



DIVIDED CITY

Information poverty in Nairobi's slums

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This report looks at how slum dwellers in Nairobi obtain information and what mechanisms exist in slums to ensure access to media and information in the absence of information and communication technologies (ICTs). It argues that the new "informational paradigm" presents new and exciting development challenges that, if not confronted head-on, can lead to increasing poverty and social exclusion in countries that have been unable to make full use of the opportunities offered by ICTs. In the context of the growing urbanization of poverty and Africa's digital exclusion, the report describes the various political, financial and infrastructure barriers that countries such as Kenya have to overcome to democratise access to media and ICTs. The report then presents the findings of research conducted by the author to determine Nairobi slum dwellers' access to media and ICTs. One of the most significant findings is that social networks are among the most important sources of information among the urban poor in Nairobi. This suggests that "social capital" is an asset that the poor rely on to survive in the hostile and degrading environment of slums, and often a determinant of how well slum dwellers fare economically in the city. The report also found that while the impact of the Internet is minimal in slums, the use of mobile phones has grown, particularly among people working in the informal sector. This has had a positive impact on the livelihoods of the urban poor. However, the author makes a case for making other ICTs, particularly the Internet, more accessible to the urban poor: not doing so will further marginalize them and lead to Castells's "dark urban age".

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INFORMATION POVERTY IN THE INFORMATION AGE



In the last few years, more and more development agencies are recognizing that knowledge and information can mitigate risk and improve the livelihoods of the poor. Not knowing about their rights, services they could access, plans for their areas or options available for tackling certain problems puts the poor at a disadvantage and increases their vulnerability. One study in India, for instance, found a high correlation between access to newspapers in a region and its ability to avert floods or droughts (Besley and Burgess 2000).

The Internet is prompting a sea-change in international development thinking. Many governments, donors and multilateral organizations are radically re-shaping their policies in the new information age. This has led to the “informationalization” of development initiatives. Information and communication technologies (ICTs) are now seen as the key to economic development and tools of political empowerment that can transcend traditional North-South, rich-poor divisions.

Evidence suggests that when ICTs, including mobile phones, are placed in an enabling environment and adapted to the needs of those who use them, they can improve livelihoods. A recent report, backed by the U.K. mobile phone giant Vodafone and the Centre for Economic Policy and Research, showed that African countries with greater mobile use had seen a higher rate of economic growth. The report found that a developing country which has an average of 10 more mobile phones per 100 population between 1996 and 2003 had 0.59% higher GDP growth than an otherwise identical country (BBC News 2005). In Bangladesh, GrameenPhone Ltd. has helped thousands of poor rural women to earn a living and improve mobile phone connectivity in the remotest parts of the country. In Rio de Janeiro, Brazil, Viva Favela, a donor- and private sector-funded Web site devoted to the interests of the city’s slum dwellers has enabled hundreds of impoverished youth to find employment and get the latest health information. Because of their ability to raze geographical, social, economic

and cultural barriers, ICTs have the potential of overcoming inequalities and becoming a catalyst for development. Sam Pitroda (1993), India's visionary technologist, referred to ICTs as "the most democratizing tool ever devised".

However, while new information technologies have the potential of breaking social, economic and political barriers and creating more egalitarian societies, they have also had the net effect of increasing political, economic and social divisions. The "digital divide" is getting wider, resulting in what Manuel Castells calls "the Fourth World" – large sections of the world's population, concentrated mainly in Africa, Asia and Latin America, who remain untouched by the new information and communication technology revolution, and therefore passive victims of global forces, rather than active participants or key players (Castells 1998, 2000:68).

The costs and benefits of globalization are unevenly distributed not only between cities of the North and South, but also *within* cities. Enclaves of "super-connected" people, firms and institutions, with their increasing broadband connections to the world via the Internet, mobile phones and satellite television, exist side-by-side with large numbers of people who have never made a phone call or used the Internet.

In many cities, the urban poor now have to deal with another form of social exclusion. Language, education and infrastructure barriers continue to ensure that the poor in cities such as Nairobi remain untouched by the information revolution. Because connectivity and informational capacity will determine wealth and power in our time, the urban poor risk being even more marginalized and impoverished. Their poverty will not just be measured by their income or their assets, but also by their ability to generate, process, receive and disseminate information, or what I refer to as their "information poverty".

