Appendix 9: ISRG Working Paper 2

ISRG

Information Society Research Group
Working Paper No. 2

Understanding Demand:
A Proposal for the Development
of ICTs in Jamaica

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March 2005

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Information Society Research Group (ISRG)

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ISBN

1-9210830-3-4 (PDF)

Understanding Demand: A Proposal for the Development of ICTs in Jamaica

Summary

This discussion document is primarily concerned with ICT policy as it might effect and potentially transform the welfare of low-income communities in Jamaica.[1] It is based on anthropological fieldwork with low income Jamaicans conducted during 2004, which comprised six months residence in rural Clarendon and six months in a low-income settlement within Portmore.[2] Dr Heather Horst was resident throughout while Prof. Daniel Miller resided in Jamaica for less than four months. Although part of the project involved an extensive survey of one hundred households and an intensive budget analysis of twenty households, most of our work was based upon developing trust and rapport with families over several months while carrying out formal and informal interviews. It also involved living within such households in order to develop our understanding of daily life. In addition we have interviewed a range of personnel working for the IT industry, government and particular services such as teachers and medics.

Main Recommendations

(i) Refocus e-learning initiatives to adult education

(ii) Liberalise attitudes regarding access

(iii) Increased collaboration or partnership between commerce and government concerning ICTs

(iv) Invest in low-priced computers without gaming facilities

(v) Use of kitemarking

(vi) Creation of a National Portal

(vii) Stimulate, and do not assume, demand for Internet use

(viii) More serious consideration of Internet through the phone

We are anthropologists and do not claim expertise either in the telecommunications industry or the other sectors discussed in this paper (e.g. education). Rather, we are generalists by training and what follows should be treated as suggestions based on a broad picture of Jamaican ICT use in the light of the current plans to expand the industry.[3]

Introduction

The starting point of this discussion paper is the plan by the Jamaican government to introduce a Universal Access Fund. In effect, the Universal Access Fund would be a tax on the telecommunication companies operating in Jamaica. The documents issued by the government and circulating within the Ministries justifies that this tax is based on a particular perception of the recent history of telecoms in Jamaica. As in much of the Caribbean, the incumbent telecoms company is Cable and Wireless (henceforth C&W), which has been active in the area for over a century. Virtually all of the 100,000 commercial and 400,000 residential fixed lines in this country of 2.6 million people are with C&W. It is also the main ISP, although Internet penetration in general is fairly low (see below).

The sector was radically changed when the government followed pressures by the WTO and other bodies to liberalise and issue licences for cellular communications. One of the licenses was purchased by a company now trading as Digicel, which was founded and funded by Denis O'Brian, an Irish entrepreneur. Commencing operations in April 2001, the company had sold one million cell phones by 2004. Today the average household in Jamaica possesses three phones. The premise of the Universal Access Fund was that the government's responsibility for ensuring phone access to the population had been achieved through commercial success. But the government also claimed that it also possessed a responsibility to ensure mass access to the Internet and was concerned by the low

figures for current usage. It therefore created the Universal Access Fund as a means of capitalizing on the success of the phone industry and using the money to find ways for the state to itself promote access to the Internet.

In contrast to the ubiquity of the cell phone, only 3% of the population are on- line through the computer and there is a remarkable paucity of cyber cafés outside the main tourist areas compared to countries of similar income level (e.g. our team currently working in Ghana). Our ethnography shows the Internet as having had little impact on low income Jamaicans. Indeed, within the low income communities we studied we saw more evidence and enthusiasm for the Internet through the cell phone than through the computer.

The discussions of the Universal Access Plan conclude that the cell phone can now be regarded as a commercial concern, while providing Internet coverage for the Jamaican population has become a government responsibility. One imagines that commercial bodies would reach a very different conclusion. Given the success of the cell phone, the only regret of some companies is that the government did not initiate a new cable at the same time it issued licences for the cellular. It is now taking this measure. This should lead to competition and the lowering of prices. Commercial companies might conclude that Internet provision will then spread along the same commercial lines as the cell phone, and that therefore this is no case for government intervention.

The problem with this argument is that it is not merely provision of access that is of concern; it is also the use and consequence of these media. For example, there is general agreement that the primary crisis in Jamaican society lies within the educational sector. The growth of cell phones has, on our assessment, been detrimental to this sector. It is largely a distraction within the school day as, in effect, a disruptive toy that children take with them to school, very rarely of qualitative educational benefit. The same could become true of the Internet. If the Internet is introduced merely under market forces, this might simply lead to an explosion of game playing and downloading of music and pornography. It might be argued that the role of government is to ensure that innovations are made beneficial to the community.

A more apt criticism revolves around the principle of Universal Access since it is the *effect* not the provision of ICTs that should of concern to government. We will therefore start this document with an examination of the current effects of ICTs in Jamaica and a discussion of their potential in arenas of concern to government. We then consider the more general question of the level and nature of demand for the Internet as well as an examination of current government plans. We conclude by introducing a proposal for new initiatives which involve the collaboration of government and commercial interests.

Education

Recent reports suggest that standards in Jamaican education are low and falling (Bailey 2000, 2001, Economic and Social Survey 2003: 22:12; cf. the controversial 2004 Dennis Minnot report). In contrast, the telecommunications industry is undergoing tremendous growth which has considerable educational potential. The temptation is therefore to view ICTs as providing a solution to Jamaica's struggling education system, firstly by placing more computers in schools and then by enhancing current resources by utilising virtual resources. These solutions are attractive but, as currently proposed, may not live up to expectations. Our evidence suggested that merely placing computers in schools is not of itself necessarily of any great benefit. We interviewed school children and found that due to security fears, access was often occasional, and mainly provided to those high achieving children (often higher income children) who already had access to computers. In fact, despite official policy that requires students to access computer labs on a weekly basis, many students had not been granted access to the school computer lab in the past three months. Instead of providing universal access, use of computers could become simply an instrument of patronage and control within the school system. In short the benefits may not have warranted the expense.

