

# **Using ICTs to Generate Development Content**

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# **Using ICTs to Generate Development Content**

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## FOREWORD

One of the strengths of new information and communication technologies (ICTs) such as the Internet is the way they can help unlock distant expertise, knowledge and markets. However, this access – usually to ‘foreign’ content with foreign perspectives – has its limitations. Easier access to globalised knowledge is fast turning us into ‘consumers’ of distant and potentially irrelevant information. More worrying perhaps, developing countries are being ‘invaded’ by foreign ideas and values that may undermine or overwhelm local cultural heritage and economic livelihoods.

If we are serious about the use of ICTs as an empowerment tool – so poor people can shape decisions that affect their lives, so they can grasp economic and social opportunities, and so they can deal with misfortunes and disasters, then this foreign content must be matched by the expression and communication of local knowledge that is relevant to local situations. To a large extent, this means that ICTs need to be conveyors of locally relevant messages and information. They need to provide opportunities for local people to interact and communicate with each other, expressing their own ideas, knowledge and culture in their own languages.

This is not an easy task. Content does not flow of its own accord; it needs owners or originators with the motivation to create, adapt or exchange it. As well as vision, these pioneers need to have the creative, technical and people skills to transform an idea into something that can be disseminated or exchanged. Moreover, since few of us have all the necessary capacities to create and communicate content, partnerships are essential to get the job done. There need to be very strong incentives for all the elements to come together at the right time and place.

In a search for ways to promote local content, we have few guidelines to follow. Should we create more effective ‘push’ mechanisms, increasing and improving the supply of content? Should we focus on the demand side, so that local content is more highly valued? Should we look at the containers in which content is packaged, making them more attractive and accessible? Should different content types get different treatment?

These and other questions are addressed in a series of IICD research reports focusing on local content issues. This report<sup>1</sup> was prepared as part of the overall study on the collection and propagation of local development content, executed by IICD, and funded by DFID. The case stories referred to are published in IICD research report 8.

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<sup>1</sup> The author thanks all the people who contributed to this study, notably those who contributed case stories. Simon Batchelor is a consultant with Gamos ([www.gamos.org](http://www.gamos.org)) and regularly works with Big World ([www.big-world.org](http://www.big-world.org)). The stories on which this report is based are: Footsteps – [www.footsteps.tearfund.net](http://www.footsteps.tearfund.net) ; Digital Health Video – [www.big-world.org](http://www.big-world.org) ; Handicrafts - [www.big-world.org](http://www.big-world.org) ; Armonia – [www.armoniaonline.org](http://www.armoniaonline.org) ; Youth Alive – [www.big-world.org](http://www.big-world.org) ; Women’s Business CD – [www.iwtc.org](http://www.iwtc.org). Reference is also made to Straight Talk AIDS Uganda - [www.straight-talk.or.ug/](http://www.straight-talk.or.ug/) and participatory video - [www.fao.org/sd/index\\_en.htm](http://www.fao.org/sd/index_en.htm)

## SUMMARY

This paper starts from the premise that information and the use and application of information (knowledge) is a key part of the development process. For a message to be converted to knowledge it must be received and placed into the reality context of the receiver. Communication and extension theories emphasise the need for information provision to be demand led.

After a discussion of the type of information demanded by communities in recent consultations, the paper suggests that there are only a very limited number of types of delivery. We propose that there is considerable merit in emphasising visual content which can be inclusive of the illiterate and semi-literate.

We then discuss some of the conditions surrounding generation of content, especially mediation and motivation of the producer. Given that much of the development of content over the next few years will be prompted by Government and NGOs in planned programmes, the paper outlines the key elements required in any planned content production. We note that the process itself should be empowering, not just the final product. A final comment is made on intellectual property rights.

The main theme of the paper is that we must learn from the existing body of knowledge about development processes. ICTs are not unique from any other development activity. They are a tool to assist an informed livelihoods strategy, and the main lesson of the last few decades is that the process is as important as the end. The use of the tool to enhance livelihoods must be linked to best practice regarding process.

## INTRODUCTION

**“Give a person a fish, you feed him for a day. Teach a person to fish, you feed them until someone comes along with a better fishing technique, or until pollution wipes out all the fish, or until the government changes the law outlawing fishing or until war overtakes the family and they become refugees. Help a person to become a creative thinker and you feed them for life”**

Creative solutions involve adapting to new circumstances, and an essential part of creative thinking is identifying essential information. This may be keeping an eye on new fishing techniques, finding the laws that will shut down the illegal polluters, finding other people in the same circumstances to band together to become a movement that will lobby the government, or re-training to fit a completely new livelihood context.

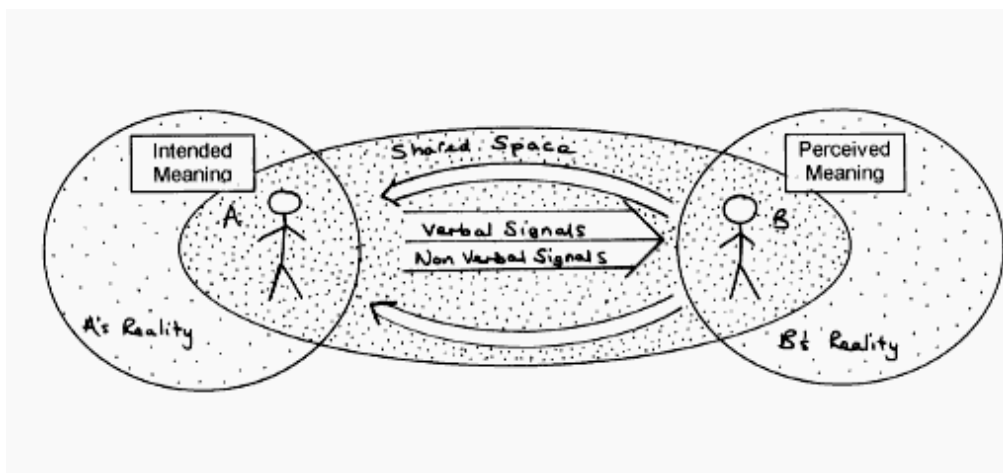
Information **technology** will not solve poverty and will not help the poor. It is the information that ICTs carry that has the potential to help a person move from poverty to a stable livelihood. Information has to be transformed by the receiver into knowledge, and knowledge has to be converted to practice for it to make an impact. Nevertheless access to relevant information is a key part of creating sustainable livelihoods.

The main theme of this paper is that we must learn from the existing body of knowledge about development processes. The utilisation of ICTs to identify the vulnerability context, address shortages of or enhance capital and to identify new livelihood strategies is not distinct from any other development activity. ICTs are a tool to assist in the formulation of an informed livelihoods strategy and the main lesson of the last few decades is that the process of addressing livelihood strategies is as important as the outcome itself. Process is about empowerment. The use of ICT tools to enhance livelihoods must be linked to best practice regarding process.

## COMMUNICATION CHALLENGES

This paper is about delivering content that will help those in poverty identify new livelihood opportunities, and move out of poverty. But in order to discuss this we need a brief reminder of the main challenges of communication for development.

The diagramme below is one of many classical representations of communication between people. A is the sender of a message, B is the receiver.



The feedback loop indicates that the sender will adapt and change the message in order to match the intended meaning with the perceived meaning.

We also need a small foray into adult education and extension theory. Adults are said to learn best when they participate in the learning experience rather than just being receivers of information. For thirty years the World Bank promoted the 'training and visit' extension system. A crude description is that livelihoods messages were developed and fed to the extension workers at the start of a two-week rotation. The team would then take the message to their client farmers. Recent evaluation has shown this system to be seriously flawed. Farmers did not 'hear' the messages, and were not able to incorporate them into their own reality. The lack of a feedback system meant that the messages did not evolve and change to fit the reality of the receivers' context. Extension systems which emphasise joint learning, for example farmer led systems or participatory learning and action (PLA), are now emphasising the interaction of clients with information (understanding vulnerability context, capital availability and livelihood strategies) to add, where pertinent, indigenous knowledge and adapt 'knowledge' to make it relevant and empowering.

Effectively, the supply of information needs to be demand led.

The signs are that many ICT initiatives are ignoring these lessons about basic communication and extension theory. There seems to be an assumption that the supply of information created by the global network of ICTs will be sufficient to enhance livelihoods of the poor - as long as they have access. There is a need for content that is grounded in the reality of the local context and the best way to generate this content is to get members of the same community to create it.

## INFORMATION NEEDS

So what sort of information or content would communities like in order to create an informed livelihood strategy? Since we have said that information should be demand led, the best place to start is to ask communities what they require.

A number of studies have shown how the poor use information services. Many of these are based on the experience of telecentres funded by donors and are not, generally, regarded as sustainable. Common uses of communications technology (and, therefore, needs for information exchange) include amongst others:

- looking for jobs;
- finding market information (both finding good markets for selling produce, and finding information on items for purchase);
- resource mobilisation for a range of development activities;
- finding information on government programmes and services;
- keeping in touch with friends and family who have moved to cities or overseas;
- facilitating cash remittances from friends and family.

The last two are communication issues often between individuals (families). The others involve asynchronous information of value to a wider audience that is, therefore, suitable as local content material. One such initiative, aimed at identifying these demands, was a consultation conducted in 2001 as part of a DFID funded Knowledge and Research project among slum dwellers in Soweto and Mexico City. Using a community centre as the entry point, groups of residents were asked what information they required. The resulting taxonomy of information (potential ICT content) was presented in two ways. One group used important life events to determine their information needs. Others looked at particular crises. The results are presented in full in Appendix 1.

The life objectives of the people include getting a better job, finding financial security, finding physical and emotional support. Donor organisations and NGOs would use words such as supporting livelihood strategies, strengthening the capital available to the family, reducing the vulnerability context. We can see then that information needs could also be placed within a 'sustainable livelihoods' framework. Information needs might also be categorised in terms of the existing development sectors or development targets e.g. health, income generating activities, and disaster preparedness. Appendix 2 considers a few examples of content with reference to the Millennium Development Goals.

Whatever the words used, the actors all are stating the same thing – that ICTs are a tool to tackle poverty and not an end in itself.

We can see from Appendix 1 that there are two basic needs for locally generated content. First there is a need for directories and pointers to local services or opportunities. In these urban consultations the emphasis was on knowing where to go to access a local resource – new jobs, local health clinics, local government services. The consultations did not request market information i.e. the price of commodities. This stands in contrast to the experience in rural Zambia, Ghana, Niger, Mongolia, where market information was deemed important to isolated farmers – thereby saving transport costs and maximising profits. This may illustrate slight difference between rural and urban areas.



Second, the information required is contextualised educational material. The consultation continually brought up the necessity for local images and local language. Audio was considered more important than the written word. They saw their life events being enhanced by health and educational material.

Other work has explored information needs in a more open context, and another important type of information that people express a need for is advocacy. It should be pointed out that this tends to be in countries following decentralisation policies, where a certain amount of effort has already been made to make citizens aware of their rights (and responsibilities). People are aware that information campaigns exist, and they are aware that they have rights (e.g. for local schools, free health care) - they want access to information to know how to exercise their rights<sup>2</sup>.

In Appendix 1, we may gain an impression of the wide range of information needs that the (pre ICT) community were aware of (there may be others that they currently are unaware of but that may arise as their vulnerability context and coping strategies change).

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<sup>2</sup> Related to this advocacy point are the experiences where local people get to make video messages to use as a tool to exert pressure on decision makers - whom they would otherwise not dare to confront out of their own habitat. Examples tend to concern one-off issues, and it may still be open to dispute how local this type of content is, due to the involvement of outsiders.

## MEDIATION OF CONTENT

Appendix 3 discusses how digital convergence will open new opportunities for non-literate based communication. However, literacy is currently a very important factor in our consideration of mediation. The written word may tend to be presented by a mediator – school children to parents, educated to neighbours, or social workers such as health workers, extension or change agents. This mediation has to be done in real time and therefore the availability of the mediator is a constraint. The two strengths of ICTs are distance communication (mediators available at a distance) and asynchronous information sharing (storing information to be retrieved at the convenience of the client). But ICTs only hold the possibility of disintermediation ‘for the last mile’ if the presentation is at a literacy level appropriate to the client.

Currently, multimedia tend to mix images and sounds with the written word. Therefore a move towards video and audio (even within multimedia) is more likely to lead to disintermediation. Similarly, many cultures have an oral tradition, and this is especially true of Africa. These cultures would therefore respond better to audio and video than to the written word. Faces and the feeling of personality (relationships) might play a strong role in the acceptance of the content.

ICTs offer the potential of unlimited access to information, and to the rest of the wired world. There is great hope for the benefits that this ‘disintermediation’ can bring for the poor. However, the poor currently have neither the skills nor the access to ICTs to enable them to take advantage of this. If they are to access information, it is most likely to be with the assistance of a third party, or intermediary e.g. the bureau owner who types the email, or the phone owner who sells air time.

Another aspect of mediation is the motivation and potential gain (or loss) of creating and publishing local content. Some existing mediators may lose their power and influence – local traditional authorities who ‘interpret’ the law of the land might be threatened if ICTs gave people accurate information, or even a voice to lobby national government. Doctors in the UK are beginning to complain that patients come for a consultation armed with their own amateur diagnosis. On the other hand, mediators may gain – access to eGovernance may reduce local authority costs, and access to social information may enhance a change agent’s work. There will be winners and losers.

The information market for the poor is probably not a viable commercial market per se, but it is still potentially useful developmentally, so access may be facilitated by NGOs and donors, who will act as intermediaries. If the poor are removed from the information management process there arises the danger that information (and content generation) will not meet needs, so there is a demand (as ever) for participatory approaches.

## THE CHALLENGE OF LOCAL CONTENT

So what then is the motivation for creating local content?

Within the commercially viable information sector, content will be driven by what people will pay for. This raises issues of different methods of cost recovery. The arrival of the Internet spawned a number of new business models (the viability of some of which remains to be proven), so it is far from clear which of these may be viable within developing economies.

The private sector in the North has found many opportunities for creating content that make a profit. Many of these have entertainment value only, but there are also thousands of examples where content that enhances livelihoods is commercially sold. North based examples include encyclopaedias and libraries sold on disc. Similar opportunities are available for the South. The International Women's Tribune Centre has just made a CD in Uganda of how to run a small business for women. Although this is text based, the written word is enhanced by being read aloud by a Ugandan woman. This is an example of how teaching material for adults can be enhanced by ICTs.

There are also some issues surrounding the regulatory environment. Local content on radio and television may be stifled by monopolies. However this paper will not discuss these wider issues.

For those sections of the community who are unable to pay for information, content will be driven by donors and is likely to reflect their development and ideological agendas. This content is likely to prove as useful and sustainable as any other development interventions funded by donors – the reality context has to be assessed by participatory approaches.

A NGO mediator may decide to increase its effectiveness by making information available on an asynchronous basis. This is the case of NGOs that are involved in community health, who intend to enhance their work with printed matter, radio messages, multimedia presentations (through perhaps multi-access community centre) and video/television. An example of this is the 'Straight Talk' AIDS information project on radio and newspapers in Uganda.

## PLANNED PROGRAMMES FOR CONTENT

Any creation and use of locally generated content is going to be constrained by the usual difficulties of development (skills availability, corruption, inefficiency, etc). However in any programme that intends to promote and create local content there are a number of key steps. There is a need to generate content that captures indigenous knowledge in the South, gives an advocacy voice to the South, or creates material that is useful to livelihood strategies for the poor. The process for this in almost any situation contains certain key elements.

There are two possible sequences for content focused programmes:

- 1) to have a design concept or brief and then decide the resources required to execute the project.
- 2) to have some resources – a community group for instance, and then generate and develop a product concept.

The former approach is generally the domain of an NGO that sees the need for, say, educational material or health education, and intentionally encourages and commissions community groups to develop the content. The latter is where a community group has ICT resources and works together to create products.

For each approach, key activities are similar, although the order they are done may be different. Since nearly all activities are iterative the order is not important. All the following elements need to be in place for local content generation to be undertaken:

**Project planning** - The planning process follows the guidelines for any project planning. There is a need to have a clear objective; define the outputs; be clear on task allocation; determine anticipated timing, inputs and budgets; determine monitoring and evaluation. The planning process is generic to any commercial or developmental process – and the planning of content generation by the community is an opportunity to build the capacity of the community to develop generic skills. There is a famous story of a Ugandan village who, when asked what they wanted, told the development worker they wanted a football team. Although the worker thought they really needed a better water supply she nevertheless purchased them some shirts and a football. The village gained considerable skills in working together by playing football and later went on to undertake more traditional development projects with drive and enthusiasm.

The Mexican case story on youth written for this project illustrates this. It is important when stimulating the local generation of content not to necessarily be too concerned with the details or subject of the content initially, but to pay due diligence to the approach and processes involved. ICT use should follow the lessons learned regarding participatory development practices – the process of the programme should be empowering.

**Project management** - deciding who is going to manage the project. In a community driven project this is much more concerned with defining the necessary collaboration. Nevertheless collaboration alone is unlikely to generate the required outcome – lessons learned in other sectors, e.g. Village Level Operation and Maintenance (VLOM) of water supplies suggests that there needs to be a 'champion' of the project for it to fulfil its objectives or goals.

**Collaboration** – it is unusual in any creative process for all the required skills to reside with an individual. There are exceptions, but the majority of creative activities throughout the globe are conducted by teams, or by a collaboration of various individuals. Therefore an important step in generating content is to determine the collaboration required for the creative, production and

dissemination processes to work as a whole. The creative team may be within a community and the production and dissemination outsourced to sub contractors. It is not necessary that all the processes be found under one roof. Nevertheless it is important, before starting a venture that the 'business plan' has identified all the collaboration required to complete the 'product'.

**Design** – creative thinking is rarely encouraged as part of development programmes. This may sound provocative, but creative thinking is a learnable skill, and yet it is rarely taught as part of planned development programmes. Participation of the community ranks high in the processes of development interventions. Yet, for most programme planners, participation means an expectation that participants will identify the resources and constraints (often through exercises like mapping or wealth ranking). This is a facet of critical thinking. Participants are then expected to identify new opportunities for livelihood strategies, again with only simple exercises such as brainstorming. Very few, if any, development programmes teach creativity as part of the participatory process.

We are not speaking here about creativity in the limited sense of artistic ability. Many of the knowledge based industries of the West depend on a constant creative atmosphere where new products are being proposed and developed, and each product requires design to adapt it to different markets. If local content is to be generated, then programmes will either have to rely on the natural creators found in each community, or they must embed the teaching of creativity as a learnable skill into the programme plan.

**Production** – the production of the content is perhaps the easiest part of the whole process. It is possible that the design will undergo some evolution as production limitations are discovered, but as long as the objective is kept in mind the group are likely to stay on track.

At this point we should mention an important lesson to be learned from participatory video and radio regarding empowerment in the production of local content using ICTs. "In a participatory debate the report writer, the minute taker, often holds power. The privilege of an educated report writing facilitator often determines what is communicated and how. However, when video or audio is used, the camera operator or video editor may enjoy similar privileges, but they do not have to make use of them as is the case in report writing. Because everybody can construct and comprehend speech and images, they can easily choose to make framing and editing a subject for group discussion and verification if they want. With the help of video, the facilitator can choose not to "author" the message" ([http://www.fao.org/sd/index\\_en.htm](http://www.fao.org/sd/index_en.htm)). This can be very important when we are talking about processes of empowerment that are key to long-term sustainable development.

*In December 2001, a group of youth from the slums of Mexico were asked to present health content on a Video CD. They were given 40 minutes instruction on how to use a video camera and then they spent two days filming against a prearranged storyboard. They were then given one hour tuition on video editing. The youth were not familiar with computers, although some of the group had experimented (and were familiar) with keyboard and mouse. They took 5 days to create eight 2-minute videos on basic mother and child health with very limited formal training from the trainer. The lesson to be learnt from this anecdotal evidence is that most people 'learn by doing' with ICTs, and a production group will find solutions to problems as and when they occur.*

**Dissemination** - Perhaps the most difficult part of content generation might be dissemination. While good content might be generated within a community for local use, communities might not be aware of the commercial value of their product to other communities. This is a common difficulty for all development programmes that create new approaches or technology and that then want to replicate and disseminate. If an external agency is involved with stimulating local content, it will be important that the agency also facilitates dissemination both as a potential income stream for the creators and also for the wider benefit of the poor.

## A FINAL THOUGHT ON INTELLECTUAL PROPERTY

This last point on dissemination and potential income streams brings up the difficulty of Intellectual Property Rights. The Maasai in Kenya learnt many years ago that their traditional dress was a valuable image. Tourists who wish to photo any Maasai must pay the person they photo some money.

Piracy of software and videos is widespread in most capitals of the South, and this may create a tendency for communities not to be willing to pay for content produced by a neighbouring project. However, pirated CDs still require some work and distribution resulting in prices between 2 and 5 US dollars.

Locally created content such as that produced by Armonia Mexico, can be delivered on a CD at \$3.50 and still recover costs. This bodes well for local sales – it is unlikely that traders copying CDs can significantly undercut the community producing the original. International copyright law should protect international sales, and we note that the WIPO (World Intellectual Property Organisation) has announced a new initiative encouraging worldwide discussions. There is a need to strengthen international protection of intellectual property and indigenous knowledge, but the details of this debate are beyond this paper.

## APPENDIX 1: LIFE EVENT TAXONOMY OF REQUIRED ICT CONTENT

While NGOs in Jalapa Slum in Mexico City talked about sustainable livelihoods framework, the community found it easier to think in terms of life events. The following table was one of the outputs of the consultation and demonstrates some of the areas that the community themselves think that content need to be developed.

<b>Event</b>	<b>Problem(s)</b>	<b>Generally What to do; who to go to</b>	<b><i>How can the ICTs help us?</i> Communication Content</b>
Birth	Single mother:	Asking for help from the family Going to someone that can support us	Support with phone calls to counselling centres Job searching – finding local skilled and Unskilled (manual) jobs
	Unwanted baby:	Not committing the same mistake again Going to a family counsellor	Searching for the right information by phone or internet, and not committing the same mistake again – presenting local images so young can relate to them
	Difficulties in pregnancy:	Getting information Going to health centres	Simple presentations and video of health information
Baptism	Religious differences	Have an agreement; go to someone who has passed through the same problem	Storing the stories of someone who has gone through it before and present with sound and images.
	Fights between families:	Have an agreement. Visit someone properly prepared to give advice	Looking for the right help using the computer
	Reject from the community:	Make clear who this person is, and demand respect. Go to someone with influence in the community.	Sending e-mails to get support
Growing up	Feeding disorders:	Eating intelligently Go to a health centre, and ask for nutritional information	Research for services for needy people – providing a directory of local organisations Presentations on health, nutrition, cheap recipes
	Lack of education:	Getting money for education or lowering down the prices for it Go to public education institutions	Learning about interesting subjects in the computer, with or without an assessor Need to have local language and local material – especially early school
	Lack of money:	Getting a job and/or a scholarship/ Go to a family member or to a person who wants to support	Search for helping centres - providing a directory of local organisations
	Having a modest studying level:	Making an effort to study more/ Seeing someone who could counsel us	Searching for capacitation in the computer –Need to have simple computer teaching
Working	Having a small salary:	Searching for another job/ Go to someone who would like to give us a better salary	Job searching – finding local skilled and Unskilled (manual) jobs Learning new things, new skills that are for

			jobs
	Not having skills in the job/	Seeing someone who could teach us	Searching for capacitation centres Looking for school that offer capacitation Searching in job directories, where it says the requirements of a person to get a specific job
Living as a couple/ single	Lack of money:	Getting money in another country to get a house/ Go to live with the parents or parents in law	Also see job searching. Seeing if government has any support.
	Not having a place:	Rent or getting money in another country/ Go to live with the parents	Searching for house plans.
Having plans or projects	Not having a place to achieve them:	Looking for the right place/ Seeing someone who shares the same plans or projects	
	Lack of orientation:	Reading good books/ Going to someone who could give us that orientation	Learning new things, new skills that are for jobs
	Lack of money:	Getting a job/ Going to someone who could lend or support us	Looking for loans - directory of credit organisations and criteria
Getting married	Poor family planning:	Spending more time with the family/ Visiting a family counsel	Simple presentations and video of health information
	Not having a place of our own or independent from the family:	Searching for a job with an adequate salary/ Going to someone who could counsel us to find a suitable place	Watching counselling videos on TV, or listening to recorded counselling, or using software related to those issues
	Lack of money:	Looking for a common job/ Going to someone who could teach or instruct us on a common profession	See job searching and learning new skills
Raising children	Poor preparation and ignorance:	Reading good books/ Going to people with experience	Searching for professional assessment in the computer Using the telephone for searching people that could instruct us. Searching in the computer for the right people to guide us in the issues we need to be guided Watching counselling videos on TV, or listening to recorded counselling, or using software related to those issues
	Lack of money:	Getting a job/ Going to family members	See job searching and learning new skills
Getting ill	That the disease gets worse:	Talking care of myself and getting information on what to do/ Going to the doctor	Searching in the computer for local hospitals or doctors
	Taking proper care of myself:	Reading good books/ Going to someone for advice	Showing documentaries about health Using a digital encyclopaedia
	Wanting to suicide:	Asking for advice from the family/ Going to a professional counsellor	



	Being desperate:	Looking for psychological help/ Going to a professional	
Lack of money	Poor alimentation:	Get informed on how to eat properly/ Go to someone who can tell us how	Showing documentaries about health Using a digital encyclopaedia
Get one year older	Feeling alone:	Talk to the family	
	Get depressed:	Going to a counselling centre/ Going to a counsellor	Searching for local psychological help centres
Dying	Affecting the economy of the family:	save money for the coming expenses/ Seeing someone who could help the family with these expenses	Perhaps getting a loan – knowing what banks offer credit
	Leaving the family without money to maintain itself:	Saving and/or getting an insurance/ Going to someone who could help the family	Knowing what banks offer saving schemes
	Being scared:	Searching for help in the Bible/ Going to a professional counsellor	

## APPENDIX 2: ICT CONTENT AND THE MILLENNIUM DEVELOPMENT GOALS

MD Goal	Examples of <b>Content</b> (ICT delivered) that could affect MDG
<p><b>1) Extreme poverty and hunger</b></p> <ul style="list-style-type: none"> <li>To halve, between 1990 and 2015, the proportion of the world's people whose income is less than one dollar a day.</li> <li>To halve, between 1990 and 2015, the proportion of people who suffer from hunger.</li> </ul>	<p>Increases in Capital for the poor may occur through:-</p> <p>Human Capital - Identify training opportunities – distance learning to upgrade skills – access to health advice that prevents illness</p> <p>Economic Capital - identifying credit availability – timely market information increases margins – participation in economy beyond community (possible significant added value to products)</p> <p>Social Capital – advice on life from beyond immediate community - asynchronous sharing of old peoples wisdom – awareness of rights (breaking free of slum lords)</p> <p>Physical Capital – awareness of rights (infrastructure) - reduction of transport needs - access to improve production equipment through global market – access to improved production practices.</p> <p>Natural Capital – awareness of rights (common lands, ownership rights) - indigenous knowledge of traditional practices.</p> <p>Vulnerability Context – disaster preparedness through awareness – awareness of rights</p>
<p><b>2) Universal primary education</b></p> <ul style="list-style-type: none"> <li>To ensure that, by 2015, children everywhere will be able to complete a full course of primary schooling.</li> </ul>	<p>Teacher training content</p> <p>Student content – challenge is local language material (and access constraints)</p>
<p><b>3) Gender equality and women's empowerment</b></p> <p>Progress towards gender equality and the empowerment of women should be demonstrated by:</p> <ul style="list-style-type: none"> <li>Ensuring that girls and boys have equal access to primary and secondary education, preferably by 2005, and to all levels of education no later than 2015.</li> </ul>	<p>Gender awareness content built into teacher training</p> <p>Home schooling content for countries where gender priorities remain skewed</p>
<p><b>4) Child Mortality</b></p> <p>To reduce by two-thirds, between 1990 and 2015, the death rate for children under the age of five years</p> <p><b>5) Maternal health</b></p> <ul style="list-style-type: none"> <li>To reduce by three-fourths, between 1990 and 2015, the rate of maternal mortality.</li> </ul> <p><b>6) HIV/AIDS, malaria and other major diseases</b></p> <p>To have, by 2015, halted and begun to reverse:</p> <ul style="list-style-type: none"> <li>the spread of HIV/AIDS</li> <li>the scourge of malaria</li> </ul> <p>the scourge of other major diseases that afflict humanity.</p>	<p>Health message content delivered through various ICT mechanisms – embedded in television and radio entertainment – available in public points of gathering – delivery in schools – self learning materials available in the market</p> <p>Supporting material for isolated health workers – content that helps diagnosis</p>

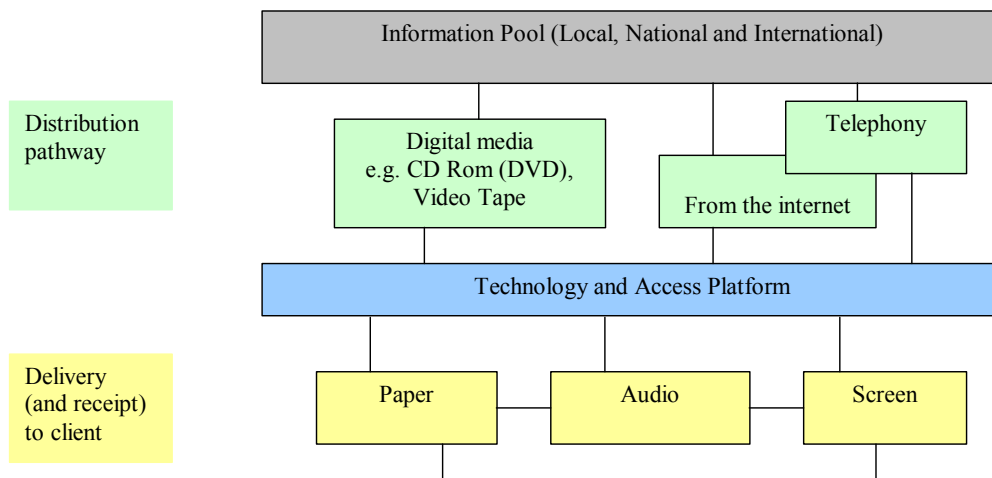
<p><b>7) Environmental Sustainability</b></p> <p>To stop the unsustainable exploitation of natural resources; and</p> <ul style="list-style-type: none"> <li>• To halve, between 1990 and 2015, the proportion of people who are unable to reach or to afford safe drinking water</li> </ul>	<p>Awareness content offering different livelihood strategies that are more sustainable.</p> <p>awareness of regulations;</p> <p>communication of violations of regulations.</p> <p>Challenge for all the above is local language and local context.</p>
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## APPENDIX 3: ICT BASICS

A great deal has been written about **access** to ICTs and this paper will not comment on affordability of the systems required for public access (even though these are parallel critical issues and even though access and affordability may be the primary barriers to increased use and creation of demand for local content generation.). However, in order to determine how content can be created we need first to look at the main choices in mechanisms of delivery.

There are actually very few choices with regard to information presentation. The current choice of final presentation mechanisms is restricted to paper, sound only, or on a screen. The information format presented via these mechanisms may be text, audio, graphics, video, or any mix of these. Websites or multimedia CD-ROMs are an example of how all of these features can be mixed.

However, as digital convergence becomes more of a reality, the more the technology overlaps. The distinction between technologies is becoming harder to define, as convergence means that computers, TV, or phones are simply becoming different platforms from which to access the same information. When we consider what the actual user sees, reads or hears, the options are fairly basic. The following sketch illustrates at a very simple level how ICTs act as the channel for delivering information. Most of the lines on the diagramme are two-way, both to deliver information to the user, and as mechanisms for receiving information from the user.



The diagramme is not intended to be profound. It shows the simplicity that will increasingly occur as digital convergence occurs. Paper covers all the printing of newsletters, books etc. that are sometimes final delivery mechanisms for ICTs. Audio currently covers radio, tape recorders, walkmans, etc. At the moment, screens are associated with televisions and computers. However increasingly mini screens are being found embedded in other technologies.

The table below considers the strengths and weaknesses of each client delivery mechanism from the client point of view, as this gives some indication of how content must be structured. Note we will ignore for the moment the distribution pathways – i.e. make the assumption that the 'multimedia' are either on broadband and display quickly or are CD-ROM based. Technology is changing so quickly that there is an ever increasing choice of delivery and platforms – a challenge remains to make these available to the poor.

	<b>Strengths</b>	<b>Weaknesses</b>
<b>Paper (e.g. printing, newsletters)</b>	Ease of Access (no infrastructure required) Costs per user might be very low	Often require some literacy. Pictures static –difficult to illustrate complex situations Costs of printing could be high overall. Information cannot easily be updated without extra distribution costs Not interactive
<b>Audio (e.g. radio, audio CD or Tape)</b>	Possibly able to update information at low cost (depending on delivery) Complex ideas communicated. No literacy requirement.	A picture says a thousand words Limited levels of information Unlikely to be interactive (although if we include voice connections then that is not true)
<b>Video</b>	A picture says a thousand words – clarity on complex ideas. Possibly able to update information at low cost (depending on delivery) Complex ideas communicated. No literacy requirement. Potentially “personal” Possible to make interactive	Limited levels of information
<b>Multimedia</b>	Able to update information at low cost Complex ideas communicated by a variety of means Layered levels of information Interactive	Access to ICT issues Requires literacy (and often computer literacy) <sup>3</sup>

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<sup>3</sup> At the moment, multimedia tends to require some level of literacy although this is increasingly less so.

## **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).