Africa's Digital Exclusion

With the exception of South Africa (which has a high level of industrialization and a more diversified economy), most countries in sub-Saharan Africa have been bypassed by the information and communication technology revolution altogether. Africa lags behind every other continent in the use of media tools and technologies. In 2000, out of a total of 800 million people, only 1 in 4 had a radio, 1 in 13 a television set, 1 in 40 a telephone and 1 in 130 a computer (Mutume 2003).

In 2000, only 0.4% of Sub-Saharan Africans had used the Internet, compared to 54.3% Americans (UNDP 2001:40). If one excludes South Africa, this percentage drops drastically to 0.04% or less than 3 million people (Mutume 2003). Not only is Africa the least computerised region in the world, it does not have the skills and knowledge required to make use of computers. Most countries lack the educational and training facilities needed to help people acquire the proper computer skills. Only a

handful of countries offer university-level education in computer science (Odedra 1993).

Africa's digital exclusion is intimately linked to its lack of infrastructure to support technological innovations. Access to electricity and telephones remains dismally low in most parts of the continent. In 1994, Africa accounted for only 2% of the world's telephone lines. Rural electrification remains a dream yet to be realised in most parts of the region (Hall, 1995). Poverty and a poor telecommunications infrastructure mean that Internet access is largely restricted to the urban elite. In 2001, there were only 500,000 Internet users in Kenya, out of a total population of 32 million people (World Bank 2003).

The cost of personal computers also remains out of the reach of most Africans. Telecentres and cyber cafés may have made Internet access more available, but the cost is still only affordable to the middle and upper classes. Cheap computers with non-propriety software, designed to be shared at public libraries, cyber cafés and telecentres, could bring Internet access to more people in Africa, but these options have not yet been fully explored or implemented.

However, while Internet access is costly and heavily dependant on the existence of infrastructure such as electricity and land telephone lines, other ICTs, such as the mobile phone, appear to be becoming a more powerful force of change on the continent. The number of mobile subscribers on the continent has grown dramatically to 34.3 million (www.cellular.co.za), mainly due to the fact that mobile phone operations are cheaper to build than fixed line systems and also because the costs of handsets are dropping everyday. In 1999, Uganda became the first African country to have more mobile than fixed-line customers. Today mobile phones outnumber fixed lines in Africa at a higher ratio than on any other continent (International Telecommunications Union 2002). A 2005 report found that in South Africa, 85% of small businesses run by black people rely solely on mobile phones for telecommunications (BBC News 2005).

Once a status symbol, the mobile phone has over the years become a democratising influence in Africa's rural and urban areas, and also an important investment for entrepreneurs in the informal sector. The typical mobile user on the continent is more likely to be a taxi driver, a farmer, a cow herdsman, a market trader, a plumber or street hawker rather than a corporate executive (Ashurst 2004). The mobile phone has extended telephone services to those who survived outside the formal economy, and has enabled many to improve and extend the services they provide.

However, radio still remains the most accessible medium in most African countries, reaching an estimated 60% of Africa's population (Chetty 2003), which makes it the most powerful medium of communication on the continent.

The Urbanization of Poverty

The world is becoming increasingly urban: more poor people live in urban areas than ever before. By 2001, an estimated 47.7% of the world's population was urban (United Nations Population Division 2002). Almost a third of this population lives in life and health-threatening conditions, with little access to basic services or adequate housing i.e. in slum conditions. It is estimated that in 2001, 924 million people, or 31.6% of the world's total urban population, lived in slums. In the next 30 years, this figure is projected to double to almost 2 billion unless drastic policy changes are put in place to alter this projection (UN-HABITAT 2003a:xxv). The spatial landscape of poverty is increasingly urban in nature.

At 71.9%, sub-Saharan Africa has the largest proportion of the urban population resident in slums. Although in terms of sheer numbers Asia hosts the largest number of slum dwellers (554 million or 60% of the world's total in 2001), Africa is rapidly becoming a continent of slums; 166 million out of a total of 231 million urban residents in sub-Saharan Africa are classified as slum dwellers (UN-HABITAT 2003a:14).

Slums represent the "invisible" or informal part of the city, denied services and resources that are available to the "visible" or formal part, even though in many developing countries slum residents represent over 50% of the city's population. Yet, most governments do not recognize slums, or informal settlements, in their urban plans, which makes the situation of slums even more precarious. In addition, there is generally an absence of data on slums in official statistics: they represent "zones of silence" in terms of public knowledge (UN-HABITAT 2003b:54).

The State of Nairobi's Slums

The population of Nairobi, Kenya's capital city, has grown more than ten-fold since 1960, from approximately 219,000 people to an estimated 2.31 million people in 2000, or 7.7% of Kenya's total population (DFID 2000). An estimated 60% of the city's population lives in slums and informal settlements (Government of Kenya/UNCHS 2001:1).

Between 1971 and 1995, the number of informal settlements and slums within Nairobi rose from 50 to 134, while the estimated total population of these settlements increased from 167,000 to some 1,886,000 individuals (UN-HABITAT 2003a: 219). The size and densities of these settlements vary from a few hundred people to hundreds of thousands of people.

Kibera, the largest one, estimated to have a population of between 700,000 and 1,000,000, is considered the largest slum in Africa, if not the world. Today, both natural growth and rural-to-urban migration continue to contribute to the growth of Nairobi's slums and informal settlements. These slums provide a large proportion of the formal and informal labour force in the city and, it has been argued, play a useful role in providing

cheap housing for those who cannot, or, as likely, will not, want to spend any more on housing than they possibly can.

Life in Nairobi's slums is not easy by any standard. As many as 1,200 people live on one square hectare, most in shacks as small as 10x10 feet. Tenure for many who live and work in the settlements is insecure. Slums occupy only 5% of the residential land in the city, half of which belongs to the state. However, individuals have over time negotiated informal arrangements with the authorities to erect structures and collect rents. Most slum dwellers do not own the structures in which they live (Government of Kenya/UNCHS 2001: 1)

The majority of slum dwellers in Nairobi are tenants, paying between US\$3 to US\$45 for a room. The average monthly salary of a slum dweller in Nairobi is US\$40, slightly above the official poverty line of US\$ 39 per adult person per month (Central Bureau of Statistics 2000).

Provision of basic services in slums is extremely scant or non-existent. As many as 400 people can end up sharing one toilet. Slum dwellers have dug up pit latrines in slums, which pose additional health and environmental hazards, besides eroding the dignity and self-respect of residents. Water, electricity, cooking fuel, schools and other services are in short supply (Government of Kenya/UNCHS 2001: 1).

The Nairobi City Council, the main authority charged with the provision and management of services within the city, cannot cope with the problem due to a combination of factors: the poor economic situation in the country; rapid urban growth; limited resources; inefficient revenue collection; and corruption, among others.

Moreover, most of the services provided through government channels are not targeted at the urban poor. Most basic services, such as roads and electricity, barely extend to the informal settlements. As these do not fall under the official "planned areas" of the city, and are generally regarded as "illegal", the authorities have no statutory obligation to provide services to these areas. Slum dwellers have no choice but to make their own arrangements to gain access to services, such as through water kiosks and by "stealing" electricity from the mains. Some church and non-governmental organizations have tried to fill in the shortfall in services, but clearly demand outstrips supply.

Growing Polarization and Conflict

The growth of slums in an era of unprecedented economic prosperity can, and does, contribute to tensions that can threaten local, national and even global security. Evidence suggests that cities that are unable to bridge income inequalities and manage social integration are likely to be more violent and insecure than those less polarized and more integrated. Growing polarization between the rich and the poor has contributed to the growth of "gated communities" in cities, a new type of social apartheid in which the rich and the poor appear to belong to different worlds and

inhabit separate spaces.

This “social apartheid” has been the source of innumerable conflicts in Nairobi, where violent clashes between the authorities, private developers and slum dwellers has been a feature of urban life for many years. In June 2003, thirteen members of a hired eviction squad were battered to death by residents of a low-income settlement in Nairobi when the squad forcibly tried to evict tenants who had not paid rent for two months (Muiruri 2003).

Slum residents have also been targets of extreme violence by the state and greedy landlords. According to Odindo Opiata (2003), Coordinator of Legal Services and Community Partnerships at Kituo cha Sheria, a legal aid NGO in Nairobi, lack of information flow between the authorities and slum dwellers threatens to polarize residents even further and result in more disputes in Kenya’s major cities.

If information and communication can avert conflict and promote development, then it is important to know how the poor obtain information and what channels of communication are available to them.

METHODOLOGY

This study focused on the issue of access to traditional media and ICTs, trying not to make judgements on the knowledge and capacity of those who do or do not have access to media and ICTs. Information poverty is thus defined as “deprivation in access to traditional media and information and communication technologies”.

The questions posed were:

- a) If access to traditional media and new information and communication technologies (ICTs) is a prerequisite to development in the information age, then what is the level of “information poverty” among Nairobi’s slum dwellers?
- b) assuming that there is limited use of traditional media (newspapers, radio and television) and ICTs (wireless and computer-based technologies, including mobile phones and the Internet) in Nairobi’s slums, what other mechanisms have been developed to overcome “information poverty” and to reduce the information chasm between the “connected” and “unconnected” sections of the city’s population?

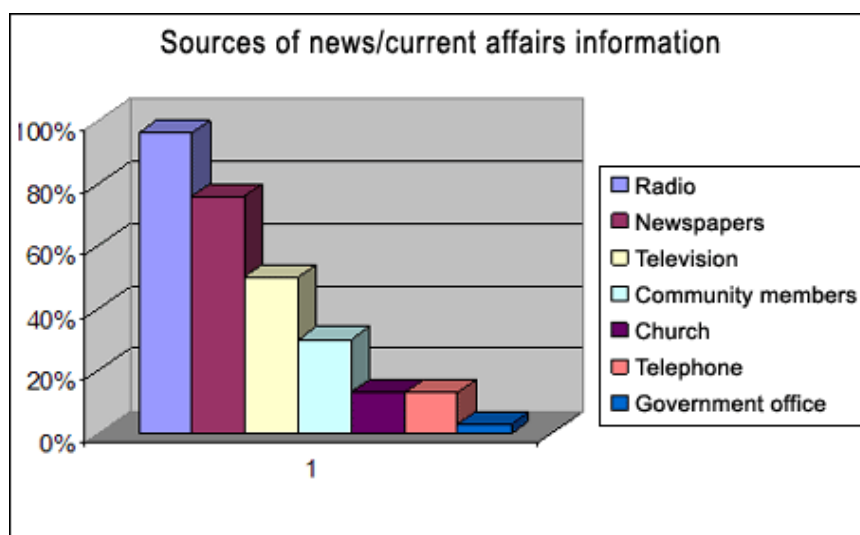
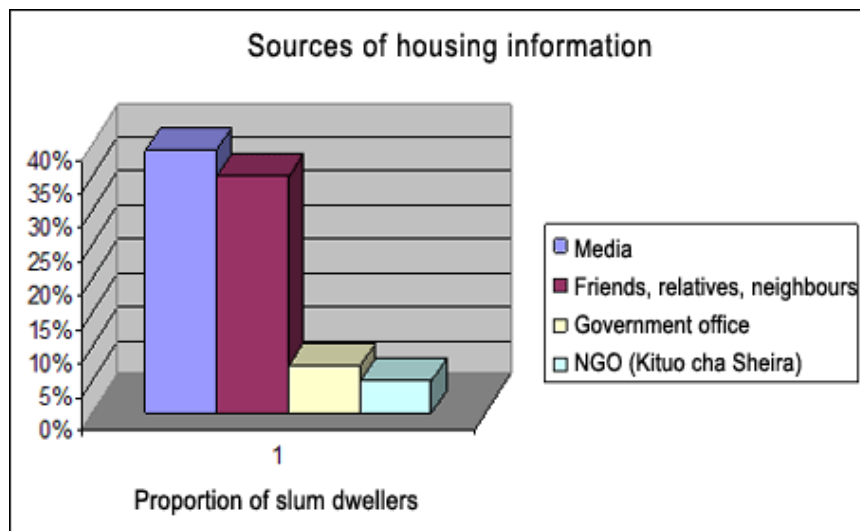
Due to the small size of the sample, this study does not pretend to be scientific in its findings. However, it is presumed that they are a somewhat accurate reflection of the state of information poverty in Nairobi’s slums. They apply to the sample surveyed, but could apply to slum populations within the city as a whole, as the sample was representative of the total population from which it was drawn.

A combination of methods was used to determine the level of information poverty in Nairobi’s slums:

- **Literature survey**, conducted to determine major trends in the field of communication for development. Of particular interest was an international research project, implemented by ITDG and funded by DFID, which explored the knowledge and information systems of the urban poor in three countries – Peru, Zimbabwe and Sri Lanka (Schilderman 2003). This report informed and confirmed many of the findings of my own research.
- **Questionnaire**: A questionnaire in both English and Kiswahili was prepared and distributed to 30 slum dwellers attending a meeting held on 25 September 2003 organised by Kituo Cha Sheria to engage slum dwellers and government and other stakeholders in discussing a draft housing policy for Kenya. Thirty respondents from slums around the city filled out the questionnaire. The sample was drawn from a cross-section of Nairobi's slums. Their work/professions ranged from skilled to semi-skilled jobs. Their incomes ranged from US\$30 to US\$220 a month. 22 of the respondents were male; 8 were female. This imbalance, unfortunately, did not allow for accurate gender analysis of the responses. The questionnaire asked the respondents about three main things: their main sources of news; their main sources of housing information; and whether or not they had access to the Internet.
- **Semi-structured interviews**, or “friendly conversations”, were conducted with some of the respondents to clarify or elaborate on responses given in the questionnaire. In addition, between October 2003 and January 2004, interviews via e-mail and in person were conducted with Odindo Opiata, Coordinator of Legal Services and Community Partnerships at Kituo cha Sheria, the above mentioned NGO, whose main clients are the rural and urban poor.

RESULTS AND ANALYSIS

The questionnaire results showed that traditional media (radio, newspapers and TV) are the most important sources of news on current events among slum dwellers. 29 out of 30 (96%) said they got their news from radio; 23 (76%) said they read it in newspapers; and 15 (50%) said they saw it on television. 9 (30%) respondents said they got the news from community members, 4 (13%) said they heard it in church. 4 (13%) said they got the news over the telephone. Only one respondent each cited a government official or their employer as sources of news. (Note: percentages do not add up to 100. Since respondents were asked to tick 3 sources, not 1, there was significant overlap.)



However, when it came to housing, the role of traditional mainstream media became less important, although over a third of respondents still relied on these sources for information. In this case, social networks (friends, family, neighbours, community and church members) became more important. Of the 26 people who responded to Question 2, 10 (39%) said they learned about where to find a house from the media (newspapers and radio). 5 (19%) said they asked Kituo cha Sheria, the NGO that had organized the meeting that they were attending. 2 (7%) said they got the information from the government or local authority. The rest (9 out of 26 or 35%) cited friends, relatives, neighbours, community members and the church as the main sources of information on housing. If NGOs are included in the social network of slum dwellers (along with friends, relatives, neighbours, community members and religious organizations), then social networks became more significant as sources of information on livelihood issues, with over half of the respondents (54%) citing these networks as the main source of information on housing.

One respondent explained how he got to live in his one-room house in Kangemi (translated from Kiswahili): “The first thing you have to do when you come to Nairobi is to move in with relatives from the village who

already live in the city. Then you begin to look for jobs. Once you have found a job, you ask people in the neighbourhood if there are other houses in the area that you can rent. This is how I got to find a house near my brother in Kangemi.”

When asked why he chose to live in that particular house in Kangemi, the respondent said that not only it was close to where his brother was, but also large enough to accommodate his wife and children from his village in Western Kenya, who visit him in Nairobi once a year.

The findings show that government institutions are not the main sources of information on housing. The poor often have to rely on non-governmental organizations (who take on the role of *infomediaries* or key informants) or their own social networks to obtain accurate information on housing issues. The government is often seen as a source of disinformation, and this can be the source of suspicion and conflict. Recent slum-upgrading initiatives in the city are a case in point. The authorities often failed to inform the residents of the plans for their areas, which led to violence and protests in slums, and even to riots in which people were killed.

On how NGOs such as Kituo cha Sheria go about improving the information/communication gap between slum dwellers and the authorities, Odindo Opiata (2004) of Kituo cha Sheria had this to say: “Our sessions with slum dwellers are aimed at ensuring real as opposed to symbolic participation. Before any session, we normally hold informal meetings with the leaders during which we share with them relevant information so that at the sessions they are able to make informed contributions and assist in guiding the discussions. We see our role as merely intervening to give some technical input and we deliberately ensure that the slum dwellers are the main speakers. Above all, we insist that all participants speak Kiswahili, including our NGO partners, for our experience shows that in most of the meetings where slum dwellers are invited, the language used (English) alienates them. (...) we have now also institutionalized the process of making available important information accessible to the slum dwellers. (...) We have also decided to have all our publications on housing done in Kiswahili. These initiatives may have in some way contributed to the slum dwellers’ ability to engage directly with the authorities.”

Surprisingly, a total of 6 (20%) respondents said they had access to the Internet. Of these, 4 were civic and human rights educators and trainers, who had access to the Internet through their affiliation with NGO networks, and as part of their job. The 2 others had access in their neighbourhood or at their place of work. Three respondents admitted that they had never heard of the Internet and did not know how to respond to Question 3.

Said one respondent: “I don’t know what this Internet thing is. I have never come across it.”

The results of the questionnaire show that radio is the most important medium of information on current events among the urban poor. This finding confirms many other surveys which show that in Africa radio is still the most important medium, and will remain so for many years to come.

The surprising finding was that a large proportion of the sample relied on newspapers and television for news. Subsequent interviews revealed that while few slum dwellers purchase newspapers, they do have access to them at their places of work. Similarly, while few own their own television sets, they do have access to television in their neighbourhoods, either at bars, community centres or police stations (which serve as community centres in some areas) or via TV and video halls within slums where residents pay a small fee per hour (an average of US\$0.25) to watch television or films.

Also, while fixed land lines are virtually non-existent in slums, the majority (3 out of 4 or 75%) of the respondents that did cite the telephone as a source of information were self-employed. This suggests that their telephone access was via mobile phones or telephone booths, as none of them worked in an office or in the formal sector, where land telephone lines would be more accessible. Mobile phones have also contributed to sustaining rural-urban linkages alive. For instance, one slum dweller has distributed his employer's mobile phone number to all his relatives in the village from where he comes. This way, when there is a tragedy in the family or when the sugarcane is ready for harvesting, the employer gets a text message on his mobile phone, which he conveys to his employee, the slum dweller. In the slum dweller's village there are a few, if any, fixed telephone lines, and the mobile phone has offered a valuable opportunity to those who previously relied mainly on postal services to keep in touch with their families in urban areas.

Internet access, as expected, remains low in slums. Those that do have access do so through their work, mostly with NGOs and civic education bodies.

KEY FINDINGS

Social networks, or social capital, can make the difference between relative information poverty and absolute information poverty in slums, and can be the basis of personal, relational and collective empowerment. Slums with the highest social capital are also the most effective users of media and ICTs.

Social capital refers to the presence of multiple networks of civic engagement that, through upholding norms and generating trust, facilitate cooperation for mutual benefit.

Links to family-based networks, occupation-based groups of mutual help, rotating savings and credit groups, and other groups and associations to

which a household belongs –all part of the household’s social capital– can be the source of transfers in cash or kind in the event of a calamity or job loss. Social capital, therefore, is one asset on which the poor rely to improve their livelihoods, avert catastrophe or stay informed. It can also help develop individual consciousness and confidence, increase one’s ability to negotiate with the authorities and influence political processes.

This study demonstrates that social capital plays a key role in determining who is informed and who is uninformed in slum settlements, particularly on livelihood issues.

In most informal settlements, or slums, there are a multitude of local associations and networks on which the urban poor rely to obtain information, and which can be mobilised in order for the communities to gain access to land, resist eviction, provide themselves with water, manage savings and credit, or to raise funds for a particular project. The associations can be formal, informal, religious or ethnicity-based. They can manifest themselves through kinship ties, religious organizations, city-based federations, NGOs and even political parties.

These networks serve to fill the communication and information gap between slum dwellers and the authorities and are often an indicator of the level of poverty and deprivation in a community. Communities with strong social networks tend to be better informed than those where such networks are non-existent or have broken down.

Modern information and communication technologies (ICTs) have not played a major role in the lives of the urban poor, but have the potential to impact the urban poor in positive ways. Mobile phones, in particular, have resulted in tangible benefits that have improved the livelihoods of slum dwellers.

Mobile phone use is growing faster in Africa than in any other continent in the world. In Nairobi, the urban poor are increasingly relying on mobile phones to conduct their small businesses, to keep in touch with rural families, and to obtain other information that will improve their livelihoods. Although this study had no way of verifying the numbers of mobile users in Nairobi’s slums, it is evident that the mobile phone is the only telephone service available to the urban poor in the city, as most slums, where the urban poor reside, lack the telecommunications infrastructure to support land lines. Regional trends and indicators show that mobile phone use on the continent has surpassed land telephone lines. This has improved connectivity in rural and urban areas, and also given the poor in both rural and urban areas an opportunity to improve their livelihoods e.g. by gaining access to more timely information on markets and gaining direct access to customers. The mobile phone is predicted to become the most significant interactive medium available to Africans. However, while mobile phone use is set to increase among the urban and rural poor in Africa, the Internet still has a long way to go, and is not likely to impact the lives of the poor in the immediate future.

Radio is still the main source of news and information among the urban poor.

Before we dismiss traditional media as out-dated and irrelevant in a globalizing world, it is important to note that radio is still the main source of news and information in Africa. It is the only medium which is transmitted to the remotest corners of the continent, and often the only source of news among some rural and nomadic communities. Almost all the slum dwellers surveyed cited radio as a source of news. Development interventions, particularly government campaigns, have recognized this fact, and do indeed use radio as a key channel for transmitting information on national development issues and priorities.

THE WAY FORWARD

Mounting empirical evidence does lend support to the argument that ICTs are a powerful tool of development. The strong correlation between ICT access and Gross Domestic Product (GDP) per capita is undeniable, even for African countries (Chetty 2003).

Unfortunately, in many parts of the world, ICTs have created new inequalities and new forms of social apartheid. “Connected” and “unconnected” segments of the population live in worlds separated by access to these technologies. Large proportions of the world remain untouched by the information revolution, and are doomed to further marginalization. Cities that do not make use of these technologies risk being relegated to “Fourth World” status, unable to reap the benefits of global trade and real-time information flows.

With the largest proportion of slum settlements in the world, Africa’s cities are the sites of extreme deprivation and poverty. Yet, in the right environment, these cities can overcome further exclusion by consciously seeking to improve ICT access, particularly among the urban poor.

The recommendations that follow are not meant as prescriptions for urban poverty alleviation; they will not solve the problem of poverty in Nairobi, which has multiple causes and is complex and multidimensional. But they can go a long way in raising the standards of living and the informational capacity of those currently leading sub-human lives in the city’s various slums.

African countries need to improve their informational capacity. Not doing so will lead to further impoverishment and marginalization of the continent.

At the regional and national level, countries need to improve their informational capacity i.e. their ability to operate in the new informational paradigm, which is technology-driven and infrastructure-dependant.

Lack of investment in the ICT sector in Africa is likely to relegate Africans to always being consumers of technology, rather than producers.

Moreover, importation of ICT technology and expertise from abroad is likely to increase the socio-economic disparities on the continent (Chetty 2003). Countries such as Kenya must not only be able to operate efficiently in the new system with other countries in other parts of the world, but between and within its cities and between “connected” and “unconnected” sections of the urban population. Apart from making public investments in education and training in ICT research and development, the government must dismantle barriers to promoting the telecommunications sector. This requires investment in more efficient telecommunication systems and opening up of the telecommunications sector to more Internet Service Providers (ISPs) with a view to breaking the monopoly of the state in this sector.

ICTs must be integrated into development plans, including slum-upgrading initiatives.

Improving ICT access in slum areas may seem like a luxury in an environment where access to basic water, sanitation and electricity is a still a major obstacle. For this reason, most slum upgrading initiatives tend to focus more on improving the physical condition of housing, and at improving water and sanitation facilities, rather than improving telecommunications systems within slums. However, this approach is short-sighted and risks further marginalizing slum communities.

Provision of telecommunications infrastructure in slum settlements must be part and parcel of slum upgrading projects.

At the national and local government levels and within civil society, advocacy is needed to encourage institutions and organisations to incorporate and prioritise ICT into development plans, in line with NEPAD’s development agenda.

Non-governmental and civil society organizations often provide a vital link between the urban poor and people who have power, influence, authority or resources. Their catalytic role as *infomediaries* makes them ideal advocates and implementers of ICT initiatives in slum communities.

Organizations working with slum communities should be empowered and encouraged to fill the information gap between the urban poor and the authorities and to introduce ICTs in their own development projects, with a view to making them self-sustaining.

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