* and stimulating an *open communication environment*, acknowledging factors such as trust and social inclusion, are low-cost methods for finding the right incentives and common objectives which can contribute to a staff-member's feeling of esteem and job-satisfaction.

If you think it's expensive to train people and they run away, just compare the costs if you don't train them and they stay!
Willem Janssen, ISNAR

Human resource management has the responsibility to ensure that all staff feel involved and acknowledged. This can be achieved through simple initiatives such as enhanced communication, encouraging an 'open-door policy' throughout the organisation, allowing people to voice their ideas, frustrations and needs. External incentives such as sufficient salary and training based on staff development may be alternative stimuli for an activity's continuity.

Capacity Development and Knowledge Sharing

A fundamental problem damaging sustainability is insufficient capacities (such as ICT skills, communication skills, management skills, etc.) and the cost involved in developing these. One way to deal with it is to continuously scan and address capacity gaps. To avoid prohibitive training costs, sharing resources across similar organisations be a solution. Computer-aided training material is another manner of achieving this, whilst at the same time enhancing awareness and familiarity with the potential and usage of ICT, accounting for the problem of technology shyness.

Networks fail when they start to distribute resources instead of knowledge.
Paul Engel, ECDPM

Foreign partnerships, through specialised institutions or networks, can provide capacity and resources, where these are lacking. Although common actions and mutually beneficial outputs are often effective incentives for networking, meeting relevant people and exchanging experiences and knowledge – and not the product output per se – are often as beneficial and result in all kinds of expertise improvement.

By aggregating acquired knowledge through technology seminars and sharing documentation through networks rather than storing it on stand-alone computers, in other words by creating learning and knowledge organisations, one can combat the adverse effects of staff turnover and high training costs. The biggest threat to the sustainability of any initiative is at the same time what contributes to its success, namely the *people* participating in it and their feeling of relevance. If an organisation does not have all the expertise it needs, it can be mobilised through active participation in networks focused on the same or similar fields. Not only can this provide access to expertise and stimulate sharing of knowledge and experiences for project participants, networks can provide donors and private partners with insight into demand and can be a means of accessing the target group, contributing to the effectiveness of a programme.

Socio-Cultural Factors

Human factors such as language barriers, cultural differences, gender issues, lack of transparency, hierarchy etc. are often major challenges to overcome. Addressing these matters is a critical issue for the promotion of actors' involvement and interest at any level, but particularly at network level. Therefore, frequent analysis of network objectives - 're-visioning' - can enhance ownership and sustainability. At the project and organisation levels, these factors need to be built into project design from the start.

Roles and Actions for Human Factors

- A capacity analysis prior to beginning an activity will help to identify the right people for a successful project. 'Soft skills' such as managerial skills and human relation skills are often overlooked to the detriment of the sustainability of the effort.
- Staff motivation programmes and incentives can stimulate personal development and may create incentives for active participation within an organisation or network. An emphasis on, for example, training and staff development can enhance job satisfaction and self-esteem, combating the problem of high staff turnover.
- Creating an enabling communicative environment, where knowledge is not only isolated within expert individuals but *shared* within the organisation or bundled in a network, may be an effective manner to limit the damaging effects of 'brain drain'. Not only does consistent knowledge sharing enable an open and learning environment within the organisation (allowing open communication and (thus) enhancing socio-cultural understanding), if a key person leaves, some of their expertise remains.
- Stimulate network participation: active networks and focus groups can bring expertise, which may otherwise not lie within the reach of an organisation or project. Cross-cultural exchange and knowledge sharing can enhance staff motivation, open communication, and participation factor and can prevent 'reinventing the wheel' where experience is already available.
- Forging partnerships provides insight into needs, requirements and power structures, and can furthermore stimulate effective sharing of knowledge in order to provide a clear scope of initiatives and socio-cultural factors influencing activities. Enhanced knowledge of these factors can help in projecting future developments, in order to anticipate or in the best case, prevent problems encountered through lack of capacity, resources and high staff turnover.

ENABLING ENVIRONMENT

During the workshop, discussions focused on three types of actors that have a key role in the enabling environment. Distinctions were also made between different levels at which enablers are needed.

Overall, the identification of the objectives and criteria of an environment assessment as well as its execution should be performed by representatives of multiple parties, including at least the donor or enabling party and the local partner organisation, in order to ensure that the main stakeholders are on the same line. Furthermore, a government policy may differ from that of an organisation, which again can be different from the donor agencies'. If the discrepancies are too divergent, the sustainability of the activity may be jeopardised. The key question is whom to include and at what level in order to create and maintain a strong enabling environment.

Local Environment

The local environment has several basic but significant sustainability issues to deal with, generally classified as follows:

- *Lack of appropriate financial mechanisms (micro-finance and funds)*
  The basics for an enabling environment are usually financial: sufficient resources need to be available to enhance awareness, provide training, fund activities. Donor seed money, micro financing and funds can provide opportunities to fulfil these issues.

- *Limited capacity and poor quality of service*
  At a local level, human resources may be limited, hampering the enabling environment through poor quality of service. However, outsourcing, to local people where possible, can provide relief and enhances awareness of activities at the same time.

  From a different angle, network advocacy can provide expertise, which is not available locally *and* can serve as a pressure group to stimulate awareness and leverage. This leverage can help combat poor quality of service, perhaps in combination with certification programmes and sharing of resources and capacity.

- High turnaround of stakeholders is a threat to the sustainability of an enabling environment. Incentives such as workshops and seminars, training and networking can provide opportunities to prevent lasting harmful effects as well as enhancing awareness and capacity amongst the local environment.

National Policy Environment

Almost everyone agrees that enabling policy frameworks and guidelines are essential for actions to be effective and for ICTs to take off. It is also admirable when ideas are taken up and become policy.

Sometimes however promising project ideas quickly gain a following and have a major policy effect, even when the project idea is untested. In some countries, this has resulted in over-ambitious aims as well as proposals that simply exceed the absorption capacities of the executing bodies. It is often wise therefore to explore the feasibility and viability of an approach, through smaller-scale projects, before scaling up and rolling out as part of national policy.

Participant

"Big bangs" can be successful in attracting attention to an activity and they enhance momentum on the short term; however, they can inflate expectations far beyond what is reasonable. Although the effect of incrementally scaled projects may be slower, best practices can be

identified and expertise built, and an incremental spiral of knowledge dissemination can provide a more solid basis to the enabling environment, providing it with more credibility than a single political statement. Furthermore, a slow but thorough start may induce energy into a sector and, in the process, generate an interesting network of knowledge and expertise.

Developing – and developed – countries are often pressed to formulate strategy and funding policies, but these are difficult and time-consuming to implement due to lack of capacities or base data, due to bureaucratic requirements and a large-scale focus. A 'top-down' approach, focusing on policy rather than pilot projects, is often large scale and may generate significant awareness and momentum, which in turn may enhance a strong enabling environment. On the other hand, such a large-scale approach may have problems in generating sufficient ownership within the community involved, and the volume may complicate smooth implementation. Thus, a bottom-up approach, involving project managers and beneficiaries, may sometimes be more favourable, despite outside pressure to focus on policy forming. The pros and cons of either approach should be carefully considered before each implementation trajectory.

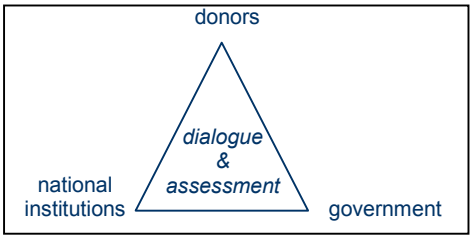
Rash transformation of a project into policy can hamper the creation of best practices and experiences required to upscale the scope of a project, can 'politicise' the initiative and thus cause antagonism when political shifts occur, or unnecessarily bog down the implementation process down through bureaucratic restraints. Incremental transformation can provide a solid basis prior to scaling up and provide a positive example to encourage policy makers in supporting an enabling environment, yet has the risk of losing the momentum required in gaining support. The involvement of various stakeholders at different levels (project partners, NGOs, donors and policy makers) from the start of the project can provide insight into best practices for implementation, knowledge sharing for the expertise required by the project actors and a broadly informed basis for a solid enabling environment.

At the macro level, it is most critical to be clear what government should do and in which manner, so that others are enabled to do what they do best. At the micro level, there is often little that can be done to get around government policy, except perhaps to join with others and advocate change. A regulatory framework can help provide a large-scale impact of ICTs by providing the basics for a broader scope of activities. By shifting the focus to democratic accountability, i.e. how does the government provide better citizen services, a distinct role and responsibility is identified for government participation. In other words, the government should move from being a provider, to being a mobiliser or facilitator. In this manner a firm foundation of partnership is designed, whereby ICTs can be mainstreamed through all sectors in a way that involves government while maintaining the momentum of individual project owners.

International Cooperation Environment

Much attention is usually focused on the relations between the donor and the national institution executing a development activity. In the discussions a more complex set of relations was highlighted.

First, donors are more and more engaging in sectoral or national level dialogue with central agencies like a planning or finance ministry, providing programme or budget funding for a set of agreed governmental activities. Thus, the donors are often not directly interfacing with the individual agencies involved in execution. Donors may therefore have limited abilities to influence the ICT enabling agenda at an implementing level.



Second, where implementing organisations do wish to invest in ICTs, for instance, the central agencies with ultimate decision power over budgets and staffing are often not aware of the possibilities. An enabling local – organisational – environment may not be enough. Getting the enabling environment right therefore means looking at all the levels and understanding exactly where leverage is possible.

Tensions between *local* expectations versus those of donors and development agencies can be positively influenced when *organisations and government* can bond together to enforce solid policies. If this type of three-way interaction is achieved, sustainability and a long-term enabling environment can be maximised.

Scarcity of resources remains a threat to an enabling environment. Resource-sharing, encouraged by Sector Wide Approaches (SWAps), can provide an attractive solution to scarcity at a project or organisational level. However, when SWAps provide funds to national governments, these may choose to spend it on non-ICT related activities, causing project capital to dry up and excluding the activity from the enabling environment. Finding a balance between these two issues can be achieved through continuous communication between an array of participants, beneficiaries, donors and experts, thus underscoring the importance of networks and knowledge sharing.

Roles and Actions for an Enabling Environment

- An enabling environment is often a matter of stimulating advocacy and awareness. Where this is the case, organisations and projects alone may have little influence. Joining together to form a network or other form of partnership provides an opportunity to enhance their effect and to optimise the enabling environment.
- For *local actors*, networks can provide valuable knowledge where this is lacking in the organisation or project team. This involves identifying which organisations *have* this knowledge, and if it is not being shared, identifying why this is and who the 'gatekeepers' are. A strong network may *be* the enabling environment, helping to pressure policy makers and making it easier for initiatives to find needed resources.
- For *national policy makers*, a network can provide insight into the wishes of the partners involved, allowing policies to better reflect requirements, and encouraging the free flow of information needed for a sustainable enabling environment.
- For *donors*, a network improves awareness of local partners' wishes, gives insights into capacity and helps locate where development is required to maintain the sustainability and quality of activities.
- The local players' interest, and thus their role, should be paramount; although external expertise is essential for the flow of knowledge and sharing of resources within a network environment, one should beware of an overbearing role of outside consultants and agencies.
- Mixed agenda's and conflicts of interest will obstruct the achievement of a strong enabling environment. Therefore, acknowledgement of different agendas, whilst seeking to identify common ones, will contribute to a more sustainable environment. It is essential that several key actors are involved and that they are committed to enhance leverage.

One problem with larger donor agencies is that the level of bureaucracy involved with funding excludes smaller projects. Therefore the enabling environment is narrowed, not through lack of policies, lack of resources, lack of demand or reluctance on the side of the recipients, but through *donor-imposed exclusions*. This can create a serious barrier for innovation and creativity and is counter-productive to sustainable development activities. A positive suggestion to confront this problem is to create special seed funds or micro finance to be made available locally or via intermediaries.

ICT INFRASTRUCTURE AND ACCESSIBILITY

When it was introduced, mobile telephony in Kenya became an instant hit in rural areas that had long been ignored by existing telecommunications operators. Once the mobile providers had demonstrated the market potential, the 'traditional' wired infrastructure was expanded to various rural areas. Developmental goals could to some extent be attained through developments in the market.

Participant

New technologies can provide significant incentives for incumbent suppliers to improve their quality of service and, in the case of telecommunications providers, to expand infrastructure to previously neglected market segments, by enhancing competition in the market. In other words, building awareness of the opportunities for the private sector can help to build opportunities to the financially weak, whilst at the same time boosting the local economy and enhancing the communication society. This direct financial benefit may provide an incentive for policy makers to improve the quality of infrastructure also for the poor - a previously 'unattractive' market.

The ground level issue of sufficient, affordable and effective ICT infrastructure and access to it is therefore critical to the success or failure of ICT projects.

Whilst the focus in accessibility discussions in the North is focused on issues like maintenance, capacity development and broadband access, the priority in the South is more focused on gaining access to (reliable) infrastructure in the first place, followed by maintenance, training, and upgrading – often not relevant until the initial infrastructure is available.

At an operational level, the sustainability of an ICT activity depends in part on the reliability of the infrastructure and available hardware and software as well as its maintenance and upgrading.

A creative way to overcome or deal with high access costs as well as lack of maintenance skills is to cluster ICT access and information dissemination functions into single 'tele-spaces' of various kinds. From these centres, information can be gathered, packaged or re-packaged, and dispersed via traditional, cheaper or more widely available media such as radio, television or newspapers.

The life-cycle of a donor project and its handover to local actors often coincides with the life-cycle of the infrastructure and hardware.
Heleen Weeda, CEBEM

As the quote suggests, the life-cycle of hardware investments often seems to coincide with the life-cycle of a development activity – and when a development agency departs, the local organisation is left with obsolete equipment. Possible remedies to this problem are:

- Better initial project design,
- Recycling and upgrading equipment (rather than replacement),
- Including capacity development (maintenance of equipment) in the activity,
- Planning for maintenance and replacement and including them in budgets at the initial phase of a programme.

The prohibitive costs of hardware and software also threaten the sustainability of ICT activities when replacement or upgrading is necessary, and it encourages software piracy.

Ways to combat these problems include:

- Upgrade or recycle hardware instead of replacing, or use adapted systems[1].
- Lobby for discounts from the manufacturers as well as for reductions in import duties.
- Use open source and freeware.

Inter-connection problems, lack of technical standardisation and maintenance problems can be countered by cooperation. Shortages of maintenance skills can be combated by sharing resources for training and by creating a platform for knowledge exchange (including the private sector). A complicating factor is that contexts and geographical differences sometimes make the identification of uniform solutions problematic. Experience shows that there is a plethora of non-compatible knowledge systems– hence cross platform tools such as email are critical.

Roles and Actions for ICT Infrastructure and Accessibility

- A multi-stakeholder approach, by drawing in the private, public and not for profit sectors, can push the issue of inadequate ICT infrastructure, leading to significant changes in policy as well as other useful spin-offs from the dialogues taking place.
- Other capacities and expertise can also be mobilised and shared, often through participation in networks, open training initiatives and joint initiatives.
- Technical and ICT skills are not sufficient. Other 'soft' skills in areas like project management, partnering, business planning, visioning and strategic planning, as well as networking etc. are critical.
- Adopting a business focus in project plans can make the projects more transparent, attractive to investors, and also motivate the people involved to take on responsibilities and risks – ownership.
- One way to improve the life cycle of hardware is to upgrade old equipment rather than replace it. This can be a less expensive way of staying 'up to date' on developments, harnessing training skills and avoiding complicated migration trajectories to new systems and infrastructure. Prohibitive costs for software licences can be avoided by choosing open source. However, the expertise involved in the adaptation of this software is often lacking, making implementation sometimes cumbersome and arduous.
- Scanning for creative solutions - and trying them out – is an essential learning by doing approach. Where electricity can be generated by solar energy, where lack of a telephone network can be compensated by wireless technologies and where lack of expertise or capacity can be supported by networks or by traditional technologies such as radio, the restrictions imposed by lack of infrastructure and accessibility can be addressed.

[1] For example, the 'Solo' is a lightweight computer using only one tenth of the usual processing power and it can be supported by a small, solar-powered generator. Its mouse and keyboard are protected against dust by a special type of foil making it suitable for harsher environments often found in remote and poor areas.

IICD profile

The International Institute for Communication and Development (IICD) assists developing countries to realise locally owned sustainable development by harnessing the potential of information and communication technologies (ICTs).

IICD realises its mission through two strategic approaches. First, Country Programmes bring local organisations together and help them to formulate and execute ICT-supported development policies and projects. The approach aims to strengthen local institutional capacities to develop and manage Country Programmes, which are currently being implemented in Bolivia, Burkina Faso, Ghana, Jamaica, Mali, Tanzania, Uganda and Zambia.

Second, Thematic Networks link local and international partners working in similar areas, connecting local knowledge with global knowledge and promoting South-South and South-North exchanges. Thematic Networks focus on sectors and themes like education, health, governance, the environment, livelihood opportunities – especially agriculture – and training.

These efforts are supported by various information and communication activities provided by IICD or its partners. IICD is an independent non-profit foundation, established by the Netherlands Ministry for Development Cooperation in 1997. Its core funders include the Directorate-General for Development Cooperation (DGIS), the UK Department for International Development (DFID) and the Swiss Agency for Development and Cooperation (SDC).