The idea of `virtual' teaching (for example the re-broadcasting of exemplary lessons, through cable or Internet) also sounds promising given how teachers are stretched for time and resources. Many schools were also unable to purchase and obtain up-to-date materials and text-books. As currently outlined in the Universal Access Plan, however, the logistics of implementing a virtual teaching programme would require considerable (and we would argue unwarranted) expense. Much wealthier countries with the facilities to provide high-quality virtual teaching resources, on the whole do not use these facilities. We suspect this is because primary and secondary children generally require the

personal direction and attention, flexibility and comfort of actual teachers. The work of Sonia Livingstone and others (see web references) shows that educational benefits depends more on the larger context than simply the provision of machines. Looking at the international situation, the main success of virtual broadcast teaching is at the tertiary level with systems such as the Open University in the UK or the California State University, Sacramento. Given these experiences, we conclude that ICTs are actually better suited to other, more effective educational possibilities, such as adult education where motivation is less an issue.

Our research suggests that there is a huge opportunity to tailor the educational benefits of virtual teaching to the precise nature of Jamaican society. Economic instability, community violence and teenage pregnancy often contribute to the termination of education at or before the completion of secondary schooling. Although there is clear evidence that programmes such as the Women's Centre of Jamaica Foundation (WCJF) has made positive progress in keeping teenage girls in school (Economic and Social Survey 2003) and extended families in Jamaica often provide child care to facilitate a child's continued education, we found a that a large number of the women and men we interviewed terminated their education at 16. When they reach their late twenties to early thirties, many Jamaicans resume their interest in developing themselves and expanding their career possibilities. We witnessed a deep thirst for gaining qualifications and secure employment. Unfortunately this is long after they have left school and the educational system often without A-levels or other examination passes. Their only real prospects are with organisations such as HEART (the main government sponsored body responsible for supplying technical training to the post-secondary school population) and informal apprenticeships.

Clearly Jamaica cannot afford to have a second tier of expensive educational facilities equivalent to that provided for children. But there is an opportunity to increase the level of education of the Jamaican population generally by taking advantage the established interest and desires of adults. Many women in their late 20s and early 30s spend a considerable amount of time at home looking after children watching day time television. While much of this television viewing revolves around soap operas with little educational value, many women describe being interested in more educationally oriented programs (often foreign cable channels) and finding ways to become educated at this time in order to become self-sufficient. A fruitful use of this interest would therefore be to target much of the virtual teaching courses and programmes to these interested viewers who often have to re-take courses to pursue further studies in careers such as nursing.

In brief, Jamaica has a huge demand for skills training and general education at this post-educational level, quite beyond that of many other countries, and one that does not fit the global pattern of education as child centred. But this is precisely where virtual education could play a major role, since this is a highly motivated audience where education can be quite focused. A government sponsored expansion of education and skills training through both cable television and the Internet as a kind of popular or public `college' of adult education is the kind of ICT investment that fits the specific nature of Jamaican society and would transform the effective skills base of Jamaican society. Public broadcast education and training in areas such as the hospitality industry, basic literacy, typing, office procedures, IT skills such as the use of Microsoft Office, as well as general education could achieve a very large and committed audience. This population currently feels that, because they failed during their earlier education, they now have little hope of achieving the responsible and remunerative employment they now crave. We have spent countless hours in the homes of twenty and thirty year old Jamaicans who cannot afford to go on formal or residential courses, but are desperate for the education that they now recognise they failed to obtain when it was freely available to them. A successful investment in adult education would seem to us preferable to an unsuccessful investment in child education. Given the popularity and effectiveness of HEART, their training programme would clearly be the most effective location from which to organise such an effort.

With regard to child education we think there are other lessons to be learnt from observation of usage, in Jamaica and internationally. The modern personal computer is probably used for gaming more than for any other single purpose. Most of the high specifications that commercial computers come supplied with are present in order to achieve a better gaming experience. Much of the cost of these machines is therefore wasted from an educational perspective. We would suggest the government take a good look at the new machines (PIC or Personal Internet Communicator) being produced by AMD and recently introduced to the Caribbean market by Cable and Wireless as the MAX. In addition there is the new iMac and the Indian Simputer scheme. Although we have no direct experience of these machines, the literature indicates that one of their major advantages is that they are not particularly suited to gaming. By contrast, they claim to provide a full Internet access as well as the tools of Microsoft Office which are all that are required for educational purposes, without the

facility for gaming. Some of these machine are likely to be available at a cost of around $JA10,000 including software, that is a fraction of the cost of conventional computers. Also on the horizon are the plans by MIT's media lab to develop laptops for US$100.

But equally important as cheap provisioning is the attitude of teachers and the government to access and usage. We would contrast the conservative attitude to access found in Jamaica with the very liberal environment encountered in Trinidad (Miller and Slater 2000). We would argue that the distinction in attitudes may be just as important as income levels in explaining the much earlier and greater enthusiasm for the Internet in Trinidad. The emphasis on authoritarian discipline and censorship found in Jamaican schools may deflect the good intentions of the government and the teachers. One result of this authoritarian tradition is that Jamaican pupils talked of being denigrated and humiliated for poor performance, practices which discouraged experimentation and the desire to practice computing skills in public spaces. In Trinidad (in some cases) school children were allowed access to computer labs through the night, and work places allowed employees to use facilities for non-work purposes after hours. As a result, users of the Internet could be found even in the lowest income squatting areas. The more liberal regime we found in Trinidad and open access seemed to result in self-motivated use of the computer for educational purposes.[4] Peer focused experimentation in use of the Internet provides a model of self-education which may be of considerable benefit giving confidence that extends beyond the IT sector, but demands a more relaxed teaching regime.

Provision of Content

One of the most important qualities of the Internet continues to be that content is free and is global. A vast number of information and resources that governments had to pay to create for their own countries may in the future be simply downloaded from the Internet because they are public domain. The extent of developments, such as open-source architectures today even extending to areas such as encyclopaedias (e.g. Wikipedia), are becoming increasingly clear. The vast majority of educational materials for subjects such as science, maths, and do not raise particular issues of cultural specificity. Equally more advanced subjects such as geography (why do volcano's erupt), English (rules of when to use a semi-colon), economics, sociology or accounting) may also be unproblematic. Moreover, and although anthropologists tend to favour the preservation of local cultural material(s), Jamaicans expressed a strong desire and pride in the acquisition of international standards which they became very familiar with through the media as well as the direct experience of relatives and friends living in `foreign'. Presently, wealthier countries that can afford high production values are busy producing very high levels of educational resources, such as the vast amount of material being made available on-line through the BBC `bite-size' programme for educational revision purposes. Institutions such as UNESCO are also developing new forms of interactive software such as eNRICH. There is no reason whatsoever that a child in May Pen could not use this material as easily as a child in Liverpool UK. The Jamaican (and many other) government(s) may save a considerable amount of money by the international provision of high quality information sources. On the basis of our four country comparison funded by DFID, we will be approaching UNESCO and other international bodies in the hope of stimulating the production of such materials.

At the moment, however, the mainly unregulated system of access to Internet content is dominated by search engines which prioritise commercial rather than educational resources. An individual searching Google will pass first through pages of sites trying to sell products without any guides as to where to locate the quality informational resources. We would argue that it is these two realities of the modern Internet, (its global nature and the problem of accessing worthwhile content) that should guide the policy of the Jamaican government. In short, instead of expensively creating content, the government should inexpensively be directing people to the best quality content. This is why the dominant recommendations of this report revolve around various versions of what is termed `kitemarking'.

A kitemark is a formal recommendation or endorsement that can be used to influence consumers to favour particular resources. In our recommendations to DFID we will be suggesting that, in terms of ICTs, DFID should be involved in facilitating high quality educational resources for global rather than national consumption. The beauty of the Internet is that the very finest educational materials can be accessed and only need to be made once. Jamaicans can benefit both at the level of adult education, but also by access to material such as BBC `bite-size' that can be used to enhance classroom teaching. The role of the Jamaican government should be in issuing address lists which effectively guide Jamaicans to the most accurate and quality websites without wading through the lists produced by commercially influenced search engines.

There are evident difficulties in making the government responsible for formally favouring certain content over others. Initial discussion suggested the government would not itself want to be responsible for formally running a `national' portal and taking authority of actual web content. Our solution is to involve commercial companies such as Cable and Wireless, Digicel and the community of Jamaicans living abroad to mediate in this `kitemarking' programme so that government will not be held responsible for inappropriate material located on-line (see below). By favouring cheaper machines, recommending rather than making content, and tailoring virtual projects to those who would actually use them, we would argue very considerable amounts of money within the education sector can be saved and made more effective where spent.

Health Services

Many of the new proposals and initiatives for medical use of ICTs that are being developed around the world involve expensive high-tech equipment and services and do not come within the remit of our research. There are, however, many small scale initiatives that are possible in this sector. For example it has been realised that texting can transform the lives of the deaf and dumb giving them their first mobile communication. Cell phones can also be set to automatically remind people what medicines to take, when to take them. Equally, clinics could use text messaging to remind women when to return to the clinic for contraceptive injections and/or tablet. This may become particularly important in the management of the medical regimes required for the treatment of HIV/AIDS. Other initiatives involving cell phones might include improved links to taxi and other transport services during emergencies and the provision of emergency cell phone credit based on demonstrable medical need. In rural areas we found that the single biggest effect of cell phone on health provision has been the more efficient integration of phone and local taxi systems that cut the time involved in reaching medical services. The phone is also used by low income individuals in emergencies to obtain money or credit to help fill prescriptions. In conjunction with Western Union, this often involves obtaining small amounts of money from relatives in foreign to meet these unexpected expenditures. Lowering the cost for sending very small amounts of money would be particularly beneficial to low-income households.

Our key recommendation, however, is that health and welfare is a primary area for kitemarking. There are vast and informative websites dedicated to both simple and comprehensive medical information on every condition that exists. However, on many informal sites much of the information may be misleading or even false. The role of government is to issue clear guidance as to recommended sites and, by extension, direct people to those which have the appropriate level of information. Many of these sites are produced by governments and national medical authorities and there would be little risk in the Jamaican government directly endorsing such sites. The government seemed to feel that direct involvement in kitemarking sites that it had not produced could be seen as irresponsible. We would argue that to refuse to use its authority to help the Jamaican population find appropriate sites is rather more irresponsible. Given the preponderance of English language sites, the Internet represents a vast resource, but this needs to be focussed to suit the needs of the Jamaican public, such as access points for nurses, doctors and administrative staff at local clinics. We were particularly intrigued by the possibilities of phone based data transfer for medical information, and another of our recommendations to DFID will be the global provision of WAP, CHTML or similar phone centred simple information guides directed to low income individuals with limited educational experience. This would be complemented by their full Internet equivalent for use on computer based access Internet. Again, we feel that emphasising global production of information rather than local could save considerable sums of money for the Jamaican government, but it would be helpful to have clear government support for such a scheme.

Police and security

While most of our suggestions involve saving money, this is one sector where there should be strong encouragement to commercial institutions to spend money. The recent World Bank (2003) report on Jamaica was unusual in that it highlighted the impact of crime and violence on the Jamaican economy. Indeed it implied that this was one of the most significant problems in preventing future economic development. In our study we did not meet a single police man or woman who was not primarily using their own cell phone, at their own expense, in order to be able to undertake their work and in the rural site members of the constabulary force estimated that since the cell phone came to the area, crime has been reduced by 18%.

Rather than the Universal Access Fund becoming a generalized tax where the telecommunications sector does not see direct benefits from their specific expenditures, the police force (and other emergency services) stands out as one of several areas where direct investment by the telecommunication industry would be rewarded by obvious and clear benefits to the industry. Although a system would need to be found to ensure phones and credit were used for work rather than personal communication, the industry should be encouraged to directly supply the police and fire service with phones and credit. The telecommunications industry would then benefit with the rest of Jamaican commerce from the reduction in crime and the safeguarding of property from theft and fire.

There are also important potential collaborations in the future with regard to pinpointing location that may have benefits ranging from locating fisherman lost in storms to pinpointing criminals (GPRS systems). These arise out of the realisation that new technology permits the precise pinpointing of users, although any such developments would require careful scrutiny from the perspective of civil liberty. In our research we found that cell phones were already regarded as highly beneficial in terms of security, for example, in communication between parents and children, and providing communication that cannot be disabled by having wires cut by criminals.

E-Government

Clearly there are already many initiatives afoot organised through CITO and we see several major benefits to the continued development of e-government. At present much of Jamaica's bureaucracy is not just Kafkaesque but oppressive. Rural residents travelling to the capital Kingston for government services find they may have a wait of several days between being seen, often without even clear guidance as to how long the wait will be and/or the correct documents and information required to complete their business, even when they have phoned in advance to prepare for their journey and have pre-arranged contacts to more readily facilitate their engagement with the state. This leaves the average Jamaican confused and frustrated, ultimately resulting in disdain for the government. E-government often forces processes to become radically simplified, and their most important effect may be less the provision of on-line processes, but rather than simplification of off-line bureaucracy that now has to conform to the procedures that have been created for on-line usage. A marked success story has been the development of Paymaster and other schemes for paying bills, which suggest the potential for further on-line provision through Post Office services and other sites of public access. Our evidence suggests that land registration, while difficult, ought to be a priority in terms of the potential benefits to low income rural Jamaicans. This is one area, however, where government initiatives seem to be somewhat in advance of commercial initiatives and many of the complaints we encountered regarded the relatively slow pace of development within commercial banking and financial sectors. Of possible interest is a new scheme being developed in Mexico (Todito.com, see web references) that recognises the circle by which money is sent from foreign back to Jamaicans who then want to buy products in the country the money first came from e.g. US or UK. The Mexican scheme re-directs remittance money directly to the expenditure abroad.[5]

The community computer

While the government initiatives being developed by the Central Information and Technology Office are welcome, there are other government initiatives that appear to us more problematic. This document is written with the knowledge of the precarious state of Jamaican economy and the high ratio of debt repayments. We have therefore emphasised recommendations which save rather than spend money, even when this money comes in the form of loans. Currently the main influence on the direction of ICT investment are well meaning bodies such as aid agencies and NGOs who see an important role for ICTs in supporting what they call `community'. For example, a large part of the recent Inter-American-Bank Loan to the Jamaican government is to set up community computers and the same is true of the UNDP grant to the Jamaican government. Many millions of US dollars have been, or will be, dedicated to community computing. However, the emphasis on community centres for computing represents what we would call global rather than local thinking. The same recommendations may be found regardless of whether we are in Croatia or India. Aid agencies want to fund communities since it justifies expenditure as a social rather than individual benefit and because they want to encourage communities *per se*. But this may result in a tendency to see 'communities' as uncritically positive or useful sites for disseminating information and access to computing and to wish them into existence even when there is no evidence for them.

Our ethnography in the rural and urban sites found three forms of community. The first are the churches who are primarily involved in the support of schools and families. In our urban site in particular, a few churches have made strides towards the development of computer labs and training facilities. However positive these arenas may be for Jamaican youths and young adults, churches are ultimately viewed as exclusive rather than inclusive points of access, often requiring membership and acceptance of their beliefs before community members are allowed to use the computer facilities. Secondly, there are `community' events sponsored by local elites which serve the interests of those elites but rarely spark greater senses of community or access. In addition, there are very local neighbourhood communities, based on kinship in rural areas and locality (in Portmore, a dormitory suburb of Kingston, where we carried out fieldwork, these are called 'ends') in the urban areas where individuals rely upon others for child care, exchange of goods and favours. However, even in instances where the sense of family and 'neighbourliness' are heightened, there is little emphasis on sharing consumer items such as televisions, video players and computers. In fact, throughout our research residents of each locality suggested that if such a community facility was established it was most likely to be divisive, appropriated as a form of local patronage and the ideally free elements of provision somehow turned into a money making scheme. Furthermore, and as we report below, there was evidence that most Jamaicans possess a negative view of ICTs that must be shared and instead stressed the need for private ownership.

More importantly, we also observed that past provision of community computers to specific institutions, such as post offices and libraries, have been singularly ineffective in Jamaica. In fact, we found several Internet access points that were *never* used. Part of this has been a failure in past government-commercial partnership. We do not know the specificities of such agreements, but there is a popular belief that Cable and Wireless (along with other companies) agreed to supply access both to schools and centres in order to facilitate Internet use. But schools told us that such promises had either been reneged upon altogether (and often they didn't even have a landline let alone Internet). Other schools had been supplied but on the basis of standard commercial costs, which meant that access for students was almost impossible. One of the points we want to stress is that government commercial collaboration is often the best way forward, but it has to be based on strict and comprehensive agreements as to what exactly a company is committed to, otherwise one ends up with grand, apparently philanthropic gestures of little long term benefit. The commercial companies make claims for what they have accomplished in simply providing technologies but there is little research on whether they were appropriate and how they are used. The government should restrict its support and approval of commercial philanthropy to those cases that have carefully dovetailed to agreed programmes shows to be of value to low-income Jamaicans.

One response to the lack of a community basis for ICT development might be to suggest that the country would simply be better off following the cell phone model. What is needed is cheap access which will allow both private provision and cyber cafés, rather than government paid public access points. In short, the problem is best solved by the market, not the state. Once prices decline with the provision of a new cable and the associated competition more possibilities might arise**.** A more effective government intervention than establishing community computers might be a lending scheme that made possible business plans for micro house/veranda cyber cafés as already common in much lower income countries such as India. Such micro-lending schemes might follow projects as the Grameen model which has proved so successful as part of development in other countries. As with phone cards, there is considerable scope for the local appropriation of small scale money making opportunities if there is demand (for details see http://www.grameen-info.org/).

Can we assume demand?

Our assessment of ICT usage suggests that there may be a more fundamental issue at stake, especially when taken in comparison with other, much lower income countries in Africa and South Asia where Internet access can be found on almost every street corner. Given the size and wealth of the Jamaican population, the general failure to make use of Internet facilities in places such as libraries, post offices and cyber cafés is somewhat surprising. The cause may be entirely financial since many cyber café owners told us that given the current costs of gaining an IP address from Cable and Wireless there is simply no business plan for a cyber café that can really work at the present time. Similarly, most households don't feel private provision is worth the cost involved as long as Cable and Wireless retain timed charges in addition to flat rate for the low speed modem access of interest to low income households. But while all this may be true, we feel strongly it should

not preclude the consideration of alternative causes, of which the most important would be evidence for lack of demand.

The Jamaican government, and much of commerce, seems to retain an assumption that there is pent up demand for Internet access parallel to that of the telephone and that the only thing preventing a similar growth of the Internet is price. But the Internet is not the phone. The entire world, including the best businesses and management consultants made claims and predictions for years about the possibilities of the Internet. They were proven wrong by what came to be seen as the dot.con fiasco (Cassidy 2002, Woolgar 2003). Our evidence suggests that it is possible that one of the reasons for the relative lack of Internet use may be lack of demand, at least for Internet through the computer.

They way Jamaicans typically expressed their ambivalence to the Internet and cyber cafés generally fell into the following main categories:

(i) We Jamaicans do not like to share skills. Even when one individual has a computer, the tendency is to answer a request for information by looking up information ourselves and communicating the results rather than showing another individual how to obtain this information without our assistance.

(ii) We Jamaicans are an oral culture and prefer communication by voice. We are less inclined to textual and written information, so we would download music but don't like long text based communications.

(iii) Our education system is so bad that most kids can't read or write well, let alone type and use keyboards. Until that is sorted out any discussion of the Internet through the computer and low income persons is a waste of time.

(iv) We don't really live in households or families like other people. If a wife wants to market the fish her husband catches, she has to buy them from her husband. We transact as individuals not households, so we don't like machines that belong to the household. Because we prefer individual machines, and households can better afford computers than can individuals, therefore we buy less computers at low income levels.

(v) We are a very private people; we don't like computers that have shared access. Even if we are not using the communication to form relationships with other men/women we don't want people to know about, there are plenty of other reasons for keeping our business to ourselves.

There is not the time and space to comment in detail on the evidence for such claims. Some are derogatory, and clearly false. For example, most low income individuals operate `partner' schemes based on trust and social networks with considerable degrees of success. On the other hand research on an NGO sponsored free access cyber café in Portmore suggested that while it is possible to build up usage, even when access was free (short of the transportation to and from the site) it took considerable encouragement, education and time to build demand.

Our ethnography did support the suggestion of a strong preference for individual rather than household based access. We found, for example, that low income Jamaicans may be giving up landlines at a faster rate than suggested by official figures. Although most members of households argue that the dissolution of the land line saves money, we found that, on average, the combination of individual household members use of the cell phone resulted in a greater expenditure of money per household. We also concluded that cell phones are preferred because they relate to individually controlled budgets and the privacy of communication, especially when monthly post-paid bills can lead to household conflict. In general demand for the main Internet services such as email, chat and surfing did not seem to be equivalent to the level of demand for voice communication that led to cell phone saturation. We suspect it might be higher in middle class households.

There are two conclusions from this scepticism about demand that we want to address. First, we will briefly note here the implications for the potential of Internet through the phone compared to the computer. We then address the other implication, which is that if demand cannot be assumed, then measures may have to be taken to stimulate demand.

Internet through the phone

While we saw less demand for Internet through the computer than we expected, we saw much more interest in Internet through the phone. This was especially true for individuals considered low income. In the short time since the cell phone (affordably) emerged on the market, Jamaicans are making much more use of the general features of phones, such as in time keeping, music and diary than is common elsewhere. At present it seems a much more popular platform than the computer.

Government has generally been dismissive of this alternative given that it appears less amenable to educational and other welfare benefits. Our evidence suggests that it should be taken more seriously. Although the phone is too small and awkward for the kind of Internet material that has evolved for computers, there are many forms of simple data transfer and information towards which it can be adapted. Most foreign `experts' and business professionals come with a scepticism reflecting US or UK expectations, in Japan for example a recent study suggests that Internet access by young people today is more common through the phone than through the computer (Ito 2002). The investment in third generation phones is perhaps the biggest business investment in the history of the world and companies will be desperate to find and develop usage. It may be that a country such as Jamaica will be just as likely to appropriate such technologies as the countries such as Finland. In our recommendations to DFID we will be advocating a wide range of internationally sponsored creations of suitable material based on WAP or the Japanese CHTML. A more serious interest in data transfer through the phone rather than the computer might well turn out to be more effective and appropriate to the Jamaican situation.

Creation of demand – portal initiatives

One of the implications of this possible lack of demand is that government and commerce have a joint and complementary interest in stimulating demand for the Internet. Government's priority is to improve the IT skills and knowledge of the population and to address various welfare concerns such as education and medicine. Commerce also positively views improvement of IT skills but more generally sees demand as a source of profit from the expenditure that it stimulates. From our point of view we want to identify how government as well as commerce might effectively stimulate demand which we believe might enhance the welfare of low income Jamaicans.

For this purpose we recommend that to the government assist in the development of a national scheme that uses portals and other genres to direct the public to those on-line facilities that will be most helpful, relevant and attractive to them. Much of this depends upon kitemarking. In earlier conversations with government ministers, there was concern that the government might be seen as favouring or leading the public to sites that subsequently turn out to be problematic; the government in Jamaica can hardly be expected to keep up with the content of web sites that are being created all over the world. For this reason there needs to be some mediation that makes kitemarking, portals and similar schemes the responsibility of commercial or other organisations that have only semi-detached linkages with government itself. Each section of this endeavour is issued as a licence to those engaged in the activity. For example Digicel might choose to run the commercial link-up, Cable and Wireless the home portal radio, while a Jamaican based at a Canadian University might be given the rights to run a medical service or other informational service.

If the results prove highly problematic, then the licence can be granted to a rival body at the time of licence renewal. At the moment, we see three main bodies able to construct this demand. It is quite possible that companies such as Digicel and Cable and Wireless are most likely to find such a proposal more attractive when it is considered as a Caribbean rather than a Jamaican national portal. Although the premises remain, this would then require some adjustments from our proposal.

Secondly we think there is a huge and currently untapped resource present in the Jamaican diaspora. Jamaicans living abroad often have more affordable access to computers and Internet. Moreover, and given the large amounts of remittances sent to Jamaica, many Jamaicans living abroad hold a stake in Jamaica's development and seek out ways to support and assist Jamaica's development (Cf. Thomas-Hope 1999). Presently much of the on-line work is dominated by the altruistic activity of these Jamaicans, such as *Top5Jamaica.com*, which was produced by a Jamaican originally from a MSC programme at the University of the West Indies now based in Canada. Until advertising made Top5 a self-paying proposition, the website was simply created of an altruistic desire for a comprehensive Jamaican portal. If marketed sensibly, many of the functions outlined in the portal might be taken up by Jamaicans abroad, especially if they are thereby given official government approval which might be particularly effective for those aspects of the portal that do not

have sufficient income producing potential to interest commerce (e.g. health). ICTs thereby have considerable potential to reverse the Jamaican `brain drain'.

In addition to encouraging a public-private partnership to stimulate interest in the Internet, there is much that can be done in terms of marketing the portal as a potentially vital element of Jamaican life. In the first instance we suggest that stimulation of demand should be based on the concept of `edutainment' where entertainment and education are integrally tied together. In the Appendix, we list a series of potential on-line structures and initiatives. We recognise that many of them may never come to be but we take this as an opportunity to think through the range of possibilities that do exist. As discussed above, the optimal operation would involve a government body bundling these portals and licensing them out to groups such as commercial companies, Jamaicans abroad or semi-governmental bodies, who are then allowed to run them on a for-profit basis. The government would be responsible for coordinating the kitemarking aspects of these schemes.

Conclusion

This report is based on a year living with and amongst low-income Jamaicans. Our primary concern is to reflect the welfare of those populations as they were communicated to us. At present we have only recently finished our fieldwork. In the future we will be working more systematically to compare our results with of the research of our colleagues in Ghana, India and South Africa. It is entirely possible that we will change our opinions, or come up with new suggestions as a result of subsequent analysis. We recognise that what we have recommended is a mixture of immediate and more long-term, speculative advice covering a much broader range of issues than those in which we can claim expertise. If, however, this document is found useful, we would welcome written responses. When we approach bodies such as UNESCO and DFID we should like to be able to say which government and commercial organisations in Jamaica found which of these recommendations useful and worth supporting. Criticisms are, of course, always welcome to academics.

Notes

1. Although the project is funded by DFID the suggestions and remarks are our own, and do not implicate DFID in any way.
2. Low income was defined as an income of less than $JA 3000 weekly in the rural location and less than $5000 weekly in the urban location.
3. Unlike most independent advisors and NGO's, our main concern was how to save the government money and we have tried to come up with suggestions that on balance would reduce expenditure rather than increase it, with the assumption that such suggestions would be more likely to be implemented.
4. The issue of pornography is complex. Jamaica has a problem with school age sexual activity even with an unusually strict level of censorship, so this cannot be seen as an outcome of exposure to pornography. It is likely that Jamaica will follow most countries in that initial use of the Internet will be heavily orientated to pornography. But in general this dominance fades as other possibilities of usage come to the fore. It will, in any case, be hard for Jamaica to remain cut off from the more liberal regimes that generally hold for pornography in metropolitan countries as ICT usage spreads.
5. Although from the point of view of government tax receipts this may not be of benefit.

On-line References

http://www.children-go-online.net/ - *Personal website of Prof. Sonia Livingstone, expert on children's use of new media, based at London School of Economics*

http://www.becta.org.uk/ - *Studies of educational use of new media in UK*

http://www.bbc.co.uk/schools/gcsebitesize/ - *Examples of educational revision materials*

http://www.digitaldividend.org/case/case.htm - *The WRI (World Resources Institute, Digital Dividend series – What Works) Extensive survey of ICT projects in different sectors such as health and agricultural development*

http://www.digitaldividend.org/pubs/pubs_06_todito_epaid.htm - *Todito.com and ePAID: Innovative Remittance and e-Commerce Services. Reported as a WRI case study*

http://www.grameen-info.org - *Very successful micro-credit scheme for small-scale enterprise amongst world's poorest communities*

References

Bailey, B. 2000. “Issues of Gender and Education in Jamaica: What About the Boys?” *EFA Caribbean Monograph Series,* No.5, UNESCO.

Bailey, B. 2001. "Sexist Patterns of Formal and Non-Formal Education Programmes: The Case of Jamaica, In Leo-Rhynie et al *Gender: A Caribbean Multi-disciplinary Perspective,* UWI Press, pp 144 - 158.

Cassidy, J. 2002. Dot.con. London: Penguin.

Economic and Social Survey 2003. Kingston: Planning Institute of Jamaica.

Eysenbach, G, Powell, J, Kuss, O, & Sa, E.-R. 2002. Empirical studies assessing the quality of health information for consumers on the world wide web: A systematic review. *Journal of the American Medical Association* Vol. 287: 2691-2700.

Horst, H. and D. Miller. In Preparation. *The Cell Phone: An Anthropology of Communication.* Oxford: Berg Press. (expect to complete manuscript by end of May 2005 for publication early 2006)

Ito, M. 2002. Personal Portable Pedestrian: lessons from Japanese Mobile Phone Use. http://www.itofisher.com/mito/archives/ito.ppp.pdf.

Miller, D. and Slater, D. 2000 *The Internet: An Ethnographic Approach.* Oxford: Berg (in UWI and Salises libraries).

Thomas-Hope, E. (1999). "Return Migration to Jamaica and Its Development Potential." *International Migration* **37**(1): 183-208.

Woolgar, S. Ed. (2002). *Virtual Society? Technology, cyberbole, reality.* Oxford: Oxford University Press

World Bank (2003) Jamaica: The road to sustained growth – country economic memorandum 2003/12/04 World Bank

Appendix 1:

JAMAICA LINK UP

The Jamaican resource for the reliable information
On the World Wide Web

□	Education Link Up	Information Link Up	¡
$	Commercial Link Up	Spiritual Link Up	†
♥	Soap Link Up	E-government Link Up	₪
∞	Third Age Link Up	Communication Link Up	☺
♂	Medical Link Up	Yard Link Up	

J *signifies that the website has been approved by the Jamaica National Portal Association*

… Listen to us on WRJA-103.5 FM …

J JAMAICA LINK UP

In this model, Jamaica Link Up would be based upon a web-cast radio which would also be available as conventional radio. The radio programme effectively coordinates the activities of the entire portal, alerting people to events, such as interactive sessions that are current at some or other part of the system. This is the model we have used to organise the sections listed below. Much of this is viewed as evolving over twenty or thirty years and this list is endless. While we have confined our list of possibilities to 11 basic categories, it is easy to imagine other sections, such as for food or dating and marriage. It is likely that the basic portal would begin with either those categories that have commercial potential sponsored by companies, or those managed altruistically by Jamaicans living abroad. Others may or may not develop over longer periods of time. Another factor will be whether international material is being produced for both computer and phone based access that gives a corpus of standardised educational and informational content. This will form a major part of our report back to DFID.

♫ SITE 1: HOME-PAGE RADIO

Live broadcast web-radio also available as radio programme. This needs commercial 'hype' to be launched with top name DJ's such as Sean Paul, Vybes Kartel, Elephant Man or Lady Saw. It should provide constant entertainment, but with continual reference to advertising other events and the website. For example: 'Link up with DJ Remy at four o'clock for an interactive session on learning Microsoft Word' or 'all you returnees and retirees cooling out in the garden can chat with Miss Lou in Toronto at 5.00'. From the home-page links on the website, and oral links on the home-page radio keep sending people to further sections. Facilities from the home page might also include:

(i) Music Link Up - Free downloads for new Jamaican music, from gospel to dancehall. Instructions concerning how to obtain music on-line.
(ii) Sports Link Up - Dates on local league games. Debates about Reggae Boyz. Netball, cricket and other sports.
(iii) Horoscope Link Up - Tell people about your dreams. Interpreting other's dreams (with potential link to cash pot and lotto) and post your own.
(iv) Party Link Up - What is happening and where? Who will be there? What will they be wearing? Fashion highs and lows.

□ SITE 2:EDUCATIONAL LINK UP

Much of the material for Educational Link Up can be taken from international sites (e.g. BBC bite-size interactive –see website references) have simple revision tests on the school curriculum made into fun and engaging entertainment for school children. One part of this section might involve interactive Sessions with authors of CXC guides. A considerable amount of content might also include skills training for adult education, possibly linked to an entire cable TV channel devoted to this purpose similar to the current government proposals for child education. Teaching could include components such as:

(i) Microsoft Office Sub-section, interactive learning with sponsorship from Microsoft.
(ii) Expansion of current Cable and Wireless school websites.
(iii) Co-ordination of national alumni lists.
(iv) Producing your own CV.
(v) Link up with TV School Challenge Quiz, archive of answers.
(vi) Link up Gleaner Youth Link.
(vii) Link up other TV youth programmes.
(viii) Information on educational courses abroad.
(ix) On-Line foreign courses as distance learning, taken within Jamaica.
(x) Links to University of the West Indies, University of Technology and Northern Caribbean University.
(xi) Links to HEART.

¡ **SITE 3: INFORMATION LINK UP**

Information Link Up can be construed as an expansion of the current Jamaica Information Service website. It would also involve a government `kitemark' of approved sources of information. This could include:

(i) Government services and JIS news and programming.
(ii) Warning against scams and spam on line.
(iii) Local Travelocity i.e. news reviews hotels, CDs stores etc.
(iv) 'Kitemarked' recommended sites such as on-line encyclopaedias.
(v) Basic information including weather forecast, currency exchange, local facilities.
(vi) Jamaican statistics hosted by STATIN.
(vii) Link up for go-local sites for each area.

$ **SITE 4: COMMERCIAL LINK UP**

Commercial Link Up would involve a government-approved scheme for on-line payments either through credit card or through a modified version of Paymaster. It could take advantage of the following facilities:

(i) House sales and exchange.
(ii) Car sales and exchange.
(iii) Virtual mall for general goods and on line shopping
(iv) E-bay style local exchange and sale second hand goods.
(v) Agricultural prices in local markets.
(vi) Specialist markets for fishing, craft and local produce.
(vii) Check fares for transport e.g. airlines, travel between Kingston and Lucea.
(viii) Financial advice and services.
(ix) Pensions.
(x) Insurance.
(xi) Find your own `partners' scheme.

† **SITE 5: SPIRITUAL LINK UP**

Spiritual Link Up extends the current work of Love 101 and Love TV to make religious material available on interactive basis with:

(i) Ask the Pastor section.
(ii) Link to individual church web-sites, events, missions.
(iii) Information on groups e.g. Moravian, Rastafarian, Jehovah's Witness, Revival.
(iv) Section for posting personal testimonies.
(v) International links to theological sources.
(vi) Christian dating service, find partner in faith.
(vii) Similar services for Rastafarians and others.
(viii) Find a church in London, NY, Atlanta, Toronto and Miami.

♥ **SITE 6: SOAP LINK UP**

In the beginning Soap Link Up might start with connections to locally produced Royal Palm Estate. However, it would be ideal if this section evolved into a web-cast soap opera, which included educational stories, based on internationally exported radio soaps following `Archers' model (that is general narrative story but with government and educational messages built into story lines). Soap operas could incorporate excitement and melodrama but also deal with difficult topics, such as when a relative is HIV positive, or involved in gun crime, and common parenting issues, such as underage sex and pregnancy, effect of migration on family, youth unemployment etc. In addition, it could incorporate:

(i) An archive of episodes.
(ii) Discussion groups around popular soaps and difficult issues.
(iii) Soap trivia.
(iv) Special promotions to speak to and/or meet local actors and actresses forming in the soaps.

₪ SITE 7: E- GOVERNMENT LINK UP

E-government link up makes available most of the standard government forms and processes as on-line and follows the current proposals from CITO. It would incorporate:

(i) Advice on form filling and how to submit.
(ii) How to make payments on-line.
(iii) Office of Utilities Regulation.
(iv) Standards and consumer rights.
(v) Prices for services, guide to commercial prices.
(vi) Links to range of CITO based projects such as tax forms, customs forms, export and import regulations, and in the future land registration and other services

∞ SITE 8: THIRD AGE LINK UP

The Internet could well end up being rather more important to the elderly than to youth, if adapted to their needs and encouragement given. Current trends reflect commercial push to the youth market and differential take up of innovation by youth. But considered abstractly it is the elderly who might benefit more, especially when lacking mobility. Given this, a Third Age Link Up would involve:

(i) Formats to keep in touch with family home and abroad.
(ii) Instructions concerning how to send and receive family photos.
(iii) Activities for retired people.
(iv) Special facilities and large font sites, easy point and click features for those who need these.
(v) Old time stories. Miss Lou and folk tales.
(vi) Returned Migrant organisations and concerns.
(vii) Discounts on medicines and other facilities for elderly.
(viii) NHF, PATH and long term care.
(ix) Accessing your rights: What to do if your pension has not arrived.

☺SITE 9: COMMUNICATION LINK UP

This is main connection to other communication and bridges Internet, television, cell phone, radio and other media. Communication link up would most logically be run by one of the current cellphone operators. Features of Communication Link Up might include:

(i) Establish your Internet connection through the phone.
(ii) Link up to the cell phone companies.
(iii) Link up to ISP's and Internet providers.
(iv) Local MSM style chat Jamaica.
(v) Link up to television, programmes and interactive chat about contents.
(vi) Link up radio archives and other services.
(vii) Link up newspapers archives and other services.
(viii) Jobs available in media

♂ SITE 10: MEDICAL LINK UP

Medical Link Up provides on-line medical advice. These could be based upon UK NHS direct service, United healthcare websites or similar government kitemarked advice areas. We envision Medical Link Up to include:

(i) Basic information on medical conditions.
(ii) Kitemarked links to approved details of prognosis and treatment.
(iii) Daily `ask the doctor' interactive sessions, potentially in conjunction with call-in radio programs.

(iv) 'Sugar', 'pressure' and other medical conditions
(v) AIDS link up for patients.
(vi) AIDS link up for information on prevention and diagnosis.
(vii) Rasta medicine and treatments.
(viii) Post your own natural medicines and advice guide, testimonials.
(ix) Medical professionals interchange.
(x) Jobs available in medical services and how to become a nurse practitioner.

SITE 11: YARD LINK UP

This section focuses upon maintaining the links between Jamaicans living abroad and in Jamaica:

(i) Find local Jamaicans.
(ii) How can you participate in Link-Up help create and maintain sites.
(iii) Sending remittances – new schemes.
(iv) Sending a barrel and other services to Jamaica.
(v) Good causes in Jamaica seek your help.
(vi) The grass isn't always greener abroad testimonials. Migration advice.
(vii) Pen friends and virtual friends abroad.
(viii) Dating and marriage, the international guide.
(ix) Returning home.