

AT THE CROSSROADS:
ICT POLICY MAKING IN EAST AFRICA

Edited by
Florence E. Etta
Laurent Elder

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FOREWORD

Since the 1980s, the International Development Research Centre (IDRC) has acted as a trailblazer in researching and applying information technologies to the development needs of African countries. Starting with a concern for policy development in four countries and an emphasis on helping local groups access and modify computer technology, the Acacia and Connectivity programs have expanded into developing content useable by local, often rural, communities and applying cutting-edge technology to practical development problems. The commitment to support African countries develop and implement appropriate and facilitative ICT policy has remained throughout. The project that resulted in this book focused on working with a broad spectrum of Kenyan actors to help the new Kenyan government sort through a morass of policy documents and ideas to ultimately produce a policy that, for the first time, reflects the views of the private sector and NGOs as well as government actors.

The Kenya ICT Policy project fits into a broader context of transition in Kenya. When the current government upset the 24-year autocratic rule of the previous government in the 2002 election, hopes were high for significant improvement in governance and economic growth. In May 2003, IDRC launched a Kenya Transition Programme to provide seed money for developing visions and ideas in seven areas of the polity and economy. One of these areas was to facilitate more enlightened and flexible use of ICTs to promote investment and growth. The results of seven sector specific seminars run by the private sector combined with NGO research on the history of Kenyan ICT policy-making, laid the groundwork for a larger, more comprehensive effort to prod the policy process and provide for its implementation. Thus, the Kenya ICT Policy Project was born. The two government entities implementing this effort are the

Ministry of Planning and National Development for research and the Office of the President, E-Government Directorate, for capacity development in e-government. The specific objectives of the project have been to:

- Support the implementation of the national ICT policy.
- Research the social, technological and institutional structures required for successful ICT policy implementation.
- Support the creation, institutionalisation and application of indicators and parameters for monitoring progress.
- Document, measure and share the learning in the development and implementation of the National ICT policy.

This book is an outcome of the project and tells its story. To place the Kenyan experience in perspective, it documents the experience of ICT policy making in three other East African countries, but keeps the Kenyan case as its focal point. The book strives for a simple and readable style as it relates the serious experiences, challenges and strategies faced during this convoluted process. In short, the book explores what worked and what did not; it recounts research as well as daily experiences of ICT policy making; and it captures elements of both process and outcome.

Much has been attempted in the area of ICTs in Kenya; the history is rich and long. The year 2005 might go down in history as a watershed period, not only because the ICT policy, so long in the making, was finally completed, but also because the inclusion of non-governmental input into the final document was unusually and commendably high. IDRC is pleased to be associated with many of the recent ICT-related events and histories in Kenya, but it is only one of many influential actors and institutions operating on this terrain. This book attempts to be loyal to this rich history.

It is our hope that the contributions in this volume will help the understanding and promote the practice of participatory policy making as part of the living histories of Kenya and its neighbours.

Dr. Constance Freeman
Regional Director
International Development Research Centre
Regional Office for Eastern and Southern Africa
September 2005



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The project could not have succeeded without the official project assistants – Lizette Kraft and Benjamin Makai. The project received valuable assistance from Ruth Oluchina, Aje Etta, Sinimisade Akin-Aina and Temilade Akin-Aina for data analysis and other numerous, small but important tasks.

Our spouses too – Tade and Nassima deserve thanks for all the unpaid editing in addition to the many other sacrifices borne on account of the work related to this book.

We cannot thank you all enough.

Florence E. Etta and Laurent Elder

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Acronyms and Abbreviations

ACTS	African Centre for Technology Studies
AIISI	Africa Information Society Initiative
AITEC	African Information Technology Exhibitions & Conferences
ALAI	Agencia Latino Americana de Informacion
ALGAK	Association of Local Government Reform Programme
ALIN	Arid Lands Information Network
APC	Association for Progressive Communications
ARCC	African Regional Centre for Computing
ARTEL	African Rural Telecommunication
ASALs	Arid & Semi Arid Lands
ATPS	African Technology Policy Studies Network
BROSD	Busoga Rural Open Source Development Initiatives
CATIA	Catalysing Access to ICTs in Africa
CBD	Central Business District
CBS	Central Bureau of Statistics
CCK	Communications Commission of Kenya
CD ROM	Compact Disk – Read Only Memory
CEEWA	Council for the Economic Empowerment of Women in Africa
CFSK	Computer for Schools Kenya
CIDA	Canadian International Development Agency
CNN	Cable News Network
COFEY	Community Organisation for Empowerment of Young People in Uganda
COMESA	Common Market for East & Southern Africa
CPAR	Canadian Physicians for Aid and Relief
CSIR	Centre for Science, Innovation & Research
CSK	Computer Society of Kenya
CSOs	Civil Society Organisations
CTO	Commonwealth Telecommunications Organisations
CTPH	Conservation Through Public Health
DANIDA	Danish International Development Agency
DFID	Department for International Development
DHS	Demographic Health Survey
EAC	East African Community
EAIA	East African Internet Association
EAIDSNet	East Africa Integrated Disease Surveillance Network

EAPTC	East African Posts & Telecommunications Corporation
ECOWAS	Economic Community for West African States
EGIX	Egypt Internet Exchange Point
EMIS	Education Management Information System
ERS	Economic Recovery Strategy
ERSP	Economic Recovery Strategy Paper
ERSWEC	Economic Recovery Strategy for Wealth and Employment Creation
ERT	Energy for Rural Transformation
FDI	Foreign Direct Investment
FES	Friedrich Ebert Stiftung
FOSSFA	Free & Open Source Software Foundation of Africa
GDP	Gross Domestic Product
GIS	Geographical Information Systems
GITIM	Government Information Technology Investment & Management
GITS	Government IT Services
GK 97	Global Knowledge Conference 97
GNI	Gross National Income
GSM	Global System for Mobile Communications
GSWG	Gender Strategies Working Group
GTI	Government Training Institute
GTZ	German Technical Cooperation
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
HMIS	Health Management Information System
IBIX	Nigeria Internet Exchange Point
ICJ	International Commission of Jurists
ICRAF	International Centre for Research in Agroforestry
ICT	Information and Communication Technology
ICT4D	Information and Communication Technology for Development
IDRC	International Development Research Centre
IDS	Institute of Development Studies
IEA	Institute of Economic Affairs
IEEE	Institute of Electronic & Electrical Engineers
IFIP	International Federation of Information Processing
IFMS	Integrated Financial Management System
IICD	International Institute for Communication and Development

IMF	International Monetary fund
IP – RSP	Interim Poverty Reduction Strategy Paper
IPAR	Institute for Policy Analysis & Research
IPPD	Integrated Personnel and Payroll Database
IPRs	Intellectual Property Rights
ISACA	International Systems Audit Control Association
ISDN	Integrated Services Digital Network
ISOC	Internet Society
ISP	Internet Service Provider
ITSA	Information Technology Standards Association
ITU	International Telecommunications Union
IWTC	International Women’s Tribune Centre
IXP	Internet Exchange Point
JICA	Japan International Cooperation Agency
JINX	South Africa Internet Exchange Point
KANU	Kenya African National Union
KBC	Kenya Broadcasting Corporation
KCA	Kenya Communications Act
KCI	Kenya Computer Institute
KCOMNET	Kenya Community Media Network
KENET	Kenya Education Network
KEPSA	Kenya Private Sector Alliance
KICTANET	Kenya ICT Policy Action Network
KIE	Kenya Institute of Education
KIF	Kenya ICT Federation (ICT Board of KEPSA)
KINIX	Democratic Republic of Congo Internet Exchange Point
KIPPRA	Kenya Institute for Public Policy Research & Analysis
KIS	Kenya Information Society
KIXP	Kenya Internet Exchange Point
KLA	Kenya Library Association
KLGRP	Kenya Local Government Reform Programme
KNAS	Kenya National Academy of Sciences
KNATCOM	Kenya National Commission
KNLS	Kenya National Library Services
KP&TC	Kenya Posts & Telecommunications Corporation
KPSF	Kenya Private Sector Foundation
KRA	Kenya Revenue Authority
KTTC	Kenya Technical Teachers College

KUJ	Kenya Union of Journalists
LAEDAP	Local Authority E-Service Delivery Action Plan
LATF	Local Authorities Transfer Fund
LGRP	Local Government Reform Programme
LRC	Learning Resource Centre
MCT	Multipurpose Community Telecentre
MDGs	Millennium Development Goals
MOA	Media Owners Association
MOEST	Ministry of Education Science & Technology
MOZIX	Mozambique Internet Exchange Point
MRTT&T	Ministry of Research, Technical Training & Technology
MSC	Multimedia Super Corridor
MTN	Mobile Telephone Network
NAAC	National Acacia Advisory Committee
NARC	National Rainbow Coalition
NARO	National Agricultural Research Organisation
NCDC	National Curriculum Development Centre
NCICT	National Council for Information Communication Technology
NCS	National Communications Secretariat
NCST	National Council for Science & Technology
NEPAD	New Partnership for Africa's Development
NESC	National Economic & Social Council
NGO	Non-Governmental Organisation
NICE	Network of Initiatives for Computers in Education
NICI	National Information and Communications Infrastructure
NITA	National Information Technology Agenda
NITC	National Information Technology Council
NITC	National Information and Technology Commission
NRI	Networked Readiness Index
NSE	Nairobi Stock Exchange
NUSAF	Northern Uganda Social Action Fund
OECD	Organisation for Economic Cooperation and Development
PC	Personal Computer
PCK	Postal Corporation of Kenya
PDA	Personal Digital Assistant
PDNO	Public Data Network Operator

PEAP	Post Election Action Programme
PPP	Purchasing Power Parity
PRGF	Poverty Reduction & Growth Facility
PRSP	Poverty Reduction Strategy Paper
PWG	Plan Working Group
RCDF	Rural Communications Development Fund
REAF	Robust E- Government Adoption Framework
RINEX	Rwanda Internet Exchange Point
RITA	Rwanda Information Technology Authority
RRA	Rwanda Revenue Authority
RURA	Rwanda Utilities Regulatory Agency
SAPs	Structural Adjustment Programme
SIDA	Swedish International Development agency
SIM	Subscriber Identification Module
SMEs	Small and Medium Enterprises
SWOT	Strengths, Weaknesses, Opportunities, Threats
SZIX	Swaziland Internet Exchange Point
TESPOK	Telecommunications Services Providers Association of Kenya
TKL	Telkom Kenya Limited
UCC	Uganda Communications Commission
UDHR	Universal Declaration of Human Rights
UDS	Uganda Development Services
UHIN	Uganda Health Information Network
UIXP	Uganda Internet Exchange Point
UN	United Nations
UNCSW	United Nations Commission on the Status of Women
UNDP	United Nations Development Programme
UNECA	United Nations Economic Commission for Africa
UNESCO	United Nations Educational, Scientific & Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund
UNIDO	United Nations Industrial Development Organisation
UNIFEM	United Nations Development Fund for Women
UNSCT	Uganda National Council for Science & Technology
UPDF	Uganda Peoples Defence Force
USAID	United States Agency for International Development

UTL	Uganda Telecom Limited
UWCI	Uganda Women Caucus on ICT
VAN	Village Area Network
VOIP	Voice Over Internet Protocol
VSAT	Very Small Aperture Terminal
VVOB	Flemish Office for Development Cooperation & Technical Assistance
WHO	World Health Organisation
WIRES	Women Information Resource Electronic Services
WITSA	World Information Technology Services Alliance
WNSP	Women's Networking Support Programme
WOUGNET	Women of Uganda Network
WSIS	World Summit on the Information Society
WTO	World Trade Organisation

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PART 1: INTRODUCTION

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CHAPTER 1

POLICY MAKING: THE NEW DEVELOPMENT EL DORADO

Florence Etta

Introduction

In early discussions with prospective publishers for this book, the talks often veered to the unpopularity and the narrowness of the subject matter. The representatives of the publishers were understandably looking way ahead, to the sales figures for the book and generally came to the same conclusion, that a book on policy making, and ICT policy making in particular, would certainly not become a bestseller. They had a point. Policy does not sell, it does not matter.

Another venue, a different cast, another story. Giving the Keynote address during the first national ICT Convention at the Safari Park Hotel in Nairobi on March 23rd 2004, Manu Chandaria, speaking in his capacity as Chairman of the powerful Kenya Private Sector Alliance, said: "Our greatest strength is our people; our greatest weakness is government policy. The policy must be clear and open." At the same gathering, a Ugandan member of parliament, Dr. J. Nkuuhe, exuberantly noted that "it is amazing what good policies can do."

Does it matter, then, what you do? What company you keep or who you represent for policy to be important?"

POLICY MATTERS

If you are in the business of development (and who is not) you might have noticed how policy has moved to centre stage in the continental development discourses over the past two-and-a-half decades. Why? The simple, but not so straightforward, answer would be, past failures. Soludo, Ogbu and Chang (2004) put it simply, echoing many other commentators on the subject when they said that "Africa has suffered a growth failure...It has been determined by policy which

has changed considerably over the past forty years.... There is a broad consensus in the literature that policy matters" (p. 3-4). Or as Olukoshi in the same volume puts it: "Africa's economic crisis was, in origin, primarily the product of accumulated policy distortions built up since independence in the 1960s (in Soludo, Ogbu and Chang: 43).

On account of the economic and resulting development crisis of the 1980s, prescriptions in the form of Structural Adjustment Programmes (SAPs) were handed down to errant nations as the remedy. As the 1990s drew to a close, after nearly two decades and numerous experiments with the World Bank and International Monetary Fund (IMF) sponsored policy intervention programme of SAPs, victory was still largely unclaimed. As a direct consequence, policy in general, and structural adjustment policies in particular, became the objects of interrogation, interest and attention. The most serious indictment of SAPs is that they engendered apathy and lack of local ownership. This undermined and complicated the political and technical capacity for policy making and implementation. Mkandiwire and Soludo (1999) bemoaned 'The tragedy of Africa's policy-making' and 'the complete surrender of national policies to the ever-changing ideas of international experts' (p. 133).

One response by the SAP protagonists to the charge of insensitivity to local ownership was eloquently seen in the reincarnated PRSPs of the early 2000s. The rhetoric of process, participation and consultation was in. Governments were supported and actively encouraged to involve a wide group of individual and non-state actors, especially those in the private sector, stakeholders, as they came to be popularly called, were wooed, cajoled and made to participate in decision-making processes. But this was too little, too late.

By the beginning of the third millennium, most African states had endured long regimes under structural adjustment policies. The state, as shown by its functioning, resources and reach, was weak and in decline. Policy implementation was poor and debilitating poverty palpable and visible. As if SAPs were not bad enough, globalisation came visiting, accompanied by discontent. Things were bad: horrid employment histories, poor public services and withdrawal of subsidies, huge debt, austerity, self-serving transnationals, privatisation, rising informalisation, and depressed agri-based rural economies, all plagued the continent. Failure was so widespread that development watchers were content merely to identify tiny successes, which were elevated and brandished as 'best practices'.

Principal contenders for the best practice label since the 1990s have been: better policies, popular participation, democracy and good governance (World Bank, 1990, ECA, 2004). Participation is regarded as a 'best practice' ingredient for better policies. International

agencies, united in the belief that it is a fundamental prerequisite for the realisation of development, exhort that all development programmes incorporate active participation of beneficiaries.

PARTICIPATION IN NATIONAL POLICY

The history of participation, like the fortunes of the State has had a number of moments. Stiefel and Wolfe (1994: 22) say that the term 'popular participation' entered into international discourse on development during the 1960s,... achieved wider currency during the 1970s,... lost ground during the 1980s and re-emerged in the 1990s 'as a way out of the otherwise insoluble crises...' The 1990s resurgence of attention to participation got full African endorsement. From 12th to 16th February 1990, African governments and a number of United Nations Agencies, led by the UNECA, held an international conference on popular participation, where the Charter for Popular Participation in Development was adopted by acclamation. Some of the remarks in the opening statements at this conference are memorable. Javier Perez de Cueller, then the Secretary General of the United Nations, reminded participants that, 'The concept of peoples' participation in their own development is enshrined in the principal documents of the United Nations and Prof. Adebayo Adedeji, the Executive Secretary of the UNECA, showed how participation relates to politics and policy. His words are unforgettable even today:

Self-reliant development requires, and indeed, demands universally in Africa, the politics of consent and consensus, the politics of conviction and commitment, and the politics of compassion and accountability. Consensus politics is involving people in the process by which policies are developed, listening to what they have to say and adopting the approach of the leadership and government in the light of all these. By so doing, government is most likely to win consent of the majority of the people, if not of all, to such policies and, with that consent, conviction in the rightness of the courses being pursued and commitment, compassion and accountability are the practical corollary of a concern for a nation as a whole, not just for a particular group (ECA, 1990: 7).

The Charter for Popular Participation in Democracy, endorsed on the occasion, calls for the emergence of a new era in Africa - an Africa in which democracy, accountability, economic justice and development for transformation become internalised and the empowerment of the people, initiative, enterprise and democratisation of the development process are the order of the day in every country.

Some civil society observers and participants at the conference were sceptical in the face of the heavily emotive language suggesting that governments would be less than enthusiastic about popular participation. As if to give credence to this thinking, it was not until almost ten years later in July 1999 that the Assembly of the Heads of State and Government of the Organisation of African Unity (OAU) adopted Resolution 1286 affirming the value of popular participation in the socio-economic recovery and transformation of the continent (ECA, December 2003: 11-12).

But why would there be resistance to participation when the case for it is so strong? Participation is seen as evidence of an ideal and functioning pluralist democracy, of modernisation, required to make development projects, as well as programmes function better. In the face of the shrinking and disappearing state, it is a means of relieving pressure for social services, not to mention the legitimisation of power (Steifel & Wolfe, 1994). Resistance or difficulty with participation can be understood either from the nature and resilience of complex social organisations, which are said to set limits to participation or from the 'indeterminacy of the path of participatory experiences and movements' (Steifel & Wolfe, 1994: 15-16). They suggest, as the experiences of the project recounted in this book, that participation is neither easy, smooth, nor are the outcomes predictable, stating that 'there is no clear linear sequence from non-participation to participation, from exclusion to incorporation' (op cit: 16).

Over the course of time, the nature of participation itself, as reflected in the expectations and exhortations of international development agencies, has changed.

In the beginning there was participation simple, and then there was multi-stakeholder participation, now there is talk of partnerships within which one can distinguish public-private partnerships from multi-stakeholder partnerships. Through all these changes, one element has remained dominant: the place and role of donors in shaping the nature, both of policies and of policy making, as they endorse, undermine or actively facilitate the entry of different actors and interests depending on their national ideologies or interests.

The attention and focus that donors have given to policy and policy reforms since the end of the 1990s has shown that there is a great need to better understand public policy processes.

Rosemary McGee, reporting the fictionalisation of descriptions of the policy process, stated that 'what is needed is... understanding of the policy process, which takes far better account of political and social realities on the ground...' (McGee, 2004: 25). The critical way forward for Africa, as suggested by Soludo, Ogbu and Chang (2004), is a better characterisation of the policy process. They (Soludo, Ogbu & Chang, 2004: 2) pose 10 questions, which they hope will illuminate

past failures from which Africa must learn and through which a framework and guidelines for future success can be constructed.

Using the literatures on economic policy processes that have accumulated in the last three decades, Soludo, Ogbu and Chang (2004) identified four factors that shape the choices and implementation of trade and industrial policies in Africa. These are: The power of mainstream theories and ideas of development and the role of donors; the state institutional- bureaucratic capacity; the interest group/public choice model; and the impact of history (op cit: 22). It appears from the account that Soludo et al give, although they do not expressly say so, that of the four factors, the most important one is that of the theoretical underpinnings and the role of donors. Although it would appear that this factor is composed of two distinct and discrete ideas (theory and donor), they lump them together and treat them as though one is an extension of the other. They state that 'any account of the policy process in Africa that ignores the power of mainstream ideas, as well as the role of donor agencies in propagating or mainstreaming such ideas, misses the central point. Most national development plans of earlier decades were designed and implemented largely with financial and technical assistance of donors (p. 23)'. The policy process is said to be 'essentially beholden to the interests of donors... the states have little choice but to...ram through the policies as dictated by donors'.

The point needs to be made, however, that there are very many donors and despite recent efforts at donor harmonisation, working approaches, even on the same issues such as policy making, can be dissimilar. The charge, therefore, of authoritarianism in donor recipient relationships, cannot and must not be generalised as a universal characterisation. But this will be addressed later; now attention is turned to the conceptual, theoretical and practical aspects of policy formulation.

POLICY FORMULATION

Policy making is referred to as 'the process by which government statements are arrived at', while *policy* refers to 'specific statements, guidelines and pronouncements on...development and related issues in the country, (Ikiara, Olewe-Nyunya & Odhiambo, 2004). The UNECA (2004), states that contrary to popular belief, the making and shaping of policy is less a set of organised, predictable and rational choices than a complex, often unpredictable and, above all, political process (UNECA 2004: 9). The point is made by Ikiara et al (2004) and Soludo et al (2004) that there are several theories and approaches to public policy making. One of the most popular to-date, especially among economists, is the Rational Comprehensive Model, also said

to be one of the oldest. This model sees policy as a smooth, linear, hierarchical and essentially rational process consisting of two phases: policy formulation and policy implementation. In the formulation stage of this model, experts, (technical, subject matter, policy) statisticians and researchers identify the problem, analyse the options using the most sophisticated, up-to-date and applicable knowledge available (McGee, 2004).

Another model is called the Disjointed Incremental Model, which, as its name suggests, does not have the painstaking, deliberative and apparently objective flair of the Rational model or approach. Another model that is increasingly gaining converts, the Eclectic Model, combines elements of both the Rational approach and Incremental model is called the Mixed Scanning Model.

The shortcomings of the above models, especially in the light of contemporary emphasis on participatory democracy and good governance, are that they do not adequately represent the nature of other non-state or non-expert actors in policy making and so fictionalise the process. For as Soludo et al suggest; there is also a new and important phase in policy making which is the basis of much attention, discussion and dissension - the agenda-setting phase. Increasingly, this space is the locus of much contention and confrontation between bureaucrats, civil society and private sector organisations through their representatives. The battles and encounters that take place in this space are becoming important subjects of research and discussion, as Ikiara et al (2004) report on their study in Kenya, reproduced in Box 1.1.

Box 1.1: Policy Formulation in Kenya

Interviews with retired and currently serving senior policy makers in the country as well as private sector professional and business executives reveal the following weaknesses in Kenya's policy formulation process. First, the process has not been adequately consultative even with some of the key stakeholders. Government officials and donor representatives have dominated the initiation of trade and industrial policies, with the private sector playing no or only a minimal role. The country's blueprint to transform Kenya into a Newly Industrialising Country (NIC) by the year 2020 was, for instance, finalised without any input from the Kenya Association of Manufacturers (KAM) according to the organisation's officials. KAM was only invited to participate in the seminar when this important document was being launched. The failure to involve stakeholders in the policy formulation process was attributed to mutual suspicion between the private and public sector officials and institutions. The problem was sometimes due to the passive nature of the Kenyan private sector, which has not been active in coming up with new ideas. The

sector had, over time, become too dependent on the government, passively following the government in most cases. Indications are that this is gradually changing and that the private sector is increasingly asserting itself.

The low involvement of the private sector and civil society in policy formulation was due to the long period of single-party rule in the country, which created a culture of fear and passiveness in national policy issues. The creation of a more competitive political environment following the re-introduction of multi-party politics is gradually changing the scene as private sector and civil society associations and lobby groups find more political space to agitate for issues of interest to them. Kenya's trade and industrial policies have also been greatly influenced by external factors, often seriously diluting the local contribution.

Those interviewed indicated that there were more home-grown policies in the 1960s and 1970s compared with the 1980s and 1990s. The import substitution industrialisation strategy which dominated the first two decades of Kenya's post-independence period, for instance, was largely formulated by the government although this was then the conventional industrialisation strategy in most of the developing countries.

Poor implementation of policies has been one of the main weaknesses in the country's economic policy process. This is due to a number of factors, including too much concentration of decision – making at the Office of the President, corruption and mismanagement of national resources, inadequate supervision of the public sector workers, inadequate checks and balances and weak reward and punishment mechanism in the public service.

The general concern is that policy formulation is dominated by state elites and it is still confined to small and exclusive political circles. The growing recognition is that in the politics of policy making, power is key. The crises of African development and the development of experiences of the colonial, independence, post independence, post colonial and globalising state show the raw power which donors and international development partners, as they now are wont to be called, wield.

DONORS AND POLICY MAKING

Perhaps in no other area of contemporary endeavour is the influence of donors more evident than in ICT policy making. Most policy work on ICTs or that with implications for ICT policy in education, trade or commerce, agriculture, health or governance and government has been or is being funded by donors.

The most significant initiative concerned with promoting ICT policy making in Africa to date is, undeniably, the African Information Society Initiative (AISII). Adopted in May 1996 by Ministers of Economic and

Social Development and Planning, AISI is an action framework to build Africa's information and communications infrastructure. AISI was endorsed by the OAU summit in July 1996. The continent has been commended for the foresight of this singular initiative. Nancy Hafkin, the long standing, widely known and well respected worker in the African ICT field, says that 'despite Africa being the least advanced of all regions of the world in Information technology, African ministers were the first of any of the developing regions to adopt a master plan and a declaration to move their countries into the information age' (Hafkin, 2003). It was this framework, complete with principles, guidelines and a powerful implementer in the name of the UNECA, backed by resourceful donor partners such as USAID, the Carnegie Corporation and the ITU, to mention a few, that ignited continental fervour for engagement with ICT policies. AISI created and continues to exert significant pressure on countries to adopt 'appropriate regulatory, tariff and service provision policies', (Hafkin, 2003). AISI has been very successful. From encouraging the liberalisation of national telecommunications and broadcasting, to creating national ICT policies, to articulating national e-government strategies, the story is the same. For in 1996 when AISI was adopted, not one country in Africa had ICT policies, by 2001 more than half of the countries on the continent were working on or had completed the elaboration of National Information and Communications Infrastructure plans - the all encompassing terminology that UNECA prefers to use to denote ICT policy and related issues.

The International Development Research Centre (IDRC) has been a very close ally of the UNECA on this journey. In the next section of this chapter, we describe why and how IDRC came to be among the pioneer group of development partners supporting ICT projects in general and ICT Policy in particular.

In its thirty-three year history, IDRC has supported and fostered the production, dissemination and application of research results. Huge data sets and hundreds of research results and books have resulted from investments made by IDRC and her research partners. As the third millennium set in, within IDRC and without, questions began to surface regarding returns on research investments, especially as regards policy. Introspection and concern within IDRC was reflected in programme directions and workplans. In 2001, IDRC's Evaluation Unit set out to research how IDRC-supported research influences policy and decision-making. Six background studies and 22 case studies covering all the major areas of IDRC's global research landscape (60 projects in over 20 countries) addressed three basic questions. A publication appropriately titled *Making the Most of Research* presents the key findings. At a similarly named forum, which took place in Ottawa in June 2004, participants had interesting things to say about the research and policy connection, as shown in Box 1.2.

Box 1.2: Box Populi

“Coming from a developing country where a lot of research has been going on, I think it’s very, very important to know how it influences policy. Developing countries are always looking for a way forward, and governments are looking at how they can use research that is targeted to solve problems in agriculture, in health, in industry. The question is, what impact does research have? How is it utilized? Does it go to waste, and is there any way it could be done better so that the enormous mass of research that we already have can do what it was intended to do, and not just sit around and be forgotten and gather dust?” – NAIROBI

“In order for organizations such as IDRC to be relevant, they must understand how it is that they are currently and can potentially influence policy, both in Canada and in the developing world. I’ve seen research that was done with a very narrow focus that resulted in good technical knowledge, but its implementation was constrained by a lack of understanding of how it fit into the policy environment in the developing country. You need to do research with your eyes open as to how it fits into the larger picture. What are the policy crossroads and avenues that have to be explored to make your research robust and relevant in the real world?” – GATINEAU

“Speaking from inside IDRC, this research is invaluable in terms of engaging in discussion with my partners about how to think about research and situate it in a larger context, whether by enlarging the public debate or achieving concrete policy change. That will depend on the context, the problem, and the research itself. But the contribution this research makes is that it’s the first exploration of how research-to-policy influence occurs in developing countries. That makes it a landmark.” OTTAWA

“We have to ask these questions. It’s all very nice to fund research, but how can we actually look back and see the influence that research is having? It’s an interesting approach to look at case studies and draw out some best practices. I’m looking forward to further discussions and a better understanding of how to get at those issues.” OTTAWA

“Everyone is talking about increasing the ability to understand how policy influence happens, and the sharing doesn’t happen enough ... So this is a wonderful opportunity to look at concrete examples. I’m hoping to develop a better understanding of who in Canada is looking at this in a serious way and how we can develop a community of people to share information on a regular basis.” OTTAWA

Source: IDRC, Canada June 21, 2004. *Snapshots, making the most of research*

While panellists and participants appeared to share IDRC's concern for how 'new knowledge can improve the quality of policy decisions...' it was acknowledged that policy influence does not arise spontaneously from good quality research. Dr. Fred Carden, director of the Evaluation Unit, identified a variety of factors that are implicated. They include: 'the role of advocacy, the locus of leadership within governments, the importance of communication in various contexts, the... roles of capacity-building and advocacy networks, and researchers' ... different forms of communication', (IDRC 2004). A concern was also shared about exposing research and researchers to the whimsical world of changing policy influence.

The subject matter for five of the 22 case studies conducted as part of the above effort was Information and Communication Technologies for Development (Acacia) projects undertaken in Mozambique, Senegal, Uganda and South Africa. Acacia, as the IDRC programme initiative responsible for ICTs for development projects in Africa is called, was initiated in 1996 and launched in 1997. Since the very beginning, Acacia has been concerned with policy, although the nature and outcomes of this engagement appear different between the first phase (1997-2001) and the current phase (2001-2005). In its first phase, Acacia expended much energy bringing awareness of ICTs to political figures and decision makers through high-level National Acacia Advisory Committees (NAACs) and Ministerial Conferences. The pre-eminent outcome from this approach was high visibility and presence of the ICT agenda on national programmes. In two out of the four countries, important policy instruments were created. Not a bad record.

Acacia's second phase coincided with a dramatic programmatic change. Gone were the high level ministerial meetings and hobnobbing with important national decision makers. Research returned as the *modus operandi* and knowledge, the *raison d'être*, but with a new attention to the role of policy.

These are the circumstances surrounding the birth of the Kenya ICT Policy Project. This project, like the first incarnation of Acacia, was intentionally sensitive and responsive to politics. However, unlike Acacia, it was solidly rooted in research, as this book, a product of action research, testifies. The prospectus for the Acacia programme initiative for the period 2001-2005 identified policy as one of the three areas of focus reflecting centre-wide concern and introspection about the policy influence of its research work. During a visit of the President of IDRC, Maureen O'Neil, in April 2002, she suggested to a senior government official that IDRC had experience in the area of ICT Policy, which it could share with Kenya. Her briefing notes and discussions had provided the national state of play in sectors of national life with which IDRC projects were involved. One of these was ICTs for

Development, and it showed that efforts were afoot to develop an ICT policy. So was the project idea planted, and came into being, nurtured by Dr. Connie Freeman, the Regional Director of the IDRC office for Eastern and Southern Africa Region.

The Kenya ICT policy mainstreaming, as it is officially known, was approved in September 2003, and the work of coordinating the project from within IDRC started in October 2003. As indicated in the foreword, the project recipients, were the Ministers of Planning and National Development and the Office of the President. It would take nine long months, numerous meetings with government officials - some of them bureaucrats - steeped in officialdom for the contracts, without which project activities by grant recipient institutions cannot commence, to be signed. Why did it take so long? The answer can be found in what Soludo, Ogbu and Chang (2004) call 'the politics of policy making', some of which can be gleaned from the well-narrated renditions of Tim Waema and Mike Eldon in the second section of this book.

PURPOSE AND STRUCTURE

There were two very mundane reasons for writing this book. First, it was unavoidable as one of the four general objectives for the project was to 'document and share project experience using multimedia'. The second reason is simply to join fellow voyagers to the new El Dorado, to add small illuminations to this topic of growing importance and interest.

The pieces in this book were commissioned to tell a story, living histories of living individuals, projects, institutions and countries. Our hope is that those who read this volume - ministers, decision makers, parliamentarians, experts and students - might learn a thing or two about policy making, and may approach and deal with some of the issues raised by this history in a different, more informed way.

This volume comprises 22 chapters in 5 sections namely: introduction, the Kenyan history, sectoral and thematic histories, learning from others and conclusions. The introduction, like the conclusion, consists of two chapters. In Chapter 2, Professor Peter Anyang' Nyong'o, the Minister for Planning and National Development, shares his personal experience of a national consultative process to determine a national course of action, which his ministry supervised. This sets the tone and stage for much of the next section, Section 2, which is devoted to the history of ICT policy making in Kenya. Four of the six chapters in this section recount the path that the country has walked on this long journey. Tim Waema's contribution narrates the many false starts, while attempting to explain why each successive move seemed to be unsuccessful. Mike Eldon gives a personal account of his privileged involvement in

national processes. Chapter 5 by Charles Nduati and Warigia Bowman, and Chapter 6 by Shem Ochuodho and Mark Matunga respectively stand in contra-distinction to Chapter 4, whereas Mike Eldon shares his personal story, the other renditions tell the tale from institutional perspectives. The final chapter of this section is a report and assessment of one of the key instruments of the project for connecting policy makers with other stakeholders – the electronic tool. In Chapter 7, two staff members of the Communications Commission of Kenya, one of them the chief executive officer, recount research and experiences with one of the most important issues in contemporary telecommunications – universal access. Five of the six chapters that comprise Section 3 recount projects and experiences which do not, strictly speaking, qualify as policy making. The point of this section is to show the policy – practice link, in government (Chapters 9 and 10) and in education (Chapters 11 and 12). Where the chapter by Brian Longwe dramatises the effect of poor policies with international flavour on services on the ground within countries, Alice Munyua’s descriptions show that even at the international level, policy making is complex, not so straightforward.

The six chapters in Section 4 are devoted to stories of policy making in other countries. Rwanda’s history is told by Professor Silas Lwakabamba, while two contributions from Uganda, by David Obot, Fred Kintu and Laurent Elder, and Goretta Amuriat and Dorothy Okello give readers a glimpse of what happened there. David Sawe shares his experience of the impact of the e-ThinkTankTz as a story of successful lobbying. Benchmarking, the new term for constructive comparison, juxtaposes the Kenyan experience with Malaysian, Singaporean, Egyptian and South African ones in Chapter 19. It is fitting for a section on ‘learning from others’ to also examine a developed European country. Matti Kääriäinen’s contribution in Chapter 20 makes this possible.

In the concluding section (5), Paul Tiyambe Zeleza’s Postscript (Chapter 21) gives a sobering picture of developments, inviting and exhorting readers to circumspection in matters of ICT on the continent. In the final chapter Florence Etta, while summarising the salient elements and experiences of policy making, recommends responsible policy making as the way forward.

REFERENCES

- Adedeji A., (1990). *African Charter for Popular Participation in Development and Transformation; The Politics of Policy- Making*. UNECA, Addis Ababa.
- Acharya S.N., (1978). “Two Studies of Development in sub-Saharan Africa”, in *World Bank Staff Working Paper No. 300, African Association for Public Administration and Management, Enhancement of Public Policy Management Capacity in Africa*.

- Brock K., McGee R. & Gaventa J., (2004). *Unpacking Policy; Knowledge, Actors and Spaces in Poverty Reduction in Uganda and Nigeria*. Fountain Publishers Ltd, Kampala.
- Economic Commission for Africa, (2003). *Public Sector Management Reforms in Africa: Lessons Learned*. Development Policy Management Division, Addis Ababa.
- Economic Commission for Africa, (2004). *Best Practices in the Participatory Approach to Delivery of Social Services*. ECA Publications Cluster, Addis Ababa.
- Hafkin N., (2003). "The African Information Society Initiative: 1995-2000" in Kakoma I., & Zeleza, P.T., (2003). *Science and Technology in Africa*. Africa World Press Inc. Asmara.
- IDRC, (2004). *Snapshots Making the Most of Research*. Policy brief.
- IDRC, (undated). *The Influence of IDRC-Supported Research on Public Policy*. Research brief.
- Ikiara, G., Olewe-Nyunya, J. & Odhiambo, W. (2004). Kenya: Formulation and Implementation of Strategic Trade and Industrial Policies" in Soludo C., Ogbu O. & Chang Ha-Joon, (eds) (2004). *The Politics of Trade and Industrial Policy in Africa*. IDRC & Africa World Press, Inc. Ottawa, Asmara.
- Kakoma I., & Zeleza, P.T., (2003). *Science and Technology in Africa*. Africa World Press Inc. Asmara
- Mkandawire, T. & Soludo, C., (1999). *Our Continent, Our Future*. Council for the Development of Social Science Research in Africa, Africa World Press, Inc., Asmara and IDRC, Ottawa.
- Olukoshi, A. (2004). "Democratisation, Globalisation and Effective Policy Making in Africa" in Soludo C., Ogbu O. & Chang Ha-Joon, (eds) (2004). *The Politics of Trade and Industrial Policy in Africa*. IDRC & Africa World Press, Inc. Ottawa, Asmara.
- Proenza Francisco Jr., (Undated). "ICT-Enabled Networks, Public Sector Performance and the Development of ICTs," in Akhtar Badshah, Sarbuland Khan and Maria Garrido (eds) (undated), *Connected for Development, Information, Kiosks and Sustainability*. ICT Task Force Series 4, Department of Economic and Social Affairs.
- Soltane B.B.K., Fluck N.O, Opoku- Mensah A. , & Salih, M.A.M, (eds) (2004). *Africa Networking Development Information, ICTs and Governance; Governance, Information & the Public Sphere*. M.A Mohammed Salih, International Books & ECA, Addis Ababa.
- Soludo C., Ogbu O. & Chang Ha-Joon, (eds) (2004). *The Politics of Trade and Industrial Policy in Africa*. IDRC & Africa World Press, Inc. Ottawa, Asmara.
- Stiefel M. & Marshall Wolfe (1994). *The Nature of Participation, A Voice for the Excluded; Popular Participation in Development Utopia or Necessity?* Zed Books Ltd., London & New Jersey, in Association with UNRISD, Geneva.

CHAPTER 2

PLANNING FOR POLICY MAKING AND IMPLEMENTATION IN KENYA: PROBLEMS AND PROSPECTS

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Introduction

The emergence of what can be referred to as the third chapter of the Kenya Government's history of economic policy planning and the challenges that it has faced in the course of implementation, date from the ascension of a new government with the historic elections of December 2002. This election ushered the National Rainbow Coalition (NARC) government into power. A great effort has since been directed at creating an enabling environment for rapid economic growth and development in keeping with the covenant that the then new government made with the people of Kenya during the electioneering period.

For the NARC government, it was evident that the starting point had to be deepening stakeholder consultations with the private sector, the civil society, and development partners as well as with a cross section of ordinary members of the Kenyan public who had assured their victory. All this began early in 2003 and culminated in the preparation of a policy document called the *Economic Recovery Strategy for Wealth and Employment Creation (the ERSWEC)*, which became popularly known by its shorter name, *the ERS*. The President of Kenya, H.E. Mwai Kibaki, officially launched *the ERS*, on June 18th 2003. *The ERS* was considered a major economic policy document for the new government, meant to guide the economic planning

process for the first five years of the administration. It drew ideas from the NARC Manifesto; its Post Election Action Programme (PEAP); the Poverty Reduction Strategy Paper (the PRSP) released in 2001; the various National Development Plans that had been developed over the years; and from various sectoral policy documents as well as sessional papers that have been part of the history of economic policy planning in Kenya for the past forty years.

A NATIONAL CONSULTATIVE PROCESS FOR POLICY MAKING

Economic Recovery Strategy for Wealth and Employment Creation gave birth to what now goes by the full title, *Investment Programme for the Economic Recovery Strategy for Wealth and Employment Creation 2003-2007 (IP-ERS)*, released in May 2004. The IP-ERS is a product of further consultation, revision and refinement of the ERS, which brought in views from a variety of key stakeholders. That entire process of consultation for purposes of economic policy making needs to be written, not only to record an instructive piece of history, but also because it signals two fundamental issues. Firstly, the fundamental policy change that NARC incorporated in its mode of operation and which modern day governments cannot afford to ignore: the need for consultation and due regard to the diversity of views. These deepen our own democratic process and credentials. Secondly, it signalled the challenges involved in the process of seeking a national policy consensus.

It needs to be borne in mind that the Government of Kenya subscribed to the World Bank's Poverty Reduction and Growth Facility (PRGF) programme in the year 2000 and embarked on the preparation of a Poverty Reduction Strategy Paper (the PRSP) through wide-ranging consultations and dialogue. This was even before NARC came into the scene and was aimed at building consensus on priority actions and activities necessary for economic growth and poverty reduction.

The PRSP process itself also had a number of incarnations. The *Interim Poverty Reduction Strategy Paper (IP-RSP)* released in 2001, involved only limited consultations at the national level. Subsequently, consultations followed a three-tier approach at the national, provincial and district levels with stakeholders that included the Private Sector, Civil Society, Development Partners and local communities. This approach led to the formation of a National Steering Committee of stakeholders charged with the responsibility of spearheading consultations and ensuring inclusion at all levels.

The consultations were unique because they covered the thematic areas that are traditionally left out in mainstream sector working groups, but which are very important for stimulating general growth.

The consultations went down to the divisions, locations and villages. Participatory Poverty Assessments (PPAs) were conducted in ten (10) sampled districts. The District PRSP reports and PPA reports, together with inputs from the Sector Working Groups (SWGs), were synthesised into the PRSP (2001-2004). This formed an important baseline for the NARC government's own set of interventions.

When the new government took office at the end of 2002, it immediately decided on the process of preparing its own 'Economic Recovery Strategy' (ERS) policy document that would focus on reviving the economy and creating employment while also taking on board any important lessons drawn from the previous history of policy making. As already mentioned, *The ERS* process was a consultative one involving key stakeholders such as parliamentarians, and for the first time trade unions; professionals from within and outside Kenya; financial institutions; industrialists as well as representatives from the Arid and Semi Arid Lands (ASALs). Also involved in the process were Kenya's development partners; civil society representatives and government officials. It was committed to any important lessons drawn from the PRSP history and it was an immense undertaking.

THE NECESSITY FOR PRIORITISATION

Once the *ERS* policy proposal became a public document, it soon became apparent that there was a need to cost it and plan more effectively for its implementation. The point worth appreciating here is simply that, policy documents, however well articulated, represent only a small fraction of the actual work that any government needs to have done. Indeed, one of the earliest lessons one learns as a Minister for Planning in a developing country is simply that citizens think in terms of, and require, concrete services; real jobs and improvements in their overall welfare and that they can get very impatient with the most erudite of policy positions which are not backed by concrete implementation. As should be apparent by the end of this article, this remains a major problem and therefore a challenge to our government, whether now or in the foreseeable future. Nevertheless, it was to this challenge that the NARC government responded, leading, first to the development of what we called an Interim Investment Programme. The very idea of supporting our policy with a concrete 'Investment Programme' was in our view, a historic novelty in Kenya. *The Interim Investment Programme* document, released late in 2003, gave us an opportunity to begin thinking in very practical terms, to consider the resource needs for implementing programmes such as were envisaged in *the ERS*. The figure that our economists came up with at the time was a colossal 706 billion Kenya shillings!

The Interim Investment Programme was tabled and very candidly discussed at our first National Investment Conference in November 2003. It also formed the basis of discussions at the Donor Consultative Group (DCG) meeting held in November 2003. In general terms, it was a document that was well received and, by most accounts, it led to unprecedented donor pledges amounting to some US\$4.1 billion. At the beginning of the new year in 2004, another round of consultations began with a prioritisation workshop (January). The 'logical matrix of objectives, outcomes, costs and the enabling activities' for *the ERS* in line with sector objectives are outcomes of this *prioritisation workshop*. The release and subsequent national endorsement of the *Investment Programme for the Economic Recovery Strategy for Wealth and Employment Creation (2003-2007)* show the seeds of broad participation. The result is a document that attempts to highlight national economic policy priorities while offering a logical framework to facilitate expedient reference during the challenging phases of actual implementation. Perhaps, its most important aspect lies in the fact that the prioritisation workshops that were held between January and March 2004 enabled the government to scale down the cost of implementing *the ERS* policies and programmes from the initial Kshs 706 billion, to a figure of about Kshs 340 billion!

THE CHALLENGES, THE PROSPECTS AND THE ROLE OF A POLICY FRAMEWORK

One of the most significant challenges likely to confront an enthusiastic government is, first and foremost, that it often finds itself a prisoner of history. In our case, the NARC administration came to power after forty years of the single party rule mentality and its record of gross mismanagement, notoriety and general misrule. It is a matter of common knowledge that under those monolithic systems of government – epitomised in Kenya by the KANU regime – good governance and the rule of law had notoriously taken flight while social menaces such as corruption had become endemic. As is now fairly well recorded, the NARC regime very early in its watch, came face to face with 'the fighting back' syndrome of corruption, as well as other manifestations of deeply rooted forms of malfeasance – issues that mere consultations were ill equipped to deal with.

On the other hand, consultation as an aspect of the democratic process, is not without its problems. One of the most important retrospective comments that can be made about the entire process of consultation within the ERS experience is that a national planning exercise is a huge task. Consultation with one sector does not in any way guarantee a common understanding even in that sector, let alone the many others that occupy the expanded democratic space. The reality is that it remains a challenge to determine who the authentic

representatives of every sector are, and whether or not they are products of mutually agreed and inclusive democratic processes.

Quite interestingly, a consensus with one sector can easily become the very bone of contention with another, while other sectors allege exclusion. A recurring example is encountered with Civil Society, where one very soon contends with the reality that civil society is itself a huge and highly cleaved society with its own internal differences. The same can be said of the Private Sector and even the wider public. The challenge that will be with us for some time in this respect is this: How widely can we consult when we are also under pressure to deliver, and who really speaks for who, when?

Box 2.1: Interview with Prof P. Anyang' Nyong'o, Minister for Planning and National Development

Q. Honourable Minister, can you comment on the slow pace of the ICT Policy process in the country, taking cognisance of the fact that there is already an existing e-government strategy?

Ans. The ministry is pressing for a policy to support technology transfer and we have emphasised that you cannot have good e-government without an ICT Policy. Two things, elements if you like, characterised the environment before this government. There was fear of ICTs. ICTs were the domain of government and few individuals in government wished to open up an ICT debate because it would threaten the monopoly of government. From monopoly comes rent seeking and tremendous control. This control would be jeopardised if competition was allowed into the market. The government would lose control of licensing, frequency allocation,.....of communications.

These two elements, control and monopoly, stopped a progressive discussion of ICTs in the country. The previous government feared e-government, you could not have an e-mail account in government. The other problem is procurement, which is still a problem affecting all policy implementations because of its slow and cumbersome nature. There are too many busybodies.

Q. You mention busy bodies. How do you balance interests when making policies?

Ans. It is very difficult to pursue political democracy and economic reforms at the same time. Russia did not succeed. India is one of the few examples of countries

that have attempted to do this but it is big, with many states and not all of them are at the same situation.

Political democracy allows spaces, which some groups will take and seize as opportunities to pursue their own unscrupulous aims that may not be in tandem with the progressive and legitimate aims of a reforming government. For example, a landlord might say it is his right to charge high rents when the government is committed to a policy of affordable housing, which includes lowering rents.

Economic reforms become bogged down because of all kinds of interests. All this stakeholder talk and consultation can delay policy making considerably. When, for instance, does consultation end and implementation begin? The consultation culture and industry and their support structures in NGOs exist because of this and the very bankrupt pro-poor ideology.

Q. Tell me about the Economic Recovery and Strategy for Wealth and Employment Creation. It involved extensive consultations.

Ans: The ERS was a huge undertaking. We needed a paradigm shift from PRSP to economic recovery. The aim of the Kenyan government was not to reduce poverty but to create wealth and employment. We wanted to do good things that we could have done in the past.

Kenya has lost opportunities for development because the environment was polluted by bad governance. We needed to start afresh! We had a unique historical moment for fast tracking economic growth. So we looked at the PRSP, and used what was good in it.

It was time-consuming and energy intensive. We had meetings every morning in addition to the public workshops. It is expensive, and would have been impossible if I hadn't got support from UNDP.

Q. One last question Honourable Minister. How have you handled equality in policy; for instance in gender?

Ans: I don't think we have dealt with it. It is difficult to do because of culture. It requires a cultural revolution. We have some formulae so this is good but not sufficient.

Interview conducted in the Minister's office, Ministry of Planning and National Development, Nairobi on Saturday, 23rd April 2005.

CONCLUSION

This short piece has provided only a brief of the information available in bigger volumes in many policy papers of the Government of Kenya. The first major evaluation of our performance in so far as policy making and policy implementation is concerned, can be found in *the Annual Progress Report of the IP-ERS -2003-2004* prepared by a newly created Monitoring and Evaluation department. It is hoped that this novelty (Monitoring and Evaluation) will help keep our government on track, especially with respect to tracking development expenditure on one hand and monitoring the wide disconnect between policy (formation) and implementation, as well as reconcile budgetary provisions with actual projects that benefit the majority of Kenyans. As minister overseeing this rather exhilarating process in which we are virtually re-engineering government processes, one must remain convinced and optimistic that we have formulated a commensurate antidote to poor policy making and weak implementation a characteristic of the past.

REFERENCES

- Government of Kenya, (2001). National Development Plan 2002-2008: *Effective Management for Sustainable Economic Growth and Poverty Reduction* (pp 157), Nairobi, Kenya.
- Government of Kenya, (September, 2001). Medium Term Expenditure Framework – *Poverty Reduction Strategy Paper (PRSP)*, Report of the Sector Working Group on Information Technology (pp 59), Nairobi, Kenya.
- Government of Kenya, (June, 2001). *Poverty Reduction Strategy Paper for the Period 2001-2004* Prepared by the People and Government of Kenya, Vol. I&II, Ministry of Finance and Planning, Nairobi, Kenya.
- Government of Kenya, (June, 2003). *Kenya Economic Recovery Strategy for Wealth and Employment Creation 2003-2007*, Ministry of Planning and National Development (pp 92), Nairobi, Kenya.
- Government of Kenya, (March, 2004). *Economic Recovery Strategy – ICT Sector* (Unpublished), Nairobi, Kenya.

**PART 2: THE POLICY MAKING
LANDSCAPE IN KENYA**

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CHAPTER 3

A BRIEF HISTORY OF THE DEVELOPMENT OF AN ICT POLICY IN KENYA

Timothy Mwololo Waema

Introduction

There have been a number of attempts over the past fifteen years to develop a policy for ICTs in Kenya. This chapter reviews the key efforts made in the last ten years, addresses the reasons why the attempts failed or highlights success, and isolates the lessons learned.

NATIONAL ICT POLICY DEVELOPMENT INITIATIVES

The move to develop a national ICT policy was triggered off by three key and mutually reinforcing factors. The first factor was the fast and haphazard growth of information technology that lacked direction and regulation. The second was a desire by the Permanent Secretary (PS) in the Ministry of Research, Technical Training and Technology (MRTTT) to develop national policy guidelines that would steer the development of ICTs in the country in order to address the disorder. The third factor was the readiness of UNESCO to fund the process.

The policy guidelines development process was carried out by a committee chaired by the Permanent Secretary, MRTTT. The other members of this Committee were the Director of Technical Training, MRTTT; two lecturers from the University of Nairobi – one from the Electrical and Electronics Department and the other from the Institute of Computer Science; the Chief Science Secretary, National

Council for Science and Technology (NCST), MRTTT; a computer consultant; and the Secretary General of the National Commission for UNESCO, who acted as the Secretary of the Committee. The Committee defined *informatics* as “the case study of computer science, its applications and impact on society,” and its terms of reference as “to prepare an informatics policy document for Kenya.” The report submitted by the Committee made suggestions in respect of the policies required for the development, promotion, and control of informatics. The report also proposed the establishment of a National Informatics Agency, with a Board to have representation from a cross-section of stakeholders. This Agency would be headed by a director who would act as its Chief Executive Officer with a full-time secretariat of specialists in various areas of informatics. The key functions of the proposed Agency would be to monitor and periodically review the implementation of the informatics policy guidelines and to advise the Government on various aspects of informatics. The committee report was intended to serve as the policy statement/document. It addressed the following areas:

- training and research
- legal aspects
- procurement procedures
- applications
- commercialisation of IT
- computer and society
- telematics and networking
- data interchange and open system
- promotion of indigenous IT
- tariffs
- maintenance
- information system development
- code of ethics, professionalism and scheme of service.

The report focused largely on information technology (IT). At the time, Internet was just beginning to come into Kenya and the report did not address it. The report did not address telecommunications or broadcasting, and failed to link what it referred to as informatics to the various development sectors of the Kenyan economy.

This policy document was submitted to the Permanent Secretary, MRTTT, without a process of validation with the stakeholders. During the consultations between the various arms of government on the document, which became known as the draft informatics policy, there were objections from the Ministry of Finance and the Ministry of Information, Transport and Communications. These two ministries argued that an informatics

policy was more within their jurisdictions than within the Ministry of Research, Technical Training and Technology. At that time, the Ministry of Finance was the only ministry in government where some computerisation was taking place. The Ministry of Information, Transport and Communications had control over all public licenses in telecommunications, postal communications, broadcasting, and media. Other key stakeholders, particularly academia, dismissed the contents of the report as not particularly valuable. On account, a cabinet memorandum, the next step to official policy status, was never prepared. Other developments took place at about the same time, that made it difficult for this initiative to move forward. One such development was the transfer of the invested Permanent Secretary (PS). A different focus for the new PS in the Ministry of Research, Technical Training and Technology took hold followed by elections in 1997, and a complete reorganisation of the ministries and their chief officers.

In summary, the key reasons why the informatics policy document failed to “see the light of day” were:

1. The document was developed by a group of hand-picked consultants and was not subjected to stakeholder discussion and inputs.
2. The quality of the document was poor. This was evident from the feedback that came from one academic institution.
3. There was no senior sponsor and champion for ICT in Government involved. The various aspects of ICT were distributed in various ministries. It was therefore difficult to have a successful initiative by one ministry that does not consult the other ministries with some mandate for ICT.
4. The PS, who was the key driving force of this initiative, was transferred before the process was completed.
5. The ministry (MRTT), was reorganised as part of a wider reorganisation of ministries prior to the 1997 national elections.

NATIONAL ICT STRUCTURE INITIATIVE

The National Y2K Steering Committee was established in October 1998 by the Minister for Finance through a gazette notice. It was to work closely with the key operators in strategic sectors of the Kenyan economy to oversee and coordinate initiatives to address the millennium bug problem and ensure the least disruptions prior to and during roll-over to the year 2000. This Committee was chaired by the Permanent Secretary in the Ministry of Finance and National Planning and had the following members:

- The Attorney-General
- Permanent Secretary, Office of the President

- Permanent Secretary, Ministry of Energy
- Permanent Secretary, Ministry of Information, Transport and Communications
- Permanent Secretary, Ministry of Health
- Governor, Central Bank of Kenya
- Chairman, Kenya Association of Manufacturers
- Chairman, Kenya Institute of Bankers
- Chairman, Association of Kenya Insurers
- Chairman, Computer Society of Kenya
- Chairman, Institute of Certified Public Accountants of Kenya
- Chairman, National Chamber of Commerce and Industry.

The Committee had a National Y2K Coordination Centre which acted as its full-time secretariat, staffed by professionals seconded from different sectors of the economy.

In its final report to His Excellency, the President, the National Y2K Steering Committee recommended that a national body, consisting of representatives of both private and public sectors, be established with responsibility for “ensuring that ICT is made an integral and critical component of national and regional economic and social development” (Republic of Kenya, 2000). The mandate of this body, to be known as the National Council for ICT (NCICT), was proposed.

“Its remit must encompass all aspects of strategic development, regulatory framework, enactment of appropriate cyber laws, development of infrastructure and relevant public policy issues necessary to support electronic business, E-government and the entire E-future” (National Y2K Steering Committee Final Report, 2000).

The final report also recommended the reconstitution of the National Y2K Coordination Centre into an ICT secretariat for the NCICT, with funding from the Exchequer, private sector and development partners.

In the same year 2000, a cabinet memorandum to set up the Council was initially prepared by the Minister for Finance and Planning. It proposed that the membership of the Council be made up of the following:

- Head of Public Service and Secretary to the Cabinet
- PS, Ministry of Finance and Planning
- PS, Ministry of Information, Transport and Communications
- PS, Ministry of Education
- PS, Ministry of Tourism, Trade and Industry
- PS, Ministry of Health
- Governor, Central Bank of Kenya
- Chairman, Kenya Association of Manufacturers

- Chairman, Kenya Association of Bankers
- Secretary, National Communications Secretariat (Ministry of Information, Transport and Communications)
- Vice-Chancellor from a public university
- Chairman, Institute of Certified Public Accountants of Kenya
- Director, NCICT
- Legal/judiciary member
- Three members from the ICT industry and professionals
- Chief Executive Officer, Kenya Institute of Public Policy Research Analysis (KIPPRA)
- National Council for Science and Technology
- Office of the President (Security)

This memorandum was later revised to be a joint effort between the Ministry of Finance and Planning and the Ministry of Information, Transport and Communications. This was at a time when the permanent secretaries of the two ministries were part of the Government Dream Team that had been recruited from the private sector to make the government operate more efficiently and effectively. Cooperation between the two ministries was, therefore, easy to achieve. The memorandum was neither discussed nor ratified by the cabinet. By the time the report and memorandum were ready, the National Communications Secretariat had been formed in the Ministry of Information, Transport and Communications in accordance with the Kenya Communications Act of 1998. This Secretariat was charged with responsibility for advising the Government on ICT policy matters.

GITS AND KENET STAKEHOLDER CONSULTATIONS (DECEMBER 2000 - 2001)

As the cabinet memorandum to establish the national council for ICT was awaiting discussion, the Government IT Services (GITS) department in the Ministry of Finance and Planning, together with the Kenya Education Network (KENET), announced an ICT event. KENET is a USAID-initiated national educational and research network that focuses on exploiting ICTs to achieve national educational and research goals. The two parties organised the first national workshop on ICT in December 2000. This was a consultative workshop whose objectives, according to the announcement, were as follows:

1. to identify a national ICT strategy that will stimulate integrated socioeconomic development;
2. to identify and amplify the key elements of policy that such a strategy should address; and
3. to make recommendations on the steps to be taken towards

creating a desirable policy framework that will facilitate the growth of a vibrant information economy.

The workshop brought together more than 100 stakeholders from the following sectors:

- Ministries of Finance and Planning; Information, Transport and Communications; Education and Human Resources; and Agriculture
- Communications Commission of Kenya (CCK)
- Telecommunications operators
- Higher education institutions
- Internet service providers
- Development partners
- IT associations and societies;
- Other associations, e.g. Kenya Association of Manufacturers, ISAKA, etc.
- Computer vendors
- ICT users
- Broadcasting stations
- Kenya Anti-Corruption Authority
- National Security Intelligence
- The Kenya Police
- IT Parliamentary Committee.

The workshop was opened by the Permanent Secretary in the Ministry of Information, Transport and Communications, and closed by the Permanent Secretary in the Ministry of Finance and Planning. One of the recommendations was the setting up of a National Council for ICT (NCICT), chaired by the Head of the Civil Service and Secretary to the Cabinet. It was deemed important that the proposed Council be independent from any one specific ministry, as ICT issues affect all ministries and coordination would be easier.

The key functions of the proposed Council were to:

1. develop an ICT vision;
2. develop strategies that result in rapid ICT development;
3. coordinate all bodies in the ICT area;
4. coordinate the setting of ICT standards;
5. organise workshops to sensitise stakeholders on pertinent issues, to seek views, and to consult;
6. facilitate policy networking;
7. address ICT security issues; and
8. set up task forces or working groups on various specialities.

It was proposed that the Council would have 15 members with a wide representation of key stakeholders, as shown below:

- Five (5) representatives of ministries of Information, Transport and Communications; Finance and Planning; Education and

Human Resources; Tourism, Trade and Industry; and one other ministry.

- Nine (9) representatives of stakeholders drawn from the telecommunications sector, including Internet service providers, finance, computing, broadcasting, libraries, commerce, education, and research.

The workshop also recommended a secretariat to be headed by a high-profile person with skills in ICT and an understanding of national development issues to report to the Secretary to the Council. The workshop recognised that the proposed structure for an ICT policy required legal backing. One proposal was to change the Kenya Communications Act to cater for the expanded structure. These recommendations were complementary to the cabinet memorandum prepared by the National Millennium Bug (Y2K) Steering Committee. The Permanent Secretary in the Ministry of Finance and Planning, gave an undertaking in his closing remarks during the workshop that the recommendations would be used to modify the existing cabinet memorandum. Despite the expectation that the proposed structure would be created and other recommendations implemented to provide the much needed leadership in ICT for national development, nothing changed.

These recommendations never saw the light of day for the reasons summarised below:

1. The recommendations of the workshop were never written up.
2. The memorandum to set up the national Council for ICT was neither discussed nor ratified by the Cabinet.
3. The permanent secretaries of the Ministries of Finance and Planning, and Information, Transport and Communications, along with the Director of GITS, who were part of the Dream Team that was supposed to turn the economy of the country around, had their contracts abruptly terminated in 2001.
4. The two ministries were reorganised, and the country soon went into a political and electioneering mode in readiness for the December 2002 presidential, parliamentary and civic elections. In this climate, there was little time or appetite for anything other than electioneering and politics, and ICTs lost, once again, a historic opportunity.

TELECOMMUNICATIONS AND POSTAL POLICY GUIDELINES

The Kenya Posts and Telecommunications Corporation (KP&TC), precursor to the current public licensed institutions in the telecommunications and postal sector, was an offshoot of the East

African Posts and Telecommunications Corporation (EAP&TC). EAP&TC had been formed during the late 1960s as a common infrastructure carrier, for the East African Community (EAC). KP&TC had monopoly over telecommunications and postal services.

In 1997, the first policy guideline specific to telecommunications and postal sector liberalisation was issued. This policy guideline was developed by the KP&TC together with technocrats from the Ministry of Transport and Communications. It set out the role of the sector in national development, stated the policy objectives and identified targets as well as strategies to be pursued. The desired market structure for liberalisation was also articulated. This policy guideline led to the transformation of the telecommunications and postal sector, the creation of the Kenya Communications Act (KCA, 1998) and the Postal Corporation Act (1998).

The KCA, 1998, replaced the Kenya Posts and Telecommunications Corporation Act (Cap 411), and came into effect on July 1, 1999. The Postal and Communications Act ignited the splitting of KP&TC into three separate entities: Telkom Kenya Limited (TKL), the Postal Corporation of Kenya (PCK), and the Communications Commission of Kenya (CCK). TKL and PCK were given public licences for telecommunications and postal services, respectively, while the CCK was the independent regulator whose objectives were to license and regulate telecommunications, radio communication, and postal services.

The Act also provided for the creation of a National Communications Secretariat to be established within the Ministry of Information, Transport and Communications. The main objective of this secretariat, headed by a Communication Secretary, was to advise the government on a communication policy, which, among other things, was to encourage competition and efficiency in the provision of communication services, foster full and efficient use of telecommunication resources, including the radio spectrum. In addition, KCA, 1998 made provisions for an Appeals Tribunal to serve as the independent arbitrator (Waema, 2004).

A notable element in the telecommunications and postal policy statement, which was slightly revised in 1999 and 2001, is the exclusivity granted to the two public license holders for telecommunications and postal services. It gave Telkom Kenya a five-year period of exclusivity, for five services including:

- local telephone access network (for Nairobi only);
- national long distance telephone services;
- international gateway and telephone services;

- international commercial VSAT networks and services; and
- Internet node and backbone.

The Postal Corporation of Kenya was granted perpetual exclusivity, on the following services:

- delivery of letters with weights up to a maximum of 350 grammes;
- printing and issuance of stamps; and
- the provision of letter boxes.

The organised private sector, civil society organisations and members of the wider public protested the policy guidelines, in particular the slow pace of liberalisation of telecommunications and the exclusivity given to Telkom Kenya. There was particular displeasure that the government, and specifically, the Ministry of Information, Transport and Communications, developed the policy guidelines in isolation without public involvement or even subjecting these guidelines to discussion and input from other stakeholders.

MISCELLANEOUS ACTIONS RELATED TO A NATIONAL ICT POLICY

In 2000, the Ministry of Information, Transport and Communications prepared a cabinet paper on broadcasting with the status of a sector policy statement. This was largely an initiative of the Permanent Secretary in the ministry, who had been hired from the private sector. He initiated this development after realising that there was neither a law governing the broadcasting sub-sector nor a regulator for the sub-sector.

The preparation of the policy statement was spearheaded by a leading academic in the ICT area, working with other people in the Ministry of Information, Transport and Communications, including the CCK. The policy objective was to define the framework within which broadcasting industries, markets and services would be developed and regulated in an age of rapid global technological and economic changes. The key recommendations were that the National Communications Secretariat (NCS), which had been created in the Ministry of Information, Transport and Communications, be in charge of broadcasting policy and that the CCK takes responsibility for regulating the broadcasting sub-sector.

In addition to the broadcasting policy, the Ministry of Information, Transport and Communications also prepared a draft broadcasting bill, with the participation of CCK and the Attorney-General's Office. This was again an initiative by the PS who had come from the private sector and was part of the Dream Team. The two documents, the draft broadcasting policy and the draft

broadcasting bill, were presented in Parliament, but some objections were raised. The Parliamentary Committee on Communications was said to have favoured a separate regulator for broadcasting. After discussions by the parliamentary committee, the document was returned to the Ministry of Information, Transport and Communications. A fresh effort to resuscitate discussions on the two documents was made early in 2002 by the ministries of Transport and Communications and Tourism and Information. The two ministers organised a stakeholders workshop to discuss both documents; the draft broadcasting policy and the draft broadcasting bill. The workshop was sponsored by the CCK. Stakeholder comments were incorporated into the two documents, which were then forwarded to the Cabinet for discussion. The two documents never moved any further because:

1. There were many vested interests, especially from the media and investors in the broadcasting industry who wanted the chaotic status to continue, that is the absence of a law and a regulator for broadcasting.
2. The Permanent Secretary in the Ministry of Information, Transport and Communications, who had initiated the development of both the bill and the policy statement, moved out at the end of his contract.
3. The new PS in the Ministry of Information, Transport and Communications was not aware of the initiative so did not pursue it.
4. The Ministry of Information, Transport and Communications was split with the information portfolio merged with the Ministry of Tourism while the other two portfolios were left within the Ministry of Transport and Communications.
5. The country went into electioneering mode in readiness for the December 2002 national elections. A number of changes in various ministries involved the Permanent Secretaries and Ministers, including Transport and Communications. In this mode, and with the turn over of the key persons, to follow through proved difficult.

On a number of different dates in 2001, the Director of Technical Training in the Ministry of Education, Science and Technology called meetings to discuss a national IT policy. One of the letters of invitation stated: "According to the Presidential Circular 2 of 2001, the Ministry of Education, Science and Technology is responsible for Science and Technology Policy." The meetings did not seem to have yielded much.

In 2002, the National Communications Secretariat in the Ministry of Information, Transport and Communications started

the preparation of a national ICT policy. As part of this effort, a five-day conference was held in March 2003, with the objective “to collect and collate views of stakeholders drawn from the public and private sectors as a basis for preparing Kenya’s National ICT Policy and Plans.” Participation was by invitation only and some of the participants were requested to prepare presentations in a pre-defined format. More than 20 background papers were presented. Participants were invited from the following:

- Office of the Attorney-General
- Ministry of Education, Science and Technology
- Public universities
- Kenya Institute of Education and the National Council for Science and Technology
- Ministry of Transport and Communications, including Kenya Railways Corporation, Postal Corporation of Kenya, and Telkom Kenya Ltd.
- Ministry of Labour and Human Resource Development
- Ministry of Agriculture
- Ministry of Energy
- Ministry of Environment and Natural Resources
- Ministry of Foreign Affairs
- Ministry of Home Affairs, Heritage and Sports
- Ministry of Lands and Settlement
- Ministry of Local Government
- Ministry of Roads and Public Works
- Ministry of Tourism and Information
- Provincial Commissioners’ offices
- Kenya Community Broadcasting Network
- The African Centre for Women, Information and Communication Technologies.

Participation was almost exclusively drawn from the public sector, with hardly any participation of the private sector and civil society. At the end of the workshop, a communiqué was issued (see Box 3.1) and a small committee was selected to put together all the presentations and discussions into a draft national ICT policy. A draft ICT policy document was ready after about a year - in June 2004. This document remained confidential, circulating only within government offices. Other stakeholders were not allowed access to the document. Yet again, this document did not become a cabinet memorandum. It is alleged that the Ministry of Tourism and Information was responsible for the delay having taken exception to some of the text.

Box 3.1: Conference Communiqué

THE NATIONAL INFORMATION AND COMMUNICATIONS TECHNOLOGY (ICT) POLICY CONFERENCE

(23RD -28TH MARCH 2003)

KENYA SCHOOL OF MONETARY STUDIES

FINAL COMMUNIQUÉ

This First National Information and Communications Technology Policy Conference is organised by the Kenya Government through the Ministry of Transport and Communications under the coordination of the National Communications Secretariat with support of the Government Information Technology Services Department of the Ministry of Finance.

The Conference was organised to discuss pertinent issues in the ICT sector that would form the basis of finalizing the National ICT Policy and attendant legislations to guide the orderly development of the info-communications sector.

The Conference draws a very broad participation from government Ministries and other stakeholders from both the public and private sectors. The heavy presence of diverse interest groups underscores the importance and urgency of a National ICT Policy for Kenya. The Conference was opened by the Minister for Transport and Communications Hon. John Michuki who gave the keynote address. The deliberations were frank, well informed and focused. Arising from the deliberations, participants made the following recommendations:

THE NEED FOR A NATIONAL ICT POLICY

ICT is absolutely vital for today's information society. It is profoundly affecting all aspects of human activities and changing lifestyles. ICT provides organisations and individuals with new and more efficient tools and ways of doing things for increased communication and management effectiveness. It is the vehicle being used worldwide for ensuring a knowledge-based society for effective development. Benefits to be derived from wider application of the ICT are so many that Kenya cannot afford to be left behind by other countries in the development of this important sector. To compete effectively and successfully in this fiercely competitive global economic environment, Kenya requires a highly skilled and educated human resource base with relevant aptitude, and skills in the application of ICT in every day life.

ICTs cover Internet service provision, telecommunications equipment and services, information technology equipment and services, media and broadcasting, libraries and documentation centres, commercial information providers, network based

information services and other related information and communication activities

The last few years have revealed a growing demand for a formal National ICT policy emanating from diverse interest groups of ICT stakeholders, including government departments, education stakeholders, research institutions, ICT marketing and training sectors, ISPs, development partners, NGO communities and other parties in the provision of the ICT infrastructure.

There is a consensus that the ICT Policy should, among others, clearly address the following issues:

- Access
- Infrastructure and services
- Partnership
- Gender
- Youth
- Environment
- Security
- Cyber crime
- Equity
- Legal framework
- People with disabilities
- Quality
- Relevance of ICT in an information society

The conference identified the following constraints facing the ICT sector which the policy needs to address:

1. Lack of national champions to drive ICT and ICT recognition by national leaders.
2. Uncoordinated government ministry initiatives , (NCS, GITS, ICT SWG, NTF e-Com, Department of Information, National Council on Science & Education etc.)
3. Lack of gender-sensitive ICT policy.
4. ICT illiteracy and low usage among the leaders and therefore over-delegating ICT policy issues.
5. Inadequate national ICT infrastructure (telecommunications, electricity).
6. Lack of legislation to enable e-commerce.
7. Inadequate ICT skills and capacity.
8. Lack of incentives for the development of ICT.
9. Poor remuneration for local ICT manpower which leads to brain drain.

10. Lack of standardisation of ICT products.
11. Inadequate Research and Development capacity in ICT.

The conference proposed the following strategies:

1. Declare Information and Communication Technology a prioritised industry.
2. Creation of a National ICT Advisory Council.
3. Ministerial and Inter-ministerial ICT Committees and strategic plans to identify and pursue full portfolio of ICT issues.
4. Develop sectoral ICT policies that are inline with the National ICT policy.
5. Take gender and youth issues in the content and process of ICT policy formulation and involve them in the implementation of ICT initiatives.
6. Improve existing ICT infrastructure countrywide.
7. Create an enabling environment for investment in the ICT sector.
8. Integrate ICT based-curriculum at all levels of education and training.
9. Standardise the curriculum offered in schools and training institutions.
10. Prioritise research and development in ICT.
11. Provide affordable Internet facilities to educational and research institutions.
12. Create partnerships and collaborations between government, private sector and civil society
13. Provide ICT training to teachers and technical support team in educational institutions through local and foreign training programmes.
14. Formulate and implement an ICT master plan as a matter of priority.
15. Promote wider application of e-learning.

When in June 2004 the new Ministry of Information and Communications was created, following the re-organisation of some ministries, the new Minister, who had been the Minister for Tourism and Information before the re-organisation, rejected the draft national ICT policy, referring to it as “a cut and paste job” lacking a vision. The new Minister also rejected the draft national broadcasting policy and the draft broadcasting bill, documents prepared by the media and broadcasting stakeholders

initially under the auspices of the Information, Transport and Communications and later under the auspices of the Ministry of Tourism and Information.

In March 2004, the government released the e-government strategy that had been developed in the Cabinet Office, Office of the President. The objectives of the e-government strategy are to enhance transparency, accountability and good governance of the government; make the government more results-oriented, efficient and citizen centred; and enable citizens and businesses to access the government's services and information as efficiently and as effectively as possible through the use of ICT. The strategy is a detailed and ambitious plan. Its release signalled a readiness to implement ICTs in the government. Whilst this was a welcome initiative, it, nevertheless, once again demonstrated the government's ad-hoc approach to ICT policy and strategy development and implementation. It is not clear how the e-government unit in the Office of the President is placed to work with the new Ministry of Information and Communications and GITS in the Ministry of Finance in implementing the ambitious strategy.

By October 2004, the draft national ICT policy was ready in the new Ministry of Information and Communications. This document appears to be not much different from the June 2004 version, which had been rejected. It is unclear who provided the extra input and in what areas. The document was unveiled to the public by the Ministry of Information and Communications in November 2004 during a national ICT visioning workshop. The Permanent Secretary in the Ministry promised that the draft ICT policy document would be subjected to public discussion before its finalisation. On Friday, February 18th 2005, this promise was kept when public comments were sought through an advertisement placed in one of the daily newspapers (see Box 3.2). The comments were required to be sent to the Permanent Secretary, Ministry of Information and Communications through an email address: *kenyaictpolicy@yahoo.co.uk*. This seemed to herald the beginning of a truly new regime of public participation in policy making.

Box 3.2: Ministry of Information and Communications Advertisement

This advertisement appeared in the Standard of Friday February 18th 2005 p.20.

REPUBLIC OF KENYA



MINISTRY OF INFORMATION AND COMMUNICATIONS

DRAFT ICT POLICY

Following the release of the draft National ICT Policy by the Honourable Minister for Information and Communications, all ICT Stakeholders are informed that the deadline for submitting comments on the draft ICT policy has been extended to 10th March 2005. The policy is available for downloading at <http://www.information.go.ke>.

The policy provides a vision for creating an e-enabled and knowledge-based society by using ICTs to improve the livelihoods of Kenyans and to optimize its contribution to the development of the economy through the availability of efficient, reliable and affordable info-communication services throughout the country.

The policy spells out the priority goals and objectives that will harness the potential of the ICTs to achieve the Millennium Development Goals i.e improvement of living standards; achievement of universal primary education; promotion of gender equality and empowerment of women; reduction of child mortality; improvement of maternal health; combating diseases; ensuring environmental sustainability; enhancing agricultural productivity and food security; and developing national and global partnerships in ICTs for overall socio-economic development.

The policy recognizes that young people are the future workforce and leading creators and earliest adopters of ICTS. It aims to empower them as learners, developers, contributors, and future entrepreneurs/decision-makers. It recognizes the enormous opportunities that ICTs can provide for women, who should be an integral part of and key actors in the new information society. It also recognises the plight of the bulk of the population who reside in the rural areas and seeks to ensure that they have an opportunity to participate in the evolving information society.

The policy covers information technology, telecommunications, postal, broadcasting and radio spectrum. The institutional framework proposed assumes converged regulatory, policy and dispute resolution regime. The policy framework is based on the COMESA Model ICT policy which was adopted by the COMESA Council of Ministers in March 2003.

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CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The key reasons for the failure of the various moves to develop a national ICT policy and strategy can be summarised as follows:

- **Structures:** ICT concerns are spread over several government bodies in a number of ministries. This arrangement results in poor to non-existent coordination and slows down policy development. This examination suggests that to have a cabinet memorandum that has the endorsement of all the relevant ministries is almost impossible.
- **Champions:** The majority of ministers, permanent secretaries, and legislators have not appreciated the role and potential impact of ICT in national development. They, therefore, have not been able to champion ICT in national development. At the same time, no national champion has emerged.
- **Funding:** Development partners have in the past funded ICT in government initiatives but most arms of government that have an ICT mandate do not have an adequate and sustainable budget.

Recommendations

The following recommendations are made in order to facilitate the successful development and implementation of a national ICT policy:

- **Participatory policy processes:** Examples where this has happened show positive outcomes. In Namibia, the three-year lead-up time to the ICT policy formulation process involved several workshops with key stakeholders to obtain inputs for the ICT policy (James, 2001). A mechanism should be put in place in Kenya to have stakeholders involved in finalising the current draft ICT policy. This policy should have realistic objectives and targets set in line with priority national development plans. The finalisation of the policy should be followed by highly participatory processes for developing detailed implementation plans for each sector of the economy.
- **Institutional ICT structures:** Some countries have created integrative structures to ensure participation during policy development, e.g., the creation of Mozambique's ICT Policy Commission and driving the process from the Prime Minister's office, which has encouraged higher levels of synergy and integration between government departments (James, 2001). Mauritius has driven many of its ICT-related initiatives through the National Computer Board.

Given the convergence of telecommunications, broadcasting and IT, it is reasonable to expect that all policy matters in telecommunications, postal services, broadcasting, and IT are brought under one roof. It is, therefore, recommended that all arms of government concerned with ICT in one way or another be brought under one roof. This could be a ministry solely in charge of ICT or a new body in charge of ICT policy formulation and implementation that integrates and works with the existing structures. This will end or minimise the fragmentation, lack of coordination, inability to exploit synergies, and duplication of efforts that currently exist. It will also ensure that national ICT policy development and implementation processes are more efficient and effective.

On account of convergence, it is reasonable to expect that the responsibilities for policy and regulation for these sub-sectors should lie with one ministry. With convergence, for example, it is reasonable that the same regulator takes responsibility for telecommunications, postal services, broadcasting, and IT. By making broadcasting regulation part of its mandate, the CCK would thus be responsible for, among other functions, the licensing and the assignment of broadcasting frequencies, the regulation of ownership of stations (including content regulation), and the enforcement of fair competition practices (Waema, 2004).

- **High profile champion:** There is need to have a high profile national leader to champion ICT for national socioeconomic development. It is recommended that either the President or the Vice-President becomes that champion. This high profile arrangement has been the case in countries that have been most successful in exploiting ICT for national development, including Malaysia, Singapore, Mauritius, South Africa, and Rwanda.
- **Visible role of government:** The government should endorse and own the ICT policy. It should also provide leadership and total commitment in the implementation of the ICT policy, through budgetary allocations.

REFERENCES

- James, T., (2001). An overview of information policy initiatives in Southern Africa. In T. James (Ed.) *An information policy handbook for Southern Africa: A knowledge base for decision-makers*. Ottawa: IDRC.
- Ministry of Research, Technical Training and Technology, (1993). *Draft Informatics Policy*. Ministry of Research, Technical

Training and Technology http://www.csk-online.org/library/NATIONAL_ICT_POLICY_1993.doc

Republic of Kenya, (April, 2000) *Report of the National Year 2000 Steering Committee on Kenya's management of the Y2K challenge*. Nairobi: Republic of Kenya.

The Kenya Gazette, (December, 2001). *Telecommunications and Postal Sector Policy Guidelines, The Kenya Communications Act (No. 2 of 1998)*. The Kenya Gazette, (Vol. CIII-No. 77, Special Issue). Nairobi: The Kenya Gazette.

The Kenya Gazette Supplement, (November, 1998). *The Kenya Communications Act, 1998 and The Postal Corporation Act, 1998*. (Supplement No. 64 (Act No. 3) Special Issue). Nairobi: The Kenya Gazette Supplement.

Waema, T.M., (2004). *Final report on universal access to communication services: development of a strategic plan and implementation guidelines*. Nairobi: Communications Commission of Kenya.

CHAPTER 4

MAINSTREAMING ICTS: PRIVATE SECTOR SWAY

Mike Eldon

Introduction

This chapter shares a personal perspective on private sector engagement with the ICT policy process in Kenya. It reviews some of this history, and reflects on the experiences and lessons learnt. A speculative comment concludes the extent to which the private sector has indeed swayed policy in this newly emerging area, and suggests the directions we need to take for a future win-win engagement.

In what can be regarded as a pioneering move with regard to Kenya's national planning, ICT was identified as an economic sector in its own right, alongside the more traditional ones: agriculture and rural development; human resource development – comprising education and health; physical infrastructure; trade, industry and tourism; public safety, law and order; national security; and public administration.

Readings of earlier government national planning documents revealed no mention, whatsoever, of ICTs, however described, or even any indirect reference to the subject. None of the five-year National Development Plans made any reference to ICTs in any way. Amazingly, the 1996 document that lays out the strategy to transform Kenya into a Newly Industrialised Nation ('NIC 2020'), also completely ignored ICTs.

One would have thought that if Kenya wanted to become a 'NIC' it probably needed, firstly, to become a 'Newly Information-based Country.' That plan was never written, let alone considered.

THE NATIONAL MILLENNIUM BUG (Y2K) STEERING COMMITTEE

High-level national interest in ICTs rose dramatically the world over, with the approach of the millennium. Kenya, like most other

countries, established a National Millennium Bug (popularly referred to as the Y2K, which stands for Year 2000) Committee, whose composition was heavily private sector oriented. Indeed, its full-time head was a senior executive of the multinational, Unilever, seconded to the committee for one year. Several top corporate chief executive officers (CEOs) were active board members of the committee, and the fine work they did provided an excellent precedence for public-private partnerships in Kenya.

It is worth noting, that in its final report, the committee strongly recommended that even after Y2K, such a public-private grouping should continue to operate in the form of a National IT Advisory Board. A cabinet paper was written to that effect. Over four years later, the formation of this kind of a body is still awaited.

ICT SECTOR WORKING GROUP (SWG) OF THE PRSP

Sector Working Groups were the functional apparatus of the PRSP. And in preparation for their effectiveness, the members of Sector Working Groups (SWGs) received practical education on how policy is evolved and how budgets are allocated in the vast, tangled and hierarchical bureaucracy of government as civil servants talked about their own constraints and frustrations. It became evident that private sector players had the potential to make a major contribution, by being in that more relaxed, confident, and solution-oriented state of mind that allows for boldness and innovation.

The public-private collaborative approach of the Y2K spilled into the ICT SWG of the PRSP process, (as in some but not all other SWGs.) Each of the eight SWGs was chaired by a Permanent Secretary and convened by another senior civil servant. As far as the remaining membership of the ICT SWG was concerned, the dominant contributions came from the small number of private sector members, who attended meetings regularly and guided the work, and provided much of the content. These private sector contributions were welcomed and highly valued.

The first meeting of the ICT SWG was held on 10th January 2001. There was no reference document (although we later learned that a Kenyan ICT policy document was written in 1993), and few of us were experts. The working group process began with a SWOT analysis of the local ICT scene, and then proceeded with creative vision and mission statements for ICTs in Kenya. A number of us knew about how other countries had approached the subject, and we did a fair amount of internet browsing so as to avoid undue re-invention of the ICT policy wheel.

The topic was logically divided into four headings:

- policy, legislation and regulation;
- infrastructure/infostructure;

- e-government;
- human capacity building.

A number of SWG members on the government side made meaningful contributions, notable among them, for his excellent and strategic input, was the Director of Government IT Services (GITS), although often not available for the meetings. For the most part, the civil servants present observed the lively brainstorming of the enthusiastic amateurs from the private sector.

This process required deep thinking. The responsibility to invent a policy from scratch was a heavy burden. Common sense and determination provided the key ingredients; and a permanent stimulation through the learning process in this field prevailed. Although some group members had spent nearly a quarter of a century in the industry, this was the first time they were seriously confronted with a task which needed them to rise above the corporate to the national level – not just with a sound-byte; not with a mere speech or article; but with an official national document that would guide the whole country into the future.

One of the major external challenges was dealing with all the other ‘user’ ministries. Their capacities (or the lack thereof) and needs were of necessity to be incorporated into the plans. But it proved all but impossible to get meaningful information from them. Their input was, by and large, restricted to indicating how many PCs and printers were required.

Frustrated by this minimalist response to the request for feedback, the group convened a workshop (largely conceived and facilitated by the private sector members) to which all ministries were invited. This was intended to help identify justified cost-benefit needs related to the services which the ministries provide, in the way a consultant would. The number of participants at the workshop was in no way matched by the quality of outcomes, and the event largely failed in its objective.

Matters were actually made worse by the introduction of ICT as a separate sector of the PRSP. It allowed all the other seven sectors to continue to completely ignore ICTs, what they had always done. In that sense, the establishment of the ICT sector was entirely counterproductive. ICTs are mere enablers. If the users do not engage in the process of needs identification, the chances of ownership of the process and of its successful outcome are negligible. And so it was with the PRSP.

However, high quality report was produced, and served its purpose well. The framework for a Kenyan ICT policy was thus set.

On the day the ICT SWG report was to be presented to the PRSP Secretariat (28 March, 2001), the Permanent Secretary for Transport and Communication, chairman of the ICT SWG, who was to receive the document on behalf of government, was fired. He had been brought in from the private sector as part of the 'Dream Team' and his practical, results-focused approach to managing his ministry had found many admirers. He was a great champion of ICT and of the work of the group. Even though he had hardly ever been able to chair the meetings, his support had been strongly felt. His sudden departure came as a rude shock to the group.

These changes may partly be explained by the fact that while the ICT SWG was working on the PRSP, the National Communications Secretariat (NCS) was set up in the Ministry of Transport and Communication, with the express mandate to produce an ICT policy. The Communications Commission of Kenya had also been formed, as the regulator, in the same ministry. Some confusion now arose as to the role of GITS, which hitherto had been handling ICT policy, and whose director remained the convener of the PRSP ICT SWG. The NCS demonstrated a keen tendency to keep to themselves, relating neither to GITS nor to the private sector. The new Permanent Secretary in the Ministry of Transport and Communications, although a strong proponent of ICTs, found it hard to find time to engage with the ICT SWG.

THE INSIGNIFICANT NATIONAL DEVELOPMENT PLAN

Shortly after the completion of the PRSP, a new round of planning activity began, to develop the 2002-2008 National Development Plan (NDP). Although there was very little enthusiasm in government for this venture, its production at regular and predetermined intervals is a statutory requirement. ICT was again identified as a sector of its own, and one private sector member from the former ICT SWG was invited to join the ICT Plan Working Group (PWG).

The first PWG meeting was held at the Treasury building on 1st August, 2001, and had an extraordinarily short timeframe to produce a report – two weeks! A very weak team had been assembled, convened by the head of the NCS. The NCS had, by this time, already produced a first draft of the intended document. Perhaps not surprisingly, given both the name 'National Communications Secretariat' and the name of its home ministry, the draft focused almost exclusively on communications (the 'C' in ICT). In response to this slant, the more comprehensive four-heading framework previously established in preparing the PRSP document was

presented, and accepted for the NDP. Other contributions from the ICT SWG were made to a group that, other than the one private sector member, lacked serious continuity with the earlier exercise. This private sector member was asked to chair the sub-sector committee on human capacity building, which ended up being, by default, a single person committee to research the subject, think about it, and write the paper.

In preparing the section on human capacity, attention was divided between the work force of tomorrow and that of today. For the former, an authoritative member and author of a government policy document on education, was consulted, together with the Director of the Institute of Computer Science. Both sources were extremely helpful. For the theme on the work force of today, the long industry experience of the private sector member of the sub-committee was invaluable.

NAIROBI STOCK EXCHANGE AND KENYA PRIVATE SECTOR FOUNDATION INITIATIVES

Shortly after the formation of the PRSP SWG, the Nairobi Stock Exchange (NSE) formed a new board committee for 'High-Tech and Growth' with the objective, to examine how the local ICT industry could be stimulated, both in its own right and as one of the enablers of broad economic growth. The role of the capital markets in driving such development was also to be examined. The spread of those invited by the NSE to form the committee reflected its commitment to the expressed mission.

Work on the NSE committee took place synergistically with the work at on the ICT SWG, and the first meeting of the NSE group took place on 1st December, 2000. The existence and output of one strengthened and legitimised the other.

The NSE group, interacting with the Institute for Economic Affairs, put together proposals for the annual national budget, but recommendations of the NSE were consistently ignored by the government. Eventually, the group realised that a key component was missing in their presentations: justification. Why should the government agree to remove taxes or offer incentives in the field of ICT, if by so doing they would be accepting reduced revenues from a thriving sector? More research was needed to show the positive economic impact of the proposals, indicating how and why the Ministry of Finance should bite that bullet.

But this was easier said than done. The capacity to undertake the required research has not been found (although recently, with the support of the Intel Corporation, a major component has been

undertaken). The consequence is that as far as ICT is concerned, the tax or incentive regime the country needs has not yet been identified.

THE KENYA ICT FEDERATION (KIF)

The visionaries at the NSE interacted closely with the Kenya Private Sector Foundation (KPSF), with two of its members holding the positions of Vice Chairman and Director). At this time the KPSF was stimulating the establishment of private sector boards. The sector boards were to engage with government on policy formulation and implementation, advocating for an enabling environment for the private sector.

By agreement between the NSE and KPSF, the NSE High-Tech and Growth Committee eventually became the KPSF ICT Board, retaining the same composition of members but somewhat broadening its mandate to include policy formulation and policy advocacy.

At this time, not so much interaction took place between the government and the private sector. The enthusiasm for partnership that had produced the PRSP document had faded. The SWGs, although intended as mechanisms for ongoing sector-based public-private partnerships, abruptly stopped meeting.

The National Development Plan caused not a ripple. Ministry bidding for slices of the budgetary pie took place quite independently from and not aligned with the PRSP. Outcomes of the bidding process were more related to the clout of individual permanent secretaries, and none among them was championing ICT and the NCS continued to keep to itself.

It should be added though that the leaders of the ISP companies, who came together in an interest group called the Telecommunications Service Providers of Kenya (TESPOK), exercised skilled assertiveness. This was a notable exception to the absence of dialogue, and engagement. Through their tough and often successful campaigns, they thankfully achieved what few thought was possible. They displayed how to focus on a small number of big goals; how to put together a strategy to pursue those goals; and how to know when to smile and when to frown at government policy makers.

A number of other one-off, disconnected events also took place during this time, in all of them, the private sector featured prominently. The Government IT Services (GITS) hosted the first National ICT Stakeholders Conference in November 2000. It had excellent attendance, which delivered high quality output. A year later, the Ministry of Education, Science and Technology convened a conference in November 2001, to try to coordinate the disparate government ICT-related institutions and initiatives. The Kenya

Information Society, with support from the British Council, ran some excellent workshops on themes such as ICT and education.

Sadly, the follow up resulting from all of these worthy events was negligible, owing to the lack of higher-level champions and of other human capacity. These great opportunities for moving forward with the national ICT agenda were by and large wasted.

It should also be noted that for a good part of 2001 and for the whole of 2002, Kenyan politicians were filled with election fever. Policy initiatives were notable by their absence, and civil servants knew this was not the time to raise substantive issues. That left little scope for engagement – never mind influence – from the private sector.

The KEPSA ICT Board prepared a brief outlining what ICT policy issues a new government should consider upon assuming office in 2003, for the two main political parties, the National Rainbow Coalition (NARC) and the Kenya African National Union (KANU). Feedback obtained indicated that NARC was more receptive to this private sector input.

THE KENYA PRIVATE SECTOR ALLIANCE

Within less than two months of coming to power, the new NARC government, through the Ministry of Planning and National Development, convened the milestone Economic Recovery Conference in Mombasa. Cabinet ministers and permanent secretaries were in attendance, alongside academics, researchers, development partners and private sector leaders.

Prior to the delegates' arrival in Mombasa, they had received copies of a draft economic recovery strategy document. ICT was only referred to, and rather cursorily, under telecommunications.

The delegates broke up into separate sector discussions. The 'Services' group, which was to handle two areas, tourism and ICT, was chaired by the then Minister for Information and Tourism, later to be appointed Kenya's first Minister for Information and Communications.

An instant seminar was facilitated to discuss where the country was and where it should head. The task was quite straightforward, given the three years of engagement with the issues as a member of a number of sector working groups. Reporting back to the subsequent plenary session provided a heaven-sent opportunity to lecture the entire political and technocratic elite on how the country had been falling drastically behind in this increasingly strategic field and what we all needed to do together to start catching up.

The need for increased awareness among both public and private sector leaders on the nature of ICT strategy, how a cost-effective,

well-implemented policy impacts national competitiveness and development was reiterated. A call was made for a national ICT champion, for a high-level, one-stop home for the function, for an agreed and approved policy with a backing strategy, and for appropriate institutional, human, and financial resources to make it all happen. The outcome document that emerged from the conference, fortunately, included, to a decent extent, the key points that had been made regarding ICT.

During the same conference, the new NARC government made it clear to the private sector leaders present that it wanted them to speak with one voice, as did the development partners. The Kenya Private Sector Alliance (KEPSA) was born, bringing together the various multi-sector bodies and sector federations and associations. A designated convener was invited by the emerging KEPSA from each sector to bring together the associations in each sector, and/or stimulate the formation of such associations. The goal for each sector was to federate into its own umbrella body, one that would in turn find representation at the Governing Council of KEPSA. In the ICT sector, the KPSF ICT Board was asked to do the convening. Having previously been a mere collection of individuals, the Board set about inviting all the ICT private sector associations to come into the renamed KEPSA ICT Board.

The euphoria that accompanied the coming to power of the NARC government in December 2002 permeated the ICT sector. Here at last, it seemed, was a new crop of leaders who appeared to understand enough about how and why ICT could contribute to development, and who would be only too keen to partner with the private sector to see Kenya catch up with its potential. Whereas the overall champion for the cause could not yet be identified, it seemed that at least there existed a critical mass of cabinet ministers who would take ICT seriously and who would make sure it stayed firmly on the national agenda.

When the Economic Recovery Strategy Paper was published in June 2003, the section on ICT was rightly identified as a cross-cutting issue. It borrowed heavily from the private sector input regarding the enormity of the challenge, quoting the private sector definition of what was lacking:

“ICT has been bedevilled by the lack of awareness, priority, focus, co-ordination, resources and capacity.”

FADED PROMISE

Despite the new government’s early signs of their seriousness about ICT and of their engagement with the private sector, little changed in reality. The Ministry of Transport and Communications, the home for ICT policy, showed no appetite for engaging the private sector, although the Communications Commission of Kenya (CCK),

was notably different, and the NCS continued to be secretive and reclusive. A one-week National ICT Stakeholders Conference, held by NCS in mid-2003 turned out to be almost exclusively for ministries. The unofficially obtained copy of the draft ICT policy paper that NCS produced in August 2003, fortunately, substantively reflected the little private sector input that had been made at the conference.

Meetings with senior ministry officials, whether at the ministerial or permanent secretary level, were almost impossible to arrange, and formal access to the evolving draft policy paper continued to be denied. A later draft, which again was obtained informally, clearly put the private sector in its place. Regressing dramatically from the earlier version, it was spelt out clearly in the document that Government exists to determine policy while ‘operators’ (as the private sector was labelled), were there to operate.

Other ministers who had earlier looked as though they would be crusading for more widespread and effective use of ICTs became swamped with the day-to-day pressures of their ministries, there was no point trying to get their support – at least not beyond the level of crying on their shoulder from time to time.

HOW MUCH SWAY – AND HOW?

In determining the extent of sway, one must consider the relationship between government and ‘business’, or ‘operators.’ It is to be noted that the terms ‘business’ and ‘operators’ are deliberately used here rather than the more dignified ‘private sector’. There is a convenient tendency in government, among many politicians and civil servants, to look down on the private sector as apparently rather low-level traders whom they see as being solely obsessed with short term profiteering and whose morals are invariably suspect.

The convenience of this labelling – to which some others in civil society, universities, research institutions (and some among the development partners) subscribe – is that it justifies excluding the private sector from serious up-market discussions among more ‘upright’ stakeholders. Anything the ‘operators’ contribute, so this school suggests, would be determinedly self-interested. The ‘operators’ are commonly regarded as such clever salesmen that they would too often manage to fool others into believing they are well intentioned when they actually are not.

The view of business as basically irresponsible and indifferent to long-term national interests is also sometimes used as a justification for holding back on liberalisation and privatisation. It breeds the view

that only government should own and control the ‘commanding heights of the economy.’ It also presupposes that regulatory authorities cannot be strong enough to keep the market aligned to national interest. The counter is, have governments done so much better at managing strategic investments and at delivering high quality service at competitive prices?

Sure enough, examples of improper business people, proposals and projects abound. There are plenty of examples of improper business people. No doubt about that. And even among the very proper, many business people can be very aggressive, although not as aggressive as some of those activist civil society folk! Non-business people can, understandably, find this style disrespectful. The private sector appears always in such an ‘unreasonable’ hurry, impatient with the red tape and with the long timescales that those who are not under the same day-to-day financial pressures can more easily live with. This aggressive style leads to accumulated frustrations that can lead to anger - in a society where it is still felt that ‘mere’ business people must defer to those in government. It breeds a resentment in the private sector towards what is seen as an unresponsive and disabling force, indifferent to the needs of the very wealth creators and tax payers on whom subsequent (yes, subsequent) wealth distribution rests.

The question which we are left with is: for how much longer can Kenya afford to carry on with such a mutual ‘I’m OK; you’re not OK’ approach to life? Surely, it is time for each ‘side’ to understand the other better; to earn the respect of the other; to help and support the other; and to move to a win-win outlook. In short, we must stop thinking of ‘sides’ altogether. We must rediscover that spirit of integrated and aligned public-private energy that permeated the Sector Working Group of the PRSP process.

The government must stop playing ‘stern parent,’ , imagining that business people are ‘naughty children.’ Speeches proclaiming that the private sector is ‘the engine of growth’ must be backed up by the creation of a truly enabling environment; regulators must move towards more stimulation and facilitation and less control; and ‘public-private partnership’ must become far more meaningful and move way beyond the level of slogans.

On their part, business people must not just unconstructively criticise their public sector colleagues. Unconstructive criticism is a feel good factor – in the way that taking a painkiller does – but its principal effects are merely to demoralise the civil servants and distance them further from the private sector. There is need for harder work to come up with well-researched policy proposals by the private sector, as well as and for more time and effort to following the policy process through its

formative stages and into the monitoring and evaluation of implementation.

Both government and the private sector must get to know each other better. This will only come about in a sustained manner when the relationship is institutionalised. Fortunately, the National Economic and Social Council (NESC) has recently been established giving new hope to the process. However, the demise of the Sector Working Groups that flourished during the PRSP days is lamentable. It is anticipated that the Sector Working Groups will be re-established soon, and with the establishment of the NESC, regular senior-level engagement should now go beyond the present sporadic and too often superficial opportunities for exchanging views.

Suggestions have also been made within KEPSA for exchange programmes. This will enable civil servants to spend time in businesses and get a first hand feel of the consequences of their policies and their bureaucracy. It will also enable business people to explore the corridors of power, to see how life looks from the other side of the fence. For sure, each can learn a lot from the other.

On both sides, much of the problem stems from nothing more than a lack of capacity. Those who are capable of making good contributions are small in number and extremely stretched.

In the private sector people engaged with the government are mainly pure volunteers, faced with the dilemma that every hour spent on national policy issues is an hour away from running their businesses. It is desirable that resources be generated to finance properly staffed professional secretariats that can do the full job that presently cannot be done.

In the ministries, the stultifying culture of centralised decision-making is observed at the very top: a culture of aversion to risk; of committees and memos; of delays and more delays. People are everywhere – but there are few sources of meaningful energy. Looking elsewhere in the world – and increasingly even elsewhere in the immediate region – Kenya is seen to have indeed fallen very far behind in the effective harnessing of the extraordinary potential that comes from ICTs. The recently established Ministry of Information and Communications presents a great opportunity for catching up.

The private sector remains keen to sway ICT policy in directions that would enable Kenyans and Kenya – including but not exclusively the ‘operators,’. to reach full potential. Over the last few years a great deal of volunteer time has been invested in

pushing for what was believed to be right. Much of that effort has appeared like the banging of heads against brick walls, the spinning of wheels. But eventually, to use another metaphor, the dripping of the tap seems like it is having some impact.

Feedback from senior government sources indicates that a significant difference was made as a result of the efforts of the private sector. Private sector contributions to most of the ICT policy documents to date were significant indeed. Calls for a more efficient government have seemingly, contributed to the establishment of the e-government task force, later renamed 'directorate', and exhortations for a home for ICTs were indeed helpful in giving birth to the new ministry. However, success has many fathers, and all sorts of individuals and institutions will claim that they were key to each breakthrough. It will take other historians to measure relative levels of influence.

REFERENCES

- Government of Kenya, (2001). National Development Plan 2002-2008: *Effective Management for Sustainable Economic Growth and Poverty Reduction* (pp 157), Nairobi, Kenya.
- Government of Kenya, (September, 2001). Medium Term Expenditure Framework – *Poverty Reduction Strategy Paper (PRSP), Report of the Sector Working Group on Information Technology* (pp 59), Nairobi, Kenya.
- Government of Kenya, (June, 2001). *Poverty Reduction Strategy Paper for the Period 2001-2004* Prepared by the People and Government of Kenya, Vol. I&II, Ministry of Finance and Planning, Nairobi, Kenya.
- Government of Kenya, (June, 2003). *Kenya Economic Recovery Strategy for Wealth and Employment Creation 2003-2007*, Ministry of Planning and National Development (pp 92), Nairobi, Kenya.
- Government of Kenya, (March, 2004). *Economic Recovery Strategy – ICT Sector* (Unpublished), Nairobi, Kenya.



CHAPTER 5

WORKING FROM THE SIDELINES : THE KENYA PRIVATE SECTOR FOUNDATION ICT BOARD STORY

Charles Nduati and Warigia Bowman

Introduction

The Kenya Private Sector Alliance (KEPSA) and the Kenya Information and Communications Technology Federation (KIF) have played a very prominent role in promoting IT as well as the information and communications technology (ICT) policy in Kenya. This chapter documents the important role of the private sector as an agent and actor influencing government policy making. KIF believes that the creation of a national ICT advisory council composed of industry, civil society, academia, donors, and the government will help finalise and implement Kenya's ICT policy.

THE NATIONAL CONTEXT

In the past fifteen years, many actors, including the private and commercial sector, the international donor community, local community based organisations, and governments themselves, have expressed strong interest in developing ICTs (i.e., landline and cellular telephones, wireless technology, computers, Internet etc.) for the purpose of promoting economic and social development.

Among developing nations, Africa has the lowest telephone densities in the world and the lowest level of Internet connectivity even when compared to less developed areas such as Eastern Europe. In response to this deficit, over the past five years, numerous African governments have made policy commitments to developing formal ICT policies in their countries. Most African governments began these policy initiatives in the late 1990s at the behest of donors. In comparison

with other African nations, Kenya is a middle case in terms of the ICT policy process, having started but not yet completed it.

A significant change occurred in mid-2004 in the Kenyan ICT landscape. On July 1, 2004, the national regulator, the Communications Commission of Kenya (CCK), altered the telecommunications market and licensing structure. The sector was divided into three broad technology neutral categories: infrastructure providers, value added providers, and last mile providers. The regulator eliminated the auction model for the issuing of licenses and replaced it with a first-come-first-served model. The auction method tended to benefit the seller and resulted in slow rollout because of higher start-up costs. Providers now anticipate that the first come-first-served method will reduce costs and increase competition. The CCK, in 2004, licensed other international gateway providers scheduled to commence operations in 2005.

But the World Telecommunication Development Report ranks Kenya as a low access country with regard to ICTs. Most African countries share this ranking. In Kenya, 6.5 percent of businesses use computers, one percent use the Internet and 0.1 percent (one tenth of one percent) have presence on the Internet.

According to the International Telecommunications Union (ITU), in 2003, out of a population of approximately 32 million in Kenya, there were 328,000 main telephone lines, approximately 1.5 million cellular telephone subscribers, and 500,000 Internet users. These numbers are growing rapidly. Despite the increase in numbers of privately operated Internet cafés in major cities such as Nairobi, Mombasa and Kisumu, the penetration of telephony, computers, and Internet in rural areas is low. Only one person in a hundred has a main telephone line; five in one hundred are mobile phone subscribers; and 1.6 in a hundred are Internet users. Interestingly, Internet usage has outpaced landline phone penetration. The Government of Kenya attributes this low level of diffusion in large part to the high cost of equipment, poor telephone communications service, and the absence of rural power supply.

As of late 2004, the dominant Kenyan cellular provider, Safaricom, provided services to two million cellular customers. These figures confirm that indeed, the telecommunications sector is one of the most dynamic sectors in the contemporary Kenyan economy. The mobile telephone sector in Kenya and East Africa is showing incredibly rapid growth. A June 2003 study conducted by the East African Community indicates that among telephone users, mobile phone subscribers comprised 82.7 percent of total subscribers, whereas 17.3 percent of the market was occupied by fixed line subscribers.

ICT APPLICATIONS, CONTENT, TRAINING AND USE

ICTs in Kenya are not limited to communications. Hardware, software, content, and capacity building are also crucial areas to which policy makers must attend. Regarding applications, software uses in Kenya focus predominantly on operating systems, business applications, and tailor-made applications. In the area of business applications, off-the-shelf packages predominate (over 80 percent), developed by major international software houses, such as SAP, Oracle, and Accpac. Since 1995, when Microsoft opened a regional office in Kenya, there has been a major proliferation of Microsoft solution providers in the operating system and office applications market.

Since 2000, awareness and the use of open source applications have increased in Kenya. The increase in open source may be attributed in large part to the advocacy efforts of the Free and Open Source Software Foundation of Africa (FOSSFA) whose secretariat is located in Nairobi, Kenya.

Twenty percent of software users have unique requirements that are not met by off-the-shelf solutions and, therefore, local contract software developers are required. Five large software developing companies in Kenya have started exporting software to India and the USA. The companies that provide such tailor-made solutions include: Software Technologies Ltd., Fintech and Symphony.

There has, however, been less success with relevant content in African languages related to African issues on the World Wide Web. In rural areas and poor urban areas of Kenya, education levels are low. Many more people use Kiswahili and other traditional languages than English. Microsoft has created a Kiswahili language dictionary available online, and a number of other local African Internet content initiatives are currently ongoing. Local content and local language applications on the Internet may become more important in the coming years as access to ICTs in rural areas improves.

The use of ICTs is related to access. Of the over one million Internet subscribers in Kenya, only a small elite own computers with access to the Internet at home. A slightly larger group uses computers in their offices located in large cities. Many businesses in remote arid and semi-arid rural areas, such as parts of the Great Rift Valley and North Eastern Province, operate the bulk of their services without the aid of computers or the Internet. Most Kenyan consumers in both rural and urban areas have only for-profit cyber cafés as Internet providers located in all first tier towns, such as Nairobi,

Kisumu, Nakuru, Mombasa, and Eldoret. Although cyber cafés are found in some smaller towns, such as Nanyuki, they are limited to areas with electricity, a point of presence and an ISP. Thus, many second tier towns, such as Isiolo or Lamu, do not boast of any cafés. In 2004, the Postal Corporation of Kenya (POSTA) announced the introduction of Internet services in most of their post offices using very small aperture terminal (VSAT) technology. Yet this will not solve the problem.

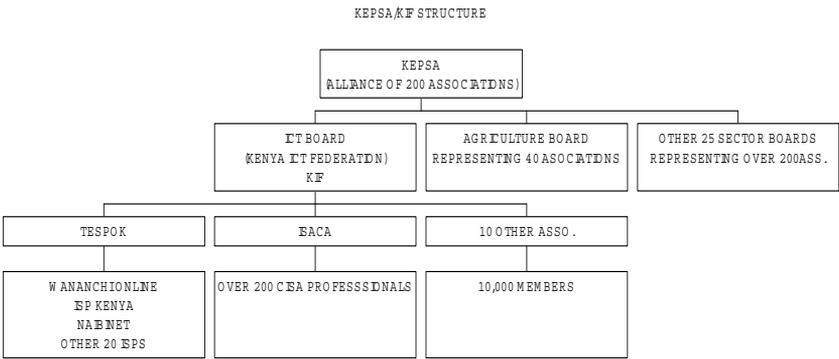
In a nation of 32 million inhabitants, the number of qualified persons who can design, build, and maintain infrastructure, produce software, hardware, and new ICT related applications is quite small. Although official estimates are not available, the Chairman of the Kenyatta University ICT Department, estimates that there are less than 50 Kenyan PhD holders in the fields of software engineering, computer science, computer engineering, and telecommunications and information technology. A relatively larger number of professionals hold hardware and software manufacturer certificates in such areas as CISCO, IBM, HP, SAP and Oracle. Some observers note that certificate holders in these areas may be more valued than degree holders because the industry standards have outpaced those of formal education. The formal education syllabi for computer science do not meet industry needs. This is partly due to the absence of partnership and planning between universities and the private sector. A necessary alliance should be developed, fanned by KIF between the government and key private sector organisations for purposes of advancing the policy formulation process.

THE ICT BOARD OF KEPSA

The ICT Board of the Kenya Private Sector Alliance, which became the Kenya ICT Federation (known as KIF), began as the Nairobi Stock Exchange High Tech/Growth Committee in 2000. The High Tech/Growth Committee was one component of an effort to promote private sector competitiveness and growth as a way of encouraging more firms to access the capital market. The High-Tech/Growth Committee determined that ICTs were key in stimulating the Kenyan economy.

In April 2004, the ICT Board of KEPSA was registered as the Kenya Information and Communications Technology Federation. KEPSA is an alliance of 200 private sector associations. This alliance enables the private sector of Kenya to speak with one voice with the government and to influence public policy formulation more systematically. Figure 5.1 shows the nature and some of the organisations in both KEPSA and KIF.

Figure 5.1: KEPSA/KIF Structure



WHO IS KIF?

KIF comprises member ICT associations which include the Kenya Information Society (KIS); TESPOK; the Cyber café Owners Association of Kenya; the Kenya Network Information Centre (the domain name registrar); the E-Commerce Association of Kenya; the Office Equipment Association of Kenya; the Export Services Association of Kenya; the Institute of Electronic and Electrical Engineers (IEEE); the International Systems Audit Control Association (ISACA); the Information Technology Standards Association; and other private sector groups such as multinational IT companies.

KIF works closely with civil society groups such as the Kenya Civil Society Caucus, the Arid Lands Information Network (ALIN), the APC, and Kenya’s WSIS Delegation, and the Network for Initiatives in Computer Education (NICE).

KIF’s mission is to partner with all other KEPSA sector boards, with civil society, academia, development partners, and other stakeholders in advising and influencing government, business, and others to develop, in the long term, the ICT sector in Kenya and, in the short term, to implement a national ICT strategy.

KIF has committees in five areas: education, standards and curriculum, economic policy and impact, infrastructure, and the digital divide.

KIF’S EFFORTS TOWARDS BUILDING ALLIANCES FOR A NATIONAL ICT STRATEGY

KIF operates in part as a connector, a facilitator of linkages between the government and the private sector. KIF also has, in its short lifetime, brought together leaders and CEOs in private industry with an interest and stake in ICT policy such as ISPs, cyber café operators, equipment vendors, and manufacturers, as well as civil society organisations such as ALIN and the Civil Society Caucus of the World Summit on the Information Society.

As a broker and advocate for ICT policy in Kenya, KIF held seven sectoral workshops between August 2003 and March 2004. The workshops dealt with a wide range of issues such as ICT in trade, industry and tourism, education, health, infrastructure, microfinance, and agriculture. The primary aim of these workshops was to involve private sector organisations and key individuals in the policy process. All the workshops had similar objectives namely:

- surveying the nature of ICT use, deployment and access in the sector(s);
- determining the nature and possibility of sector needs that ICTs can meet; and
- elaboration of priority ICT projects in the sector for immediate or future implementation.

It was clear by the time the penultimate workshop was being held that these workshops had filled a great void. The simple act of bringing the different sectors such as ICTs and agriculture, or ICTs and health into discussions of use and deployment of ICTs was seen as both valuable and long overdue. Secondly, the resultant project proposals were addressing real problems that needed to be resolved, and for some of these, the workshop discussions opened avenues for potential solutions. It was also evident from the nature of participation at these workshops that the government seemed to lack the enthusiasm or drive to match the eagerness for results emanating from the private sector and civil society. A practical strategy for bringing all key partners to a similar level of commitment and understanding of roles and responsibilities generated the idea of an integration workshop.

In February 2004, KIF organised the Integration Workshop which brought together leaders from all ICT arms of government, including the E-Government Directorate, the NCS, the Government Information Technology Services (GITS), as well as various academics, and components of Kenya civil society and donors. This was a historic event as the closing remarks indicate.

Box 5.1: Closing Remarks at Integration Workshop

Date: 13th February 2004

PREAMBLE

The participants recognise the potential and role of ICTs in National Development.

The participants agree digital opportunities and resources should be harnessed towards this end.

The participants recognise the role the Government of Kenya has played in developing an e-government strategy as part of an ongoing process of the National ICT development.

The participants also recognise the role of stakeholders, including civil society, the private sector and the development partners towards the realisation of a national ICT policy.

The participants recognise the challenge of coordination in this process, therefore, this workshop has provided an inclusive platform for all key stakeholders to define their role, ideas and initiatives towards a cohesive policy process.

The participants appreciate the central role played by the IDRC to facilitate the coming together of the key stakeholders; it is hoped that similar gestures will be sustained and that other development partners will come on board to support this timely initiative.

The role of stakeholders will be key in guaranteeing that digital resources and technological opportunities are taken advantage of in the realisation of the development goals.

To this effect, an ICT policy should be in place and provide an efficient road map towards this end.

MAIN DISCUSSION TRENDS

There was unanimous consensus that a national ICT policy document is paramount for a coherent and comprehensive implementation strategy.

The government recognises and is committed to implementing an e-government strategy as a way to harmonise and enhance government operations and efficient service delivery within government, between government and citizens and from government to business.

There are many and often disparate initiatives that need harmonisation and a deliberate and planned framework for coordination and collaboration, through an identified institutional structure is required.

Participants were unanimous that ownership and leadership is required from government to move the policy process forward.

Participants agree that a national ICT policy is an important document to underline progress in this area.

Participants acknowledge the e-government initiative as part of a broader framework of the ICT policy formulation and implementation.

Participants acknowledge contributions by the different stakeholders as key towards the realisation of a national ICT policy.

Participants would like to see more collaborations and coordination among the stakeholders for a speedier realisation of a national ICT policy.

There is an urgent need for access to and public dissemination of the government draft ICT policy to stakeholders for their input.

GENERAL CONCLUSIONS

The meeting has marked the beginning of a true partnership among key stakeholders. The challenge now is to keep the momentum going and the proposed national convention is a clear demonstration of commitment to this partnership. Government will use this forum to showcase its e-government strategy and also to expedite the finalisation of a comprehensive national ICT policy.

The Government of Kenya recognises and accepts its role as champion of this process to engage other stakeholders in a coordinated and meaningful manner.

To this end, the government recognises the role of KEPSA and other civil society organisations as valuable partners in the implementation of a national ICT policy. The challenge to KEPSA and other stakeholders is to devise practical ways to support government efforts in this endeavour, for instance providing assistance for capacity building of government officials. One example is to provide scholarships, and reduced charges for training as this will be critical in the roll out of the e-government strategy. Alternatively, stakeholders can devise mechanisms to channel their surplus capacities and resources to support this process.

The government is committed to establishing an enabling environment for private sector participation in the ICT industry. In conclusion, a heartfelt thanks to IDRC for supporting this workshop and galvanising the goodwill and contributions of the different stakeholders. Our challenge is to sustain the current momentum towards our common goal.

We, as government, will listen and share ideas with all our partners. To this end, the directorate of e-government will act as the one-stop-shop for sharing ideas and partnering as we move forward.

The culmination of the year-long series of workshops geared towards organised involvement of the private sector in the ICT policy making process was the landmark first national ICT convention. It was organised by KIF in March 2004, and took place in conjunction with the annual East Africa Telecoms Conference, the Commonwealth Telecommunications Organisation (CTO) Conference, and the East African ICT for Development Conference. Of note and taking place that same week was the first ever Kenya International Investors Conference, hosted by the Government of Kenya and KEPSA, where ICTs featured as one of the sectors. The communiqué at the convention recommended concrete actions to be taken by the key stakeholder groups in assuring success for the ICT policy process, as can be seen in Box 5.2.

Box 5.2: First National ICT Convention communiqué

KENYA ICT CONVENTION DECLARATION

by James Gachui,

First Vice-Chairman

Kenya ICT Federation, 25th March 2004

We the 130 participants at the 1st National ICT Convention held at the Safari Park Hotel Nairobi between Tuesday 23rd and Thursday 25th March 2004 represent 10 countries as well as government, the private sector, civil society and International Development Partners.

We have deliberated and discussed the contributions, current challenges and potential of ICTs for the development and growth of Africa as a whole and Kenya in particular and indeed the world in 68 presentations covering experiences and examples from a wide array of countries from developed, and developing countries. We recognise and endorse all previous declarations, conventions and instruments that have been made in support of the equitable advancement of the World Information Society, in particular the declaration of Human rights, and the WSIS declaration and the WSIS plan of action.

We recognise that ICTs include traditional and newer information and communication technologies, and ICTs are important tools for national economic growth as well as for development and the eradication of poverty.

We agree with the WSIS plan of action Section A3, which states that *“All stakeholders have an important role to play in the information society especially through partnerships including government, private sector, civil society and international development partners”*.

We acknowledge and commend the efforts that the Government of Kenya has made in matters of ICTs especially the representation of GoK by the Vice-President Honourable Moody Awori at the World Summit on the Information Society, the elaboration, and the adoption of a national e-government strategy and the identification of a cabinet ICT committee headed by the Minister for Provincial Administration and National Security, Honourable Chris Murungaru.

We the participants collectively observe that:

1. Research to improve the information and data gaps is required.
2. Relevant policies need to be developed and implemented in compliance or conjunction with other instruments e.g. WSIS Plan of Action.

3. Extensive and inclusive education needs to be embarked upon.
4. Strategic alliances across sectors to leverage resources skills are imperative.

We strongly recommend as follows:

The government:

- As a matter of urgency, concludes in broad partnership with the private sector and the broader civil society, the national ICT policy.
- The same partnership be closely involved with the development of follow-on plans and strategies for the implementation of the policy.
- The planning and development of the regulations and legislations be done to reflect the views and input of all the key stakeholders.
- Acts to provide a fair playing field for the private sector and a supportive environment for civil society and development partner activities.
- Shows leadership and understanding of ICTs by example and in its own operations.
- Make special efforts to address special interest groups e.g. women and other disadvantaged groups and equip them with the skills and tools necessary to fully engage and be engaged in the Information Society.
- Identifies, plans for and supports ONE institution to cater for all aspects of national ICTs.
- Invests in massive education of all public servants in matters relating to the use of ICTs as a tool of growth and development.
- Implements an ICT for development and growth curriculum in the formal schools at all the levels (primary, secondary and tertiary).

The private sector:

- Provides support with its expertise and ideas for government plans and efforts.
- Provides financial support and arrange venture capital for projects for short and long term ICT projects.
- Makes concrete implementable project proposals to extend the goal of national development, growth and poverty eradication.
- Makes constructive criticisms and identifies gaps in government plans and action plans.
- Supports the massive education push to increase awareness of ICTs as tools for growth and development.

THE CIVIL SOCIETY (INCLUDING NGOS, CSOS, THE CHURCH, ACADEMIA, ETC.)

- Work in collaboration with both government and private sector but be conscious of its own mandate as the watchdog in defence of social justice, equity and equality.
- Be organised and organise to extend education and awareness to those least likely to be reached by other means.
- Work as interlocutors with the genuine mandates of those least represented.
- Provide opportunities for diversity in the experiences and voices that are exposed in the global arena.

International Development Agencies:

- Support the genuine efforts of government and others to develop ICTs as a tool for growth, development and poverty reduction.
- Provide funding support for both pilot and long term projects.
- Provide and support opportunities for partnership and networking among and between stakeholders.
- Give equitable attention to governments, civil society and private sector partnerships.
- Make funding available for innovations with potential for human development.
- Allow greater flexibility with grant conditions, better loan terms e.g. longer project life spans for ICT projects and lower interest rates.
- Increase funding support for human capacity.

The IDRC sponsored and KIF organised workshops and conferences, therefore, provided a platform where participants and policy makers presented, debated, and considered different visions of the role of ICTs in Africa. In this way, KIF thus played a major role in preparing the grounds for an ICT strategy and policy for Kenya.

CONCLUSION

The organised private sector through KEPISA and in particular its ICT Board KIF, has had a critical impact on the nature of the Kenyan government's policy and policy formation process in the ICT arena. Other players exist whose efforts are currently invigorating the Kenyan ICT policy agenda setting process as shown in Chapters 4 and 6 of this volume. One reason why these groups have played such an important role in public policy formation is that the traditional organs of state policy making have been seriously weakened by decades of corruption.

To achieve success, the Kenyan government must encourage capacity building in ICT, at both societal and governmental levels. A strong need exists for top government officials to understand ICTs and to promote it as an engine of economic growth. Kenya must also invest in more education for computer scientists and engineers from the basic degree to the doctorate level and needs to ensure that Kenyan higher education is linked to the needs of the indigenous private sector. Finally, government should institutionalise the policy making process by creating a National ICT Advisory Council composed of representatives of the private sector, civil society, academia and researchers, as well as development partners, donors, and government.

CHAPTER 6

A NATIONAL ORCHESTRA? CIVIL SOCIETY INVOLVEMENT IN ICT POLICY MAKING

Shem Ochuodho and Mark Matunga

Introduction

This chapter attempts to do two things: report on some civic society contributions to the efforts to develop a national ICT policy for Kenya, and the findings of a study conducted by the African Regional Centre for Computing (ARCC) supported by IDRC in 2004. The paper mines the domain knowledge of the authors, who have been involved with many of the attempts from the early days of ICT policy making in the country.

RAPID ASSESSMENT OF PAST AND ONGOING ICT INITIATIVES

Inspired in part by the opportunities offered by emerging ICTs in addressing some of the national development priorities, and also by the NARC Revolution of 2002 that heralded a new, democratically elected leadership in Kenya, IDRC made a grant to the African Regional Centre for Computing (ARCC) in 2003/4 to conduct a “rapid assessment of policies, instruments, laws and other documented mandates on National ICT Policy in Kenya”.

STUDY OBJECTIVES

The overall purpose of the research was to survey the environment and prepare the grounds for the making of a comprehensive national ICT policy, by providing a comprehensive report on legislation and other documented strategies and mandates already in existence. The specific project objectives were to:

- Identify major earlier efforts at ICT policy making and related policies.
- Identify existing related literature including sector policy documents, legislation, working papers, etc.
- Hold stakeholders' workshops/symposia to systematically discuss and review the sector laws and related policy documents.

METHODOLOGY

The study was conducted through:

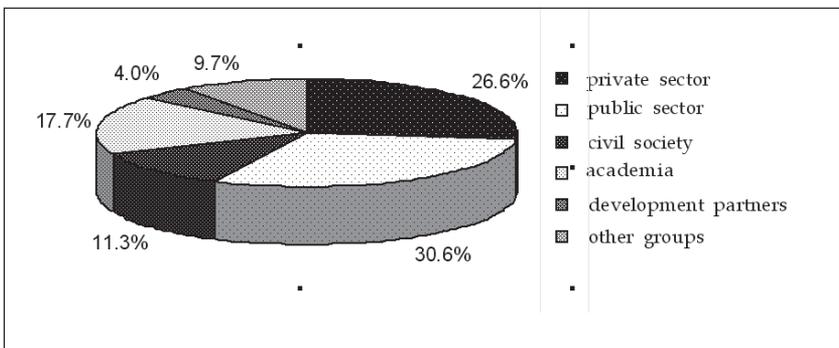
- Survey: Questionnaires were administered through face to face interviews, by regular mail/post and through a website on the Internet, i.e. posted to the site.
- Open workshops: In total, three such workshops were held.
- Dialogue with a few key informants such as senior government officials and private sector executives.

FINDINGS

Out of a total of 180 questionnaires sent out to various respondents – individuals and institutions, 128 (or 71%) were returned. Of these, 124 were satisfactory, and were analysed. About a dozen high-ranking officers in government and private sector were interviewed. It is worthy of note that one senior government officer at the level of Permanent Secretary personally completed and returned a questionnaire.

As Figure 6.1 shows, the majority of the respondents (30.6%) were from the private sector, and 26.6% represented the public sector. Interestingly, a small number of individuals within civil society responded (only 11.3%). One wonders if this reflects a low level of ICT use and interest within civil society.

Figure 6.1: Background of Respondents



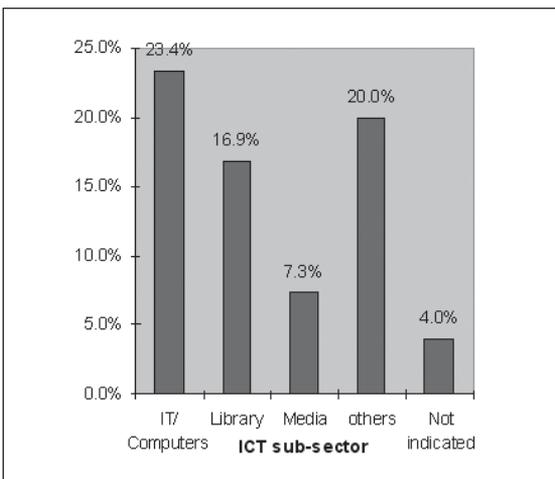
In order of sub-sectors, the majority of respondents were in the IT sub-sector (23.4%). There was also a relatively high percentage (20.0%) of respondents, listed as “Others”. The low-level of response from the media fraternity (7.3%) is suggestive of some apathy among media folk for the ongoing ICT policy reforms. Perhaps apart from the Media Council and the Kenya Union of Journalists (KUJ), a large section of the media fraternity has remained indifferent to the agitation for sector reforms. It is believed that part of this apparent apathy is due to failure to include media among ICTs. It has, however, to be acknowledged, that a few journalists have, from time to time, reported an ICT story. But the overall coverage is still very dismal.

Yet in the past, the media appears to have paid close attention to policy and regulatory reforms that have a direct bearing on their industry. Most visible has been the vigour with which the media teamed up to oppose almost every reform proposal the government has made for the sector, e.g. the “Draft Media Bill,” minimum local content in broadcasting, etc.

There are no entries for respondents from the “Telecommunications” sub-sector. It is recognised that telecommunications are heavy investment areas where there are not so many operators, it is dominated by Telkom Kenya and the two mobile phone companies – Safaricom and Celtel.

Other “telecom operators” are likely to be Internet Service Providers (ISPs) and these were listed either as “IT firms” or “Others” if operating in more than one sub-sector.

Figure 6.2: Respondents by Sub-Sector



FINDINGS: COMMON ICT ASPECTS

A number of general questions were asked which interrogated the availability of ICT regulations or policies, the strategy for modernisation of IT networks, and IT standards. A most notable finding indicates that although a sizeable number of respondents purport to have some “aspects of ICT policies and/or regulations” in their institutions (35.5%), only a negligible number have comprehensive corporate (or institutional) ICT policies. Even more worrisome was the apparent low level of familiarity with “ICT Policies and Strategies”, following a close scrutiny of the alleged components of the ‘policies’.

An even higher number of respondents (56.5%) claimed to have “modernisation strategies”, but failed to attach a copy or indicate the document “title”. Equally, responses to the question on the availability of “procurement procedures for ICT products”, show that 62.1% replied in the affirmative. We suspect that most of such respondents were referring either to general procurement guidelines, or to procurement guidelines with ICT goods and services. The researchers felt that perhaps due to limited familiarity with ICT policies and guidelines, some of the answers did not faithfully reflect reality.

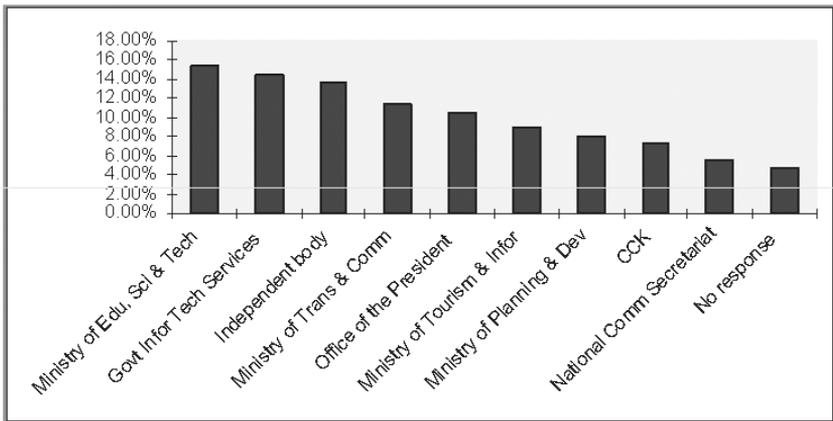
On the other hand, the extent of use of “standards” in hardware, software, operating systems, maintenance and training was reported to range from 38.7% (for maintenance) to 53.2% (for training). 50.8% of the respondents indicated that they have regulations on Internet usage. What is doubtful, though, is the existence of formally written regulations; we suspect that where they exist, most of the regulations are at best “internal memos”, and at worst “in the heads of Network Administrators”.

Not surprisingly, the percentage of respondents with “Media” and “Telecommunications” policies were lower at 29.8% and 25.0% respectively. This finding can be explained as follows: Firstly, Telecommunications is ordinarily a preserve of large-sized operators, and most of the sampled respondents were, therefore, excluded. Secondly, most organisations do not consider these two elements (media and telecommunications policy) as “core” to their operations, and therefore may not see the need to develop policies and regulations. It is also possible that since most of the responding departments/sectors were IT/ICT departments, chances are that their communications or public relations departments would have policy guidelines without the respondents knowing of them.

With regard to ICT policies at the macro level, relatively low prevalence rates were recorded. Of the respondents, 44.4% said their institutions have been involved in one or the other national initiative, whereas 34.7% said they knew of at least one other institution apart from theirs that had been involved in such an effort. One thing that these responses confirm is the diversity in the “national orchestra”. There have been several disparate and poorly coordinated attempts, each with an almost entirely new cast of “guitarists” and “saxophonists”.

When asked their preferred institutional framework for the management and coordination of ICT activities within Government, the responses were almost as diverse as the respondents, with percentages ranging between 5.6% for the National Communications Secretariat (NCS) and 15.3% for the Ministry of Education, Science and Technology (MoEST). The spread in the suggestions make a strong case for an ICT Ministry or Department. Although such a ministry does not now exist, in June 2004 the Ministry of Information and Communications was eventually created. Other reasons could have also led to the good rating for the MoEST: firstly, in the eyes of Kenyans, it is one of the few ministries that has performed well since the new Government came to power (through the implementation of the free primary education). Secondly, since an “ICT” or an “Information and Communications”, or simply a “Communications” ministry has never existed before in Kenya, and perhaps the respondents’ limited knowledge of similar ministries in other countries, they could have opted for MoEST; at any rate, it has “Science and Technology” under its docket and would therefore, seem to be the natural home for ICTs.

Except perhaps for the Communications Commission of Kenya (CCK), which was fast emerging as a darling of the industry and development partners, the other key sector players were not impressive. The Ministry of Transport and Communications, for instance, had a sterling performance in the “transport” sector in the year 2003-2004, but almost at the total expense of the “communications” sector. It is more illuminating that the NCS, which is the official Government organ for ICT policy advice was the least preferred institution to host the coordination of ICT activities. Perhaps the one odd case was the Ministry of Planning and National Development. Despite its hitherto eminent role of “coordinating the ICT Sector Working Groups”, this function was not so well known to actors in other sectors.

Figure 6.3: Preferred Body to coordinate ICT policy development

Finally, in terms of the way forward for policy formulation, most respondents preferred a multi-sectoral forum of all stakeholders spearheading the process. This preference, though at variance with typical government norms, is the route that countries with sound policy frameworks have walked.

SUB-SECTOR FINDINGS

Telecommunication Issues

A majority of the respondents indicated that they had easy access to e-mail and mobile phones; they however, decried their high costs. Fixed landlines (or plain-old-telephones – POTs) charges were considered more affordable. It is noted, however, that had rural dwellers been interviewed, given their extremely low incomes, most of them would have confirmed inability to afford, let alone access telephones.

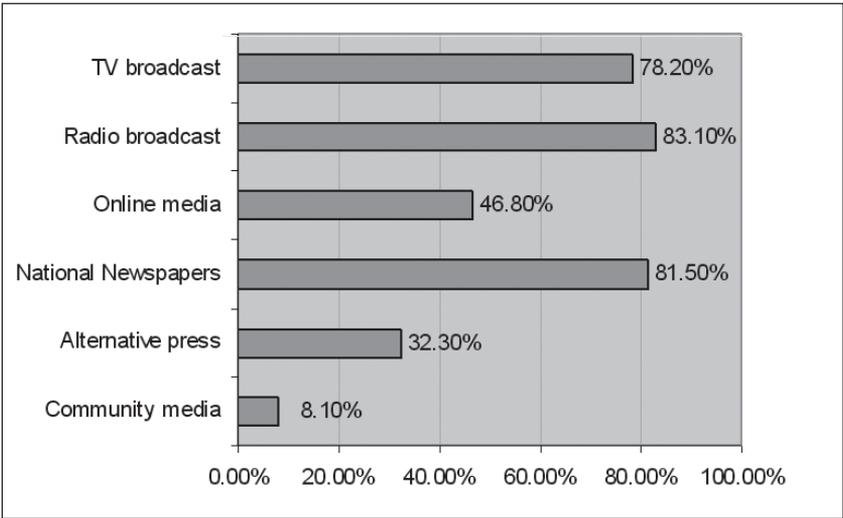
According to most respondents, some of the crucial issues that should concern a national ICT policy, in order of priority, include universal access, rural access, choices, standards (quality of service) and tariff patterns.

Media Issues

The majority of the respondents indicated that they have access to radio, television, and national newspapers on a daily basis. A reasonable number are also able to access on-line media. Least accessed are alternative press and community media. Community media is virtually non-existent. The level of satisfaction with the available choices has a very similar pattern to that of access as shown in Figure 6.4: 83.1% for radio, 81.5% for newspapers, 78.2% for TV, 46.8% for on-line media, and only 32.3% and 8.1% for alternative press and community media respectively. However, the actual level

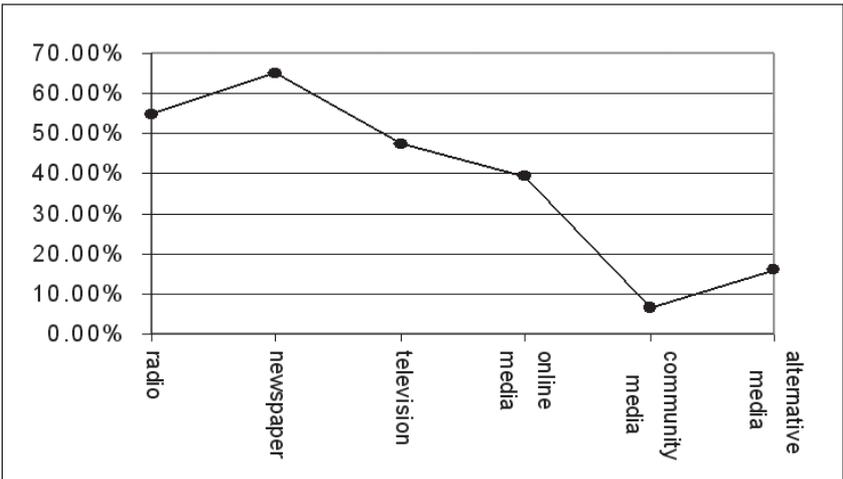
of dissatisfaction especially between the mainstream press and its alternative might, in the real sense, be more in the “quality” than “choice”.

Figure 6.4: Satisfaction with various media



The trend for satisfaction with content and quality was very similar, with 65.30% respondents stating that they are satisfied with the quality of the mainstream print media, as opposed to only 16.10% of satisfaction with the alternative (see Figure 6.5).

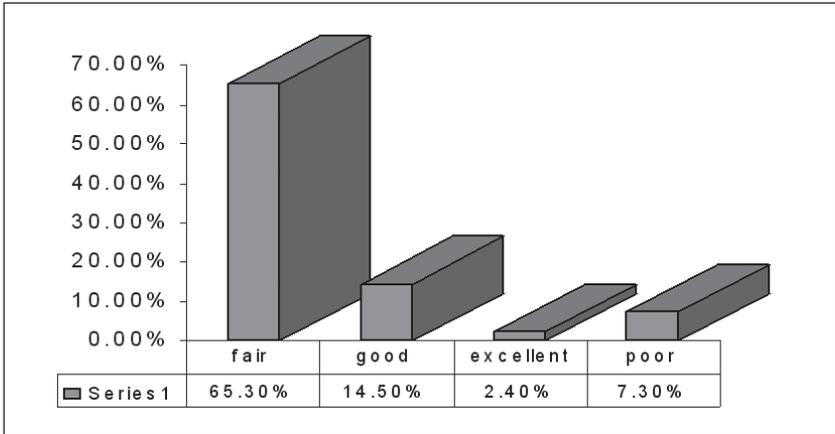
Figure 6.5: Satisfaction with content and quality



In terms of overall quality as shown in Figure 6.6, most respondents (65.3%) considered Kenyan media to be generally “fair”.

A few respondents, considered the standards to be “good” (14.5%), or “excellent” (2.4%), while only 7.3% considered them to be “poor”.

Figure 6.6: Quality of media



Concerning geographical coverage, respondents were generally of the view that the geographical coverage of existing media is inadequate. 58.8% of respondents considered radio coverage inadequate while 79.8% felt the same about libraries. The figures for inadequacies in other services were as follows: television 79.0%, Internet 78.2%, theatre 75.3%, telecommunications 75.0%, on-line media 74.2%, film 73.4%, and courier services 58.9%. The only two exceptions were national newspapers and postal services. Close to 50% of respondents indicated that postal services adequately cover the country.

Respondents were asked if they thought it was necessary to regulate radio, TV, print media, telecommunications and Internet. Most respondents supported regulation. Specifically, 69.4% of the respondents felt it was necessary to regulate radio broadcasting while 66.1% and 63.7% respectively supported the regulation of television and print media. For telecommunications and the Internet, about half of the respondents (50.8% and 52.4% respectively) supported regulation. With respect to what kind of regulation they would prefer, respondents were divided: 38.7% preferred legislation, 32.2% self-regulation, and only 15.3% opted for cross-regulation.

KEY RECOMMENDATIONS

The following recommendations can be made based on:

- The need to align ICTs to National Development priorities, especially poverty reduction strategies (PRSPs), economic recovery strategies (ERSPs), and the millennium development goals (MDGs);

- The dire need for an ICT Champion at the highest level of Government;
- Establishment of a body responsible for ICT Development and Regulation such as ICT Council/Authority;
- Learning from success stories from elsewhere, e.g. Rwanda, Singapore, and India;
- The need to bring all ICT sub-sectors and stakeholders together to build consensus and to create a critical mass that can advance the policy process; and
- Popular documentation of the various initiatives – past and present. During the literature review, it emerged that there was very little by way of published materials on the Kenyan ICT scene generally, and particularly on policy formulation. Apart from a few policy papers and statements, most of what was available for review were legal statutes. In contrast, there was a fair amount of literature on other countries, particularly the developed as well as emerging economies – especially on the Internet.

SOME OF THE MAJOR NATIONAL ICT POLICY INITIATIVES

In the course of the study reported in the previous section, a number of significant initiatives were encountered. Some of these are described below. Also reported are activities of which the authors either had personal knowledge or participated in. An attempt has been made to list them in chronological order, which is not necessarily reflective of their order of significance. Listing is mainly by “Project Name” or “Activity Name”, except where no such clear titles existed.

First Draft National Information Policy (1980s)

The earliest known efforts to evolve a “National Information Policy” can be traced to the 1980s, when a group of librarians and other information professionals assembled at a workshop in Kericho under the auspices of the Kenya Library Association (KLA). The workshop was jointly organised by the National Council for Science and Technology (NCST) and the Kenya National Library Services (KNLS). Unfortunately, no documentation on this initiative could be obtained.

It was observed that the 1980s heralded the evolution or review of related statutes, for example, the NCST Act, the Education Act, the Kenya Broadcasting Corporation (KBC) Act, the Kenya Posts and Telecommunications Corporation (KP&TC) Act, and others but sadly, studies on these statutes are almost non-existent.

First Draft National Informatics Policy (1993)

Kenya is among the earliest African countries to launch a serious attempt to evolve what was referred to as a “Draft National Informatics Policy”. The 1990s witnessed a global “electronics burst”, which did not bypass Kenya. Personal computers (PCs) were just emerging, and a new industry was fast evolving - the “information technology (IT)” industry, referred to by others as “informatics”. About the same time, UNESCO through its Inter-governmental Informatics Programme (IIP) was involved in efforts to promote and popularise IT in developing countries. In Kenya, one of these involved an effort to develop a “Draft National Informatics Policy”, under the auspices of the National Council for Science and Technology (NCST). At the time, NCST was within the Ministry of Research, Technical Training and Technology (MRTT&T).

Under the Chairmanship of the Permanent Secretary in the Ministry of Research, Technical Training and Technology and assisted by the Director of Technical Training, a team of about half-a-dozen experts was engaged as consultants to draft the policy. The team included leaders of two of the major national IT associations, namely the Computer Society of Kenya (CSK), IT Standards Association (ITSA), and a leading professional librarian (who also had earlier spearheaded the Kericho workshop). To the best of the authors’ knowledge, the team produced one of the most comprehensive policy documents to date in Kenya (*see <http://www.ispkenya.com/csk> [NCST’93]*), in depth and breadth. The only handicap is that it concentrated on IT, touching only minimally on telecommunications.

A cabinet paper was subsequently prepared from this policy to ready it for adoption. Unfortunately, this effort fizzled out. At that time, as now, different aspects of ICTs were resident in different Ministries and departments. For instance, all ICT procurement and implementation was managed from the Ministry of Finance. On the other hand, issues concerning the mass media were dealt with by the then Ministry of Information and Broadcasting. It is understood that no agreement could be reached on who should spearhead the IT/ICT policy process in the cabinet.

More recently, the Communications Committee of the Kenya National Commission for UNESCO (KNATCOM), attempted to revisit the issue by updating the earlier draft, or simply rekindling discussion on a “National ICT Policy Discourse” without much success. Other less successful efforts have included a recent launch of a programme by the Kenya National Academy of Science (KNAS) to evolve several Science and Technology (S&T) policies, whose outcomes remain unclear.

MEDIA SECTOR REFORMS SINCE THE 1990s

Apart from the publication of the KBC Act, other statutes that regulate the media industry have long been in place, e.g., the Defamation Act, the Books and Newspapers Act, the Copyright Act, etc. These instruments have never been harmonised, and their main goal seems to have been to gag, rather than facilitate media growth. Since the late 1990s, the government has made various inconclusive efforts to evolve media policies and laws. One of the most visible efforts was the constitution of a Media Task Force, initially led by an eminent media mogul. Despite a string of heads at the helm, and a number of draft policies and proposed bills, this effort has never borne much fruit.

Since the NARC Government came to power at the end of 2002, talk of a “Media Bill” or “Broadcasting Bill” has resurfaced. Apart from generating public debate, one other thing this “talk” has done is to keep the media industry awake to the reality that “business cannot continue as usual”. The Media Owners’ Association is currently organising to oppose any unfriendly Media Bill.

Other attempts to effect media reforms include the 2002 Kenya Union of Journalists (KUJ) “Code of Conduct for Journalists”, and the Media Council’s “Code of Ethics for Media Owners and Operators”.

Within parliament, efforts that have had some bearing on ICTs include: firstly, the establishment of the Departmental Committee of Communications officially known as the Energy, Communications and Public Works Committee, and the Library Committee. Also memorable were the recommendations of the “Standing Committee on Live Broadcasting of Parliament”. Attempts to introduce discussions in parliament as a means of prioritising ICTs were largely unsuccessful, except for the Kenya Communications Act of 1998, which successfully commenced liberalisation of the telecommunications sector.

ORGANISED CIVIL SOCIETY INFLUENCE

Since its inception in the 1980s, initially as the “Kenya Computer Institute (KCI)”, the Computer Society of Kenya has, for nearly three decades, dominated the ICT scene, popularising ICTs and championing various reforms that have gone a long way at inculcating an “IT” culture. For a little over ten years, Kenya has witnessed customs duties on computers and related equipments fall from nearly 200% because they were classified as “luxury” goods to 5% in 2003. In 2004 the duties on computers were eventually eliminated or zero-rated.

CSK has run several seminars across the breadth and length of the country, in most of the major cities creating awareness and

popularising IT. It has organised and participated in various exhibitions, conferences and media events, all geared towards “spreading the IT gospel”. The current Chairman of CSK has been appointed by the UN Secretary General, Koffi Annan to the UN Working Group on Internet Governance.

The CSK was only one of a number of civil society actors. Other professional associations have played one role or another as part of this national orchestra. ITSA was perhaps the first professional body to introduce standards in ICT training and procurement. The Telecommunications Service Providers Association of Kenya (TESPOK) has in recent times been at the forefront of advocacy for reforms in the telecommunications and Internet sub-sectors. The Kenya Information Society (KIS) was the only organisation that ever attempted to gather professionals from the diverse (but now converged) sub-sectors under one roof and reoriented the focus from “technology” to “information and knowledge societies”. The Kenya ICT Federation (KIF) Board of the Kenya Private Sector Organisation has made attempts to mainstream ICT in the agenda of the wider private sector through its parent body. There have been other sounds too; too many to enumerate, and sometimes too close for their tunes to be distinguishable. Some of them are presented elsewhere in this book and others include the Network for Initiatives for Computers in Education (NICE), the Kenya WSIS Civil Society Caucus, the East African Internet Association (EAIA), and the recently formed Kenya ICT Policy Action Network (KICTANet).

SOME KEY OBSERVATIONS

From the foregoing, the following observations can be made:

1. Despite various efforts to develop a policy, a broadly accepted policy remains far from complete;
2. In the nearly twenty years of attempts to evolve one aspect of an ICT policy or another, a coordinating mechanism has been missing, both within and outside government. In the case of government, matters have been worse, with “the left not knowing what the right is doing”;
3. The creation in June 2004, of the single Ministry of Information and Communications was a great step forward, but it did not entirely solve the issue of over-lapping mandates. GITS, for instance, is still under the Ministry of Finance and the newly constituted E-Government Directorate is also in another ministry – the Office of the President;
4. Although there have been several attempts to evolve ICT policies (or some aspects of it), a clear vision and framework have been lacking. This concern includes even the latest attempts spearheaded by the new ministry and NCS;

5. Apart from the mix-up at ministry-level, roles and mandates at other levels are just as confused. The new ministry's work is mainly in policy formulation and oversight. The precise roles for the ministry and the CCK with regard to frequency allocation and licensing for service providers and broadcasters, for example, is blurred. The CCK's scope and jurisdiction is unclear, and open to political manipulation;
6. The absence of ICT Policies is not only evident at national (macro) level, but also at departmental or institutional (micro) level. For the national ICT policy to achieve intended goals, micro-level policies must also be developed. Presently, most automation programmes are either donor or vendor-driven, and lack broader strategic coherence; and
7. Deficiency in data and statistics is glaring. Indeed, perhaps apart from the work done by CCK and the University of Nairobi's Institute for Development Studies (IDS) investigating Universal Access and the isolated studies conducted by KIPPRA and IEA, statistics and models on ICTs in Kenya are virtually non-existent.

NEXT STEPS

Bearing in mind the current status of the Government-driven ICT Policy, the rapid advancements in technology, and some of the observations above, it is proposed as a way forward that:

1. The ongoing discourse on ICT Policy should be concluded as swiftly as possible. While the Government must play the lead role, sufficient space must be allowed to other stakeholders, especially civil society and private sector;
2. The current agitation for policies requires a firm foundation. We contend that National ICT Policies must be premised upon national priorities. For Kenya, we propose a poverty reduction agenda;
3. Alignment of ICT policies with national priorities will ensure that with respect to resource allocation, ICTs are not relegated to the sidelines. It must, however, be recalled that apart from being tools for development (enablers), ICTs constitute a productive sector of the national economy. This sector needs to be nurtured considering its potential for export as well as employment and wealth creation;
4. Efforts need to be made to attain full buy-in by senior government officials. The glaring lack of "championship" should be rectified by placing a request at the door-steps of the highest office in the land;

5. Once there is clear leadership, supporting institutional structures must be put in place for maximum results. The Ministerial ICT Committees, for instance, must be strengthened. The coordination of these committees should be by a high-level ICT Board or Authority, in the Ministry of Information and Communications. The mandate of (a renamed) CCK should also be expanded and strengthened to cover the entire spectrum of ICT products and services. These institutions, once in place, must be given adequate and skilled staff and budgetary support;
6. Harmonisation and collaboration of government ICT projects and activities should go hand in hand with that of the private sector as well as civil society. It is proposed that the all-encompassing Kenya Information Society (KIS) be rejuvenated or a similar, new creation engineered to be the voice of the ICT industry, from media to IT, from language to telecommunications. In addition, the necessary legislative framework should be put in place to not only empower KIS, or the new creation but also its constituent member associations;
7. In order to formalise the Draft Policy under discussion, the ministry could take one of two routes: a Cabinet Paper for discussion by the Cabinet, or a Sessional Paper for Parliamentary Debate. The ideal would be both routes, as they are not necessarily exclusive. The former fosters buy-in, the latter allows the widest parliamentary and public scrutiny. In the event that only one is permissible, we favour the latter. However, since we are also alive to the fact that parliamentary processes can be slow, the Cabinet route could be taken on the understanding that a follow up policy would be developed and allowed to go through a more rigorous consultation process; and
8. Mechanisms need to be put in place for regular data collection and analysis for planning and re-strategising purposes. To this extent, capacities of public policy, data analysis and research institutions need to be strengthened.

It is felt that some of the interventions suggested herein will enrich the many strands and sounds, and assist Kenya to convert the “digital divide” into “digital dividends” for all.

REFERENCES

- ACCC, (June 2003). Emerging market structures in the communications sector: A report to Senator Alston, Minister for Communications, Information Technology and the Arts. Australia.
- ARCC, (2004). Process towards a responsive National ICT Policy

- environment in a “New Kenya”. Research Project Report to IDRC, Nairobi.
- COMESA, (August, 2004). Information and Communications Technology Policy (pp 54) (Unpublished), Lusaka, Zambia.
- DTI (UK), (December, 2000). Communications White Paper: A New Future for Communications (pp 109), United Kingdom.
- Eldon, M., (2005). Mainstreaming ICT: Private Sector Sway, in this Volume.
- Republic of Ghana, (2003). The Ghana ICT for Accelerated Development (ICT4AD) Policy (pp 95), Accra, Ghana.
- Government of Kenya, (March, 2004). E-Government Strategy: The Strategic Framework, Administrative Structure, Training Requirements and Standardisation Framework (pp 70). Cabinet Office, Office of the President, Nairobi, Kenya.
- Government of Kenya, E-Readiness Report for Kenya, MoTC, Nairobi, Kenya.
- Government of Kenya, (2001). National Development Plan 2002-2008: Effective Management for Sustainable Economic Growth and Poverty Reduction (pp 157), Nairobi, Kenya.
- Government of Kenya, (September, 2001). Medium Term Expenditure Framework – Poverty Reduction Strategy Paper (PRSP), Report of the Sector Working Group on Information Technology (pp 59), Nairobi, Kenya.
- Government of Kenya, (June, 2001). Poverty Reduction Strategy Paper for the Period 2001-2004 Prepared by the People and Government of Kenya, Vol. I&II, Ministry of Finance and Planning, Nairobi, Kenya.
- Government of Kenya, (June, 2003). Kenya Economic Recovery Strategy for Wealth and Employment Creation 2003-2007, Ministry of Planning and National Development (pp 92), Nairobi, Kenya.
- Government of Kenya, (March, 2004). Economic Recovery Strategy – ICT Sector (Unpublished), Nairobi, Kenya.
- Government of India, Ministry of External Affairs, (2004). India Perspectives, New Delhi, India.
- James, T. (ed), (2001). An Information Policy Handbook for Southern Africa – A Knowledge Base for Decision Makers, IDRC, Johannesburg, South Africa.
- Kimbe, J., (2004). South African Regional Information Infrastructure (SRII) Project (Unpublished), SATA, Maputo, Mozambique.
- Media Council of Kenya/Kenya Union of Journalists (2002). Code of Ethics for Journalists. FES, Nairobi, Kenya.

- Ministry of Transport and Communications, (1997). Telecommunications and Postal Sector Policy Statement, GoK, Nairobi.
- Ministry of Transport and Communications, (1998). Kenya Communications Act (pp 301). Government of Kenya, Nairobi, Kenya.
- NARC, (2002). Economic Blueprint of the National Rainbow Coalition (NARC - Unpublished), Nairobi, Kenya.
- NARC, (2002). Democracy and Empowerment – Manifesto for the National Rainbow Coalition (NARC) (pp 65), Nairobi, Kenya.
- NARC, (2002). Post-Election Action Plan (PEAP – Unpublished), Nairobi, Kenya.
- NCST, (1993). Draft National Informatics Policy (Unpublished) (pp 81), Government of Kenya.
- NEPAD e-Africa Commission (June 2004). Backbone Telecommunications Infrastructure Development Initiatives in Southern and Eastern Africa (Draft Report). Johannesburg, South Africa.
- Ochuodho, S.J., (2005). NARC Revolution: Lest We Forget. East African Publishers Ltd, Nairobi.
- UNECA, (2003). Towards an Information Society in Africa (AISI): The Case for National Policies. Addis-Ababa, Ethiopia.

CHAPTER 7

UNIVERSAL ACCESS : THE KENYAN EXPERIENCE

Sammy Kirui and Godfrey Muhatia

Introduction

The experience in Kenya, as in other developing countries, shows that liberalisation of the market without direct intervention by the government and the regulator will not benefit the population in rural areas. The incumbent telecommunications operator in Kenya, Telkom Kenya, failed to attain service targets set in its licence during the five-year exclusivity period. Although mobile operators have met their targets, they have concentrated their operations in urban areas and along major highways ignoring high cost areas. The Postal Corporation of Kenya (PCK) has continued to close down “uneconomical outlets” especially in rural areas. Other operators in the communications sector have also concentrated their investments in major urban areas especially Nairobi and Mombasa. Some would say that these experiences do not exactly advance universal access.

Developing countries that have not implemented universal access policies and strategies need to learn from countries such as Chile in Latin America, Uganda in Africa and Malaysia in Asia. These countries have used universal access funds and incentives as means to ensure universal access.

To address the question of universal access, the Communications Commission of Kenya (CCK) in collaboration with the International Development Research Centre (IDRC) undertook a universal access project. The main objective was to conduct research and to hold consultations leading to the definition and articulation of a policy, mechanisms and a plan for universal access strategies for the country’s communication sector. Among the strategies that have been recommended is the creation of a universal access fund and changes to the Kenya Communications Act of 1998 and Kenya Communication Regulations of 2001.

POLICY DIRECTION AND ORIENTATION

In Kenya, 80 percent of the country's population lives in the rural areas where ICT services are largely unavailable. Most of the country's rural population is engaged in subsistence farming, and women constitute the majority (Omosa and McCormick, 2004). Over 50 percent of Kenyans live below the poverty line and the country has a very high population of young people (56 percent) below 20 years who are disproportionately represented among the poor. About 20 percent of the Kenyan population cannot read or write, skills that are important in accessing and utilising ICTs.

With such a profile, it is important that methods and strategies that will address the problem of access in rural and other underserved areas are developed. Policy makers in the communications sector are concerned with either universal service or universal access depending on the level of ICT development in their respective countries. Whereas universal service strategies adopted in developed countries focus on providing and maintaining affordable communication services to individual households, in developing countries policy makers focus on universal access, which aims at community access to publicly available communication facilities. Both policy orientations aim at service provision to a wider section of respective populations without gender, income, social status or geography based discrimination.

With the convergence of technologies in IT, telephony and broadcasting, policy makers and decision makers in the sector have to broaden the concept of universality to include both the "old" ICTs of radio, television and telephone and the "new" ICTs of computers, satellite wireless technology and the Internet. In general, a policy on universality of access is not designed to anticipate market behaviour, it is rather intended to correct market failure.

WHY UNIVERSAL ACCESS?

Traditionally, utility services (i.e. telecommunications, power, water, and gas) throughout the world were provided by large, usually state-owned, monopolies. But in the last two decades, governments in developing countries have privatised these state corporations and introduced competition. Liberalisation is expected to bring benefits to the consumer through reduced cost, improved quality, and wider choices. However, not all consumers will benefit to the same degree or in the same way from liberalisation. Operators might consider some potential customers or areas to be uneconomic at prevailing market conditions and, therefore, may not choose to serve such customers or areas. Other sections of the population may

not benefit from liberalisation due to economic reasons – low incomes, for instance.

Reforms in the communications sector may have been hailed for injecting professionalism and efficiency, but the danger of compromising public policy goals of ensuring universal access for low-income groups looms especially large in rural and remote areas. Universal access policies, therefore, attempt to provide an opportunity for uneconomic consumers and unprofitable areas to get basic information and communication services. Rural areas and other high cost areas are often neglected whether with or without liberalisation because of the perceived risk and lower returns on investment. These areas are naturally the last to be served unless some form of intervention is employed (World Bank, 2003) usually by the state.

To expand services to rural and high cost areas, scholars in the sector have identified two gaps that need to be filled if communications universality is to be achieved: the market efficiency gap and the true access gap. The gaps can be attributed to the distortion that was brought about by the history of state intervention through direct ownership, restricted entry of other operators into the market and geographical price averaging. The market efficiency gap can be addressed through regulatory and other policy interventions. The new market structure developed by the CCK – where more players are allowed to enter a market that was a preserve of Telkom Kenya Ltd. (TKL) is intended to address this gap. True access gap on the other hand requires direct and deliberate intervention by the government and the regulator for services to reach beyond “affordable frontiers”. This could be through incentives and/or obligations. Communications access strategies in developing countries are concerned with the latter gap where geographic isolation and high cost of service provision are the main hindering factors.

KENYA’S EXPERIENCE OF UNIVERSAL ACCESS

For many years and in many countries, the scope of universal service obligation was limited to the provision of public payphones and basic postal services. Universal access was, originally, defined as the availability of a public fixed telephone at a walking distance (ITU, 1998). But with the technological development in ICTs, universal access has now come to mean community access to both “old” and “new” ICTs in a location that is convenient to the majority of the population. The diffusion of services across the market has

become the key measure used to determine which services are to be included in the universal service obligation.

In Kenya, reforms in the communications sector as indicated in earlier chapters, can be traced to the enactment of the Kenya Communication Act of 1998, which serves as the policy framework for the sector. As it is in many countries where the sector has been reorganised, there is a concern that competition and private sector participation will exclude rural and high cost areas from service provision. In a bid to resolve this concern, major operators in the country have some form of universal service obligations stipulated in their licenses. However, these obligations have, in some cases, proved to be inadequate as they were not based on service demand and appropriate technology diffusion. Anecdotal evidence shows that because of low appropriate technology diffusion, Kencell's (now Celtel) payphones are largely unutilised. But technology is not the only factor undermining universal access, liberalisation itself appears to have an impact.

The Postal Corporation of Kenya (PCK) is mandated to offer universal postal services across the country. Since the liberalisation of the postal sub-sector in 1999, the number of post office outlets has steadily fallen from 1,036 to 872 in 2004, representing an average decline of about 2.7% (CCK, Annual Report 2003/2004). The closure of some units is partly attributed to the rising competition from courier companies and other technologies like e-mail and cellular technology and to the need to have these services at locations that are economically viable. This development threatens to reduce revenues and mail volumes for PCK, which in turn potentially puts PCK's ability to sustain the cross-subsidies necessary to support its universal service obligation (USO) at risk.

Telkom Kenya Ltd. (TKL), which had a monopoly in fixed lines services until June 2004, had 328,500 subscribers by December 2003 as shown in Table 7.1. Approximately 120,000 of the total lines are located in rural areas, home to about 80 percent of the population. Whereas the switching capacity of the network increased from 508,230 in December 2003 to 531,442 in June 2004, the subscriber connection declined to 299,225 (CCK Annual Report 2003/2004). Ninety four percent of fixed network subscribers reside in urban areas. Nairobi has a disproportionately high percentage of subscribers (56 percent). The remaining 44 percent is distributed in other provinces as follows, Coast (13%), Rift Valley (12%), Western (2%), Eastern (5%), Nyanza (4%), North Eastern (1%) and Central (7%) (CCK, Annual Report 2003/2004). To improve this disparity, the licence obligation required TKL to install 285,000 and 25,000 new lines in urban and rural areas

respectively during the period of exclusivity (June 1999 to June 2004). The company was also supposed to increase the number of payphones by 22,500. Going by the licence conditions, TKL should have had a total of 601,706 fixed lines and 30,184 payphones by the end of this period. In spite of the growth in the network switching capacity and a huge demand of about 100,000 potential subscribers on the waiting list, TKL failed to meet these minimum targets stipulated in the licence. This failure was supposed to attract a fine of Kshs. 58 million which is far less than the amount it would have cost TKL to roll-out 200,000 additional lines. Weighing the cost of a Kshs. 58 million fine against the investment it would require to meet its exclusivity target, it is easy to see why TKL would not make an attempt to reach this goal (Kane 2002). While the incumbent TKL chose the way of a fine, the new players acted differently, in support of universal access – one positive impact of liberalisation.

Table 7.1: Telkom Kenya Ltd Subscriber Base

	Jun 1999	Jun 2000	Jun 2001	Jun 2002	Jun 2003	Dec 2003
Subscribers	291,706	309,379	321,482	328,104	328,358	328,500
Exchange Capacity	404,990	420,370	446,302	452,460	490,000	508,230
Payphones	8,184	8,684	9,135	9,618	10,096	9,964

Source: CCK, 2005

The two mobile service providers Safaricom and Celtel, had rollout obligations as well, but these have been attained and even surpassed. Table 7.2 shows that by June 2003, Celtel had connected 600,000 subscribers, a figure above the obligation requirement of 345,354 lines by December 2003. Celtel had the obligation to install 1,000 fixed public payphones but had managed only 814 by the end of 2003. The licence does not specify the criteria to be used in locating the payphones. Perhaps as a result and predictably, most of these phones have been installed in urban areas where there is already competition from the TKL and more recently manned community payphone services. Safaricom does not have payphone obligations but chose to undertake a community payphone service – Simu ya Jamii – which allows community entrepreneurs to purchase airtime at a discounted rate and to resell phone services to consumers at commercial rates and in small units. It is possible to make calls for as low as Kshs. 5.00 from these payphones. This model of manned community phone is very attractive to young unemployed persons in Kenya and in other places such as Nigeria, because the cost of entry is very low while the returns have been very high and in some instances, compared to wage employment. Describing Nigeria's "Umbrella people", Dymond (2003) argues that the operators do not need to rent shops, and in most cases, permission to use public

space is unnecessary (or at least not sought). All they need is an umbrella, a plastic table and some chairs – and of course, a Subscriber Identification Module (SIM) card and a telephone handset – and they are ready for business. Celtel also has introduced a community payphone, Simu Yetu, a strategy citing quick rollout, low cost and vandalism as the reasons for abandoning the fixed GSM strategy (CCK Annual Report 2003/2004). This strategy of community phones can work towards universal access if the entrepreneurs are compelled to locate the services in earmarked areas. The snag, however, is that at the moment, community phone operators have crowded major towns causing traffic congestion to the cellular networks and on the street pavements and side walks. As a result, the City Council of Nairobi has classified these operators as hawkers and outlawed their services on city streets.

The two mobile operators have each surpassed the fixed line services. They have also been able to cover 60 percent of the population with signal distribution but only 20 percent of the land mass. However, only 10 percent of the population is connected to the networks. This could be a pointer to the fact that these services are still very expensive to the majority of Kenyans. It is also important to note that mobile service is adequate only for voice communications. For widespread access to data services, an expansion of the fixed network is still required.

Table 7.2: Mobile Subscribers in Kenya

	Jun 1999	Jun 2000	Jun 2001	Jun 2002	Jun 2003	Dec 2003
Safaricom	15,000	54,000	325,235	728,163	1,000,000	1,224,787
Kencell (now Celtel)		60,000	259,896	458,959	600,000	729,256
Total	15,000	114,000	585,131	1,325,222	1,600,000	1,954,034

Source: CCK

An attempt to increase teledensity and develop rural infrastructure by granting regional licenses has not been very successful. In 2000, three regional telephone companies won bids to operate in selected urban and rural areas. Telair Telecommunications (K) Ltd. was approved to operate in Central, Coast, Nyanza, South Rift, and Western regions. Safitel was to operate in Eastern and North Rift while Bell-Western Ltd. was supposed to operate in North Eastern Province. The three companies were expected to roll out a total of 297,324 telephone lines in the seven provinces (Nairobi was exclusively for TKL) or build fixed/wireless network to match the size of TKL networks in other provinces within the first three years. The arrangement also included a service obligation of setting up at least two public telephone lines in each of the 6,500 sub-locations –

the rural administrative units around the country. Of the three companies, only Bell-Western has been issued a licence upon payment of the licence fee, but it is yet to roll out services. The licence obligates Bell-Western to roll out 20,939 lines in five years and two pay phones per sub-location within three years. Telair and Safitel have failed to pay up for the licences, a fact that may be attributed to: concerns over terms of interconnection, the collapse of the world's capital market for new telecommunications ventures, profitability of the business, and the rapid expansion of cellular networks into areas that had been allocated to these companies.

The country's Internet service provision market is fully liberalised with about 80 licensed Internet Service Providers (ISPs). Unfortunately only less than a half of these ISPs are operating. Internet services are mainly consumed in the major cities in the country with Nairobi having about 80 percent of the one million users in the country. This state of affairs cannot be blamed upon operators alone but also on the ICT infrastructure in the country. The poor state of TKL network has hindered operators from offering services in rural areas. Most rural areas are very far from the nearest Internet points of presence and this makes the cost of accessing the internet prohibitive because TKL charges long distance phone rates under these circumstances. For universal access to Internet services, deliberate mechanisms that will make rural areas attractive to ISPs and cyber café operators need to be developed and enhanced. This will entail infrastructure development and ICT skills development in the country. Tscheschlok (2001) argues that bridging the digital divide is not simply a matter of having the latest technology; it is also a commitment to improving "e-literacy" of rural residents so that they too may uncover opportunities for success in an information based society. One positive initiative is the ongoing modernisation of PCK where all post offices are being connected through satellite to create and offer Internet services, in facilities now being called "posta surf". This initiative would have had far reaching positive effects if PCK was not closing down "the uneconomic outlets" in the rural areas.

The only communication sub-sector in which the country has achieved wide coverage is the radio broadcasting. The country has liberalised the airwaves with many operators entering FM radio broadcasting market. Currently, the country has 24 radio stations and 16 television stations. Most of these stations target the urban markets, but the national broadcaster – the Kenya Broadcasting Corporation (KBC) – already has a wide coverage of 98 percent for radio and 65 percent for television. Other television channels like the Nation, Citizen and Kenya Television Network (KTN) have been rolling out their services to other major towns with no

deliberate efforts to serve rural and remote areas but in the process some rural areas benefit from the signals. Out of the over 15 million households in Kenya, 87 percent have radios and only 17.1 percent have television sets. As radio and television continue to be integral parts of the ICT infrastructure, the possibility of offering other communications services via broadcasting is slowly becoming a reality. There is a need, therefore, to explore convergence and how it can benefit rural communities for whom broadcasting services are more accessible than any other type of ICT.

As a way to realise affordable and reliable access to communication services in the entire country, more players will be licensed to compete with TKL in various markets. One major development in the new regulatory regime has been to allow cellular operators to have their own international gateways. More operators are being licensed to provide Internet backbone and gateways, broadcast signal distribution, and commercial Very Small Aperture Terminal (VSAT) services. In addition, some operators, including the Public Data Network Operators (PDNOs), will be allowed to carry any form of multimedia traffic such as Voice Over Internet Protocol (VOIP). And, in order to extend their reach and benefits to their customers, PDNOs have been allowed to establish international gateways for data communication services. These developments show that the sector is changing for the better.

However, the development of the sector has been very slow especially in relation to universal access. This can partly be attributed to the absence of an ICT policy. Although the sector policy calls for government subvention in support of universal access, no explicit strategies and mechanisms are outlined for this purpose, (Republic of Kenya, 2001). The currently existing draft national ICT policy recommends the creation of a fund to support universal access but it fails to give targets for various services except for postal services. The policy could benefit from the universal access study, which outlines access gaps and gives a five year strategic plan for achieving universal access.

THE UNIVERSAL ACCESS PROJECT

It is evident from the above that the Government of Kenya has demonstrated some commitment to reform and liberalisation of the communications sector. The exclusivity period for the incumbent having come to an end, new and more operators can, and indeed have, entered markets that were a preserve of TKL. These reforms have, however, only benefited urban populations. Rural areas

continue to be unserved or underserved. Cellular operators have coverage in some rural areas, but the cost of the service is beyond the reach of the majority of the rural population considering that poverty levels in these areas are very high. Internet and public voice telephony service are limited or nonexistent beyond main urban centres.

The licensing of new operators has not yielded the much anticipated growth and spread of the services to the rural and other underserved areas. The failure of the RTO strategy was a big blow to the development of the sector especially in the rural areas where the infrastructure is poorly developed or nonexistent.

In grappling with this failure to realise universal access, the CCK came up with a bottom-up approach to determine how the interplay between the demand and supply factors and the geo-socio-economic conditions in rural Kenya affect the absorption and consumption of communication services. This was done through the universal access study carried out from December 2003 to November 2004. The project, an initiative between the CCK and the International Development Research Centre (IDRC) had a total budget of US\$ 230,000. The project was implemented by a team of consultants, the Institute for Development Studies (IDS) and the Central Bureau of Statistics (CBS). Four CCK officers were involved in the project as a capacity building strategy for future research undertakings and in readiness for the implementation of the results. The project executed five major components and produced as many reports.

PROJECT OUTPUTS

The Project Inception report gives the history and the current status of the communications sector in the country. It also served as a baseline to justify the study and establish the importance of universal access. It indicates how previous efforts have failed to achieve set objectives. One central theme in the report is the failure of TKL and PCK to meet their universal service obligations despite having been granted monopolies. The report outlines the existing policy environment, regulatory mechanisms and highlights areas that require urgent review and amendments.

This Services Supply report gives the communication services supply scenario in the country and isolates factors that greatly militate against the growth of the communication sector and universal access in the country. The report indicates that services supply is biased towards urban areas because of high incomes and better infrastructure. Some of the factors that have contributed to this scenario are high taxation on imports leading to costly services, poor infrastructure, policy restriction, insecurity, illiteracy and low incomes in rural areas.

The report recommends the establishment of a rural communications forum that will address issues affecting communication in rural areas and the possibility of integrating ICT development into other rural development efforts. It also recommends the implementation of a framework that compensates for the unfair burden on rural operators. This could be through favourable licence and frequency fees. To reduce the cost of operation in rural areas, the report encourages the sharing of infrastructure among and between operators.

The Universal Access Benchmark report allows learning from what has been implemented in other countries. Visits to regulators and operators in Uganda, Tanzania and Zanzibar provided information for this report. It emerged that among the East African countries, only Uganda has elaborated strategies for achieving universal access. Tanzania does not have explicit provisions for universal access. The report recommends the creation of stakeholders' partnership in tackling universal access issues and universal access policy framework and legislations. It is important also to align universal access strategies with other development efforts in the rural areas. It was apparent that support for local companies that identify with, as well as attempt to resolve regional social needs, is critical in the attainment of universal access. This was the case in Zanzibar.

The geo-socio-economic study was basically a desk research that aimed at putting into the picture the geo-socio-economic landscape of the country with a view to linking these characteristics to the diffusion and absorption of communication services. Different regions of the country have different features including population density, literacy and poverty levels, household incomes and expenditures and physical features. A combination of these factors influences operators' choices of location and cost of operations as well as customer preferences. Rural areas bordering major highways are usually preferred.

The Demand Baseline survey conducted in 1,139 households in rural areas showed that there is demand for communication services in the rural areas and those who are able to access the service spend an average of about Kshs. 1,600. The communications services likely to be found in households were radio and TV while the least likely are computers and fixed line telephone services. The most used means of communication in the rural areas are the radio and the fixed line services while the least available services are TV and courier services. The proportion of people in rural areas living within 3kms of communication services is 40.6% (fixed telephone), 35.9% (Internet), 28.3 (Post Office) and 26.7 (courier services). In other instances people make journeys of between

6 to 100 kms to reach the nearest fixed telephone services. About 57% of the rural population is covered by mobile signals. On average people travel about 3 kms to reach a mobile signal. To solve the question of access, most respondents preferred a shared facility that is centrally located.

Interconnection and universal access are among the main challenges facing governments and regulators today. As the sector becomes liberalised, it is important for the government and the regulator to implement interconnection guidelines that are fair to all operators and are aligned to universal service obligations. In the 1990s when Chile was grappling with the question of universal access, asymmetrical interconnection was the most suitable method. But with the entry of mobile phone services, it is becoming increasingly difficult to designate operators as being purely rural. As a result, the interconnection models being adopted in many countries are cost based. The Interconnection study showed that the current interconnection model in use in Kenya does not specifically address the issue of Reference Interconnection Offer (RIO) for major operators. Operators with significant market power (SMP) should develop and produce a RIO. The guidelines also lack predefined penalties on defaulting parties and do not address the issue of universal service obligations.

The report proposes the adoption and implementation of Forward Looking – Long Run Incremental Cost (FL-LRIC) model. In countries where this model has been adopted, it has led to significant tariff reductions. But since the implementation of the model is time-consuming, a price-cap mechanism is proposed as an interim model.

The final project report proposes amendments to the Kenya Communication Act 1998 and Kenya Communications Regulations 2001 to accommodate the creation of a universal access fund and the adoption of universal access strategies. The report identifies 90 administrative divisions in the country that have no access to any form of communication service suggesting that these divisions should be the primary targets for universal access strategies. The project estimates that to achieve universal access in the country, a total of US\$ 12,285,000 or US\$ 2,457,000 per year for a period of five years will be required. Table 7.3 summarises the cost of target projects to be implemented as part of a national universal access plan.

Table 7.3: Universal Access Projects – Proposed

Project Area Supported	Units	Quantity	Unit Cost (US\$)	Subsidy	Total Cost (US\$)	Cost per Year (US\$)
1 Telephone infrastructure	Lines	100,000	250.00	30%	7,500,000.00	1,500,000.00
2 Internet POPs	Numbers	49.00	60,000.00	30%	882,000.00	176,400.00
3 Public access centres	Numbers	90.00	11,500.00	100%	1,035,000.00	207,000.00
4 Local content	Contracts	50.00	30,000.00	100%	1,500,000.00	300,000.00
5 ICT training	Centres	18.00	76,000.00	100%	1,368,000.00	273,600.00
		TOTAL			12,285,000.00	2,457,000.00

Source: CCK 2005

It is envisaged that these activities will be funded through the universal access fund to be supported by operators and other sector stakeholders. A unit within CCK, which would have a separate Board composed of various stakeholders, could administer the fund.

UNIVERSAL ACCESS OPTIONS AVAILABLE FOR KENYA

In developing universal service provision strategies, policy makers have to be cognisant of geo-socio-economic characteristics of the country. These include; incomes distribution, rural and urban population ratios and population density and the geography of the country. Other important factors are the definition of universal service and operators' efficiency. These factors will determine the cost of service provision. Methods that have been tried in many countries include cross-subsidies, universal access funds and auctions and access deficit charges.

When state-owned institutions had monopoly of service provision, cross-subsidisation was used as the main strategy to achieve universal access. This meant that some regions were charged prices above the commercial rates to cushion the losses incurred in regions that were charged below the commercial rate. This method has inherent problems:

- By separating cost from price, the method distorts consumption and investment decisions.
- It is difficult to determine who receives subsidies and who funds them.
- Investors are reluctant to provide services either to high cost regions or to where the demand is low.

Access deficit charges as a strategy for universal access have been used to compensate operators with universal service obligation to cover the cost of building and maintaining their network when this cost is greater than the revenue collected. This system enables operators to meet government requirement for geographically averaged tariffs. In this strategy, the goal is to increase the penetration of service provision and make services affordable to more users in high cost areas. This system is unsustainable in the long run when the market becomes liberalised and competitive. Moreover, regulators are increasingly opting for tariff rebalancing to align prices with costs.

Most developing countries that have implemented universal service strategies have favoured the creation of a central fund to support universal access. The three main funding options include a revenue tax on operators, general taxation system and taxation on customers. The first option requires operators to contribute a certain percentage of net eligible revenues to a central fund. This is what currently obtains in Kenya. This mechanism is suitable in countries where the cost of universal access is very high and the communications sector is considered an important engine of socio-economic development. The mechanism ensures a constant flow of revenues and operators contribute on the basis of actual revenues. In the general taxation system, the government allocates a certain percentage of the national budget to meet the cost of providing the services (Leidig Lisa, 2000), for instance Argentina provides tariff subsidies of \$ 13.50 to each pensioner who receives the minimum pension for the purchase of gas, electricity and water (Clarke and Wallsten, 2002). This system is effective when the cost of universal service is low such that budgetary allocation to the sector does not jeopardise service provision in other sectors as in Finland or when the development of the communications sector is high on government priority to warrant substantial allocation of resources as in Chile and South Africa (Leidig, 2000). The other funding option is where there is an explicit tax on customers as may be specified by the regulator. In this system the operator collects and submits money to a central fund that supports designated operators with universal service obligation. Whichever method is employed, the universal access fund strategy provides a wider tax base and improves the chances of success.

Other options may include market-based reforms, and mandatory service obligations (Intven and Tetrault 2000). Market based reforms mainly comprise of privatisation, competition and cost-based pricing.

Privatisation and competition strategies have ensured that the rollout obligations are met and at times exceeded in the quest for profit maximisation. Apart from funding, incentives and regulatory mechanisms, the strategies should also embrace new and low cost technologies especially terrestrial wireless infrastructure. This could be through systems like Village Area Network (VAN) as in the LINCOS project in Costa Rica or the DakNet in India. Another approach could be to encourage local entrepreneurs or associations to build simple telecommunication networks on unlicensed frequencies in the rural areas. As the number of local operators increases, so does the overall capacity of the network (Best, 2004). These rural networks can be woven into a bigger network leading to what Negroponte calls the “lily pad and the frog” effect.

CONCLUSION

The goal of any universal access policy should be to subsidise customers and areas that would not be served if there were no such policy. This situation may arise from customers’ inability to pay for the services or the unfair burden or cost of providing the services to the area to the operator. The primary focus of universal service should therefore be how to finance and/or provide alternatives to uneconomic customers and unprofitable areas. The development of universal access in the country should be “babysat” by all stakeholders and not be seen as a source of revenue to the government.

Many governments in both developed and developing countries have recognised and identified access to ICTs as an important strategy towards the social and economic development of their populations. To achieve the nationwide goal of reducing the digital divide, it is incumbent upon governments to provide frameworks, incentives and enabling environment that will stimulate private sector investment in low-income and high cost areas.

For Kenya, the current policy guidelines broadly call for government subventions to support universal access and expansion of services to all parts of the country including rural and other underserved areas. Unfortunately, neither a strategy nor mechanisms exist for ensuring that universal access is implemented. The hope is that the CCK universal access study will form the basis and motivation for the establishment of both a UA fund and operational guidelines.

REFERENCES

- Analysys Ltd., (2003). The Future of Universal Service in Telecommunications in Europe, report to DG XIII of the European Commission, <http://www.ispo.cec.be/infosoc/promo/pubs/uniserv/UniServ.html>
- Best L.M., (2004). The Wireless Revolution and Universal Access in Trends in Telecommunication Reform 2003: Promoting Universal Access to ICT - Practical Tool for Regulators, http://itc.mit.edu/itel/docs/2003/michael_best.pdf
- Clarke G. and Wallsten S., (2002). Universal(ly Bad) service: Providing infrastructure services to rural and poor urban consumers, World Bank Policy Research Working Paper 2868.
- Communications Commission of Kenya, (2004). Annual report 2003/2004
- Communications Commission of Kenya, Universal Access Project, <http://www.cck.go.ke/universal/main.htm>
- Computer Society of Kenya, (2003). Quarterly state of ICT report – end of 2nd quarter http://www.csk-online.org/html/ict_report.php
- Daly A.E., (2001). Implications of developments in telecommunications for indigenous people in remote and rural Australia, Centre for Aboriginal Economic Policy Research, No. 219.
- Dymond A. & Oestmann, (2002). Universal Access and Rural Communication Development: Success Factors World-Wide & Practical Insights from Uganda, www.inteleconresearch.com
- Dymond A., (2004). The Role of Sector Reform in Achieving Universal Access in Trends in Telecommunication Reform 2003: Promoting Universal Access to ICT - Practical Tool for Regulators, www.inteleconresearch.com/pdf/TTR03_Chapter_3.pdf
- Intelecon Research & Consultancy Ltd Research, (2001). Universal Access Funds, www.inteleconresearch.com
- Intven H. and Tetrault M., (2000). Telecommunications Regulation Handbook: Module 6, Washington DC, World Bank.
- International Telecommunication Union (ITU), (2004). African telecommunication indicators, Geneva, ITU.
- International Telecommunication Union (ITU), (1998). World telecommunication development report: universal access. Geneva, ITU.
- International Telecommunication Union (ITU), (2002). World telecommunication development report: Reinventing telecoms. Geneva ITU.
- Kane Sean, (2002). Telecom Reform and Poverty Alleviation in Kenya in The Southern African Journal of Information and Communication, Issue No 3, <http://link.wits.ac.za/journal/j0301-kane-fin.pdf>

- Leidig Lisa, (2000). An assessment of universal service funding in Canada, Ovum, <http://www.ovum.com>
- Omosa M. & McCormick D., (2004). Geo-socio-economics study report submitted to Communication Commission of Kenya. Nairobi, Kenya.
- Rennie F., Greller W. and Mackay M., (2002). Review of international best practice in service delivery to remote and rural areas, Scottish Executive Social Research.
- Republic of Kenya, (2001). Telecommunications and postal sector policy statement. Government printers, Nairobi.
- Tscheschlok Christian, (2001). Rising to Meet the Digital Challenge in Rural Communities: A Growing Divide? Rural Research Report Volume 12 Issue 3, Illinois Institute for Rural Affairs, www.iira.org
- Wellenius, B., (2000). Extending Telecommunications beyond the Market: Toward universal service in competitive environments, Public Policy for the Private Sector, Note No. 206, World Bank. <http://www.worldbank.org/html/fpd/notes/telecoms.htm>
- World Bank, ICT and MDGs, (2003). A World Bank Group Perspective, Washington DC, World Bank.
- World Bank, (2003). ICT and Development: Enabling the Information Society, <http://info.worldbank.org/ict/WSIS/docs/comp/Complete.pdf>

CHAPTER 8

ELECTRONIC AGENCY IN POLICY MAKING: THE KIP DISCUSSION LIST

Florence Ebam Etta

Introduction

It is undeniable that the nature of human interactions has been fundamentally transformed by the new information and communication technologies. Applications of these ICTs in economics, education, health, agriculture, and practically all spheres of human endeavour are creating unimaginable opportunities and breakthroughs. Even in politics, anecdotes and first hand personal accounts show for instance how mobile phones have been used to good or bad effect depending on your political leanings. The short messaging service (SMS) was used with amazing results by the opposition during the Kenyan general elections of December 2002 to bring about a ground swell of support for the coalition which won the elections and proceeded to form the government. Some observers believe that it was this creative use of mobile phones, among other things, that tipped the balance in favour of the current government in Kenya.

In recognition of the power of ICTs, the Kenya ICT Policy Project incorporated traditional and new ICT tools to achieve the project aim of widely sharing information, knowledge and experiences. This chapter is devoted to descriptions of two tools – an electronic newsletter called *KIPNews* and the Electronic discussion list, *KIPList* used to achieve project goals. A comparative evaluation of both tools in relation to their efficacy as tools for policy influence is attempted.

KIPNEWS

Twenty four-hour news channels such as CNN have stoked world appetite for real time information and reporting. An accompanying not-too-pleasant feature of this tendency is information overload.

So from the start of the project, it was decided that no effort would be spared to inform 'just-in-time but also just enough.' The quality of 'just enough' was also in reaction to personal research, analysis and conclusions. In the e-environment of the born or functional 'techie', an inordinate amount of time is spent, online as well as off-line, peering at the computer screen. Animation, colours, sounds all come alive in unimaginably distracting ways which wreak havoc to attention span, memory, etc. The net effect is that long, solid text is considered boring and would not hold readers' attention for more than a few minutes. These lessons were put to good use in the design of the project electronic newsletter – the *KIPNews*.

Just-in-time information is of tremendous value for senior officers or project supervisors usually in headquarters of big organisations. But often the infrequency and absence of detail in the usual sources (i.e. technical or progress reports from project leaders) is frustrating. Responsiveness and email dexterity of programme and project staff in the field are immensely valued as these make up for this failing in a virtual environment. Electronic responsiveness is associated with one's profile. The rising current is to regard the regular and speedier posters of project updates and highlights as the stars and competition to be this kind of star is rising. Gone is the luxury of long and deliberative contemplation. Short messaging is in, and long discursive postings ignite irritation, nervousness and unease. Only one screen full at a time for the prudent! Any semblance of sluggishness is construed as evidence of unwarranted sleepiness in this fast and instant world, not of culture or of personality and definitely not of gender.

Two volumes of *KIPNews*, the project news bulletin/newsletter, were produced for the period September 2003 – March 2004. *KIPNews* was a simple 2-page, one-sheet affair intended to be an electronic news service of project news and information. Interesting news items in the national daily newspapers were reproduced in very short form and news of past events, as well as notices of future events, were also featured. The first volume was distributed in January 2004 and the reviews were very positive (see Box 8.2). For the second volume, there was so much to report that the section on news from local newspapers had to be removed to keep to the one-sheet policy. This trend of too much to report continued and by April, when the tempo of other project activities increased, the newsletter took longer and longer to compile, write and edit to be of any use to ICT savvy audiences. So, despite the perseverance, the carcasses of volumes 3, 4, and 5 remain in project files as evidence that too much information in too little time and too few hands is too heavy. Thus, the common malaise of the Internet and computer era 'Information overload' claimed yet another victim - *KIPNews*.

In Boxes 8.1 and 8.2, the two published volumes of *KIPNews* are reproduced to show what it looked like. *KIPNews* was printed on bright coloured paper and handed out to participants at meetings. Reactions to the bright lemon green and fuchsia pink colours were electric and unforgettable.

KIPLIST

Background

Where *KIPNews*, the paper copy newsletter version was bright and unforgettable, *KIPList*, the electronic discussion, started off very bland. *KIPList* was launched in January 2004 and was initially used mainly as the medium for circulating the project newsletter, *KIPNews*, and perhaps on account was pretty dull in its first quarter. In a bid to enliven the discussions on the list, a decision was made in April 2004 to change the style of moderation and aggressively expand the subscriber base.

A discussion list is as good as its members and its moderation when the hardware and connectivity dimensions are in consistent good condition. *KIPList* was set up through IDRC, as a lyric list with specifications articulated by the project team, comprised only of two individuals, Ben Makai and Florence Etta. These two had the mandate to administer the list - signing on new members, as well as placing and removing subscribers from the list. It was a closed list. Subscribers were approached in person or invited electronically to join the list and all subscribers could post to the list and in theory they could unsubscribe themselves. This was often difficult and they would call upon the administrators to do so on their behalf. By June 2004, an average of two requests to join the list were being received each week. The list is currently so popular that one is considered not important in the national ICT terrain if one is not on it. The number of subscribers has grown steadily and now stands at about 200. The range of individuals and nationalities on the list is one of its greatest strengths. The list has cabinet ministers, permanent secretaries, members of parliament and other senior as well as not-so-senior government officials, private sector stars, chief executives, civil society activists, teachers, lecturers and students with interest ICT issues. Subscribers live in far away locations like Stockholm, London, Dakar, Johannesburg, Kampala, Kigali, Accra, Lagos, Abuja, Addis Ababa, Ottawa and of course Nairobi and other Kenyan towns.

The next section of this chapter presents an assessment of *KIPList*.

Box 8.1: KIPNews No. 1 – December 2003

 	
Kenya ICT Policy Project Bulletin	No.1 December 2003

There is a time for everything

The time is now and the place is KENYA. The International Development Research Centre is putting its pioneering experience in ICTs programming to good use in Kenya. In October 2003, a project to support the completion and implementation of a robust Information and Communication Technologies policy was started. This news bulletin is the first in a series through which we hope to share quarterly news as well as views on issues of ICTs as they unfold in Kenya and around the region. We will be delighted to hear from you. Send us your views about the bulletin and your news. **Florence Etta**

□ In this issue:

Project News
News in the News
Announcements

Project News

New Kid on the Block

The Kenya ICT Policy project is funded and directed by the Acacia and Connectivity programme initiative of the Canadian International Development Research Centre. It seeks to:

- Support the implementation of the National ICT Policy
- Research the social, technological and institutional structures required for successful ICT policy implementation
- Support the creation, institutionalization and application of indicators and parameters for monitoring progress
- Document, measure and share the learning in the development and implementation of the National ICT policy

Project activities

- Mainstreaming the ICT policy;
- Researching the required social, technological and institutional structures;
- Developing the ICT policy implementation plans;
- Supporting ICT capacity development in top and senior Government officers;
- Developing and testing monitoring indicators and standards; and
- Documenting and sharing the experiences in ICT policy development and implementation.

Project schedule

The project is to be completed in two phases. The initial 12 months from October 2003 until September 2004 will be supported by IDRC. It is expected that other development partners will support the second phase which is planned to continue until July 2005 to coincide with the first phase of the Economic Recovery Strategy process of the Kenyan government. The project is being implemented by organs of the Government of Kenya.

Florence Etta (aka Mama ICT) **Project Coordinator**

KIPsakes

KIPnews, KIPlist and KIPdb

KIP stands for Kenya ICT Policy Project. The project has created KIPnews our quarterly news bulletin to keep you informed of project and project related news. KIPlist is the project vehicle for generating and sharing ideas and for keeping discussions alive. KIPlist is to be used both as a mailing and discussion list and KIPdb is the project database of all our contacts. KIPlist can be accessed by email as: kiplist-cl@lyris.idrc.ca
E-mail us your contacts if you wish to be included in the list or data base.

ICT Donor Roundtable launched

An ICT Donor Roundtable has been created in Kenya. This is the brainchild of Florence Etta the project co-ordinator. The first ICT Donor roundtable took place on Friday 5th December 2003. Representatives of development partners with projects in ICTs were enthusiastic and described it as on time and long overdue. It is planned to be a forum for regular updates of donor activity in the country and region which will help collaboration and coordination among development partners and reduce unnecessary project duplications. A second meeting has been scheduled for February 2004.

If you are supporting any ICT project in Kenya or in the region and consider yourself a **Donor** you are invited to the next meeting.

For more details contact **Ben Makai**, IDRC, Kenya; 254-20-2713160-1; E-mail: bmakai@idrc.or.ke

Other related ICT Projects

The Kenya Private Sector Alliance, currently implementing an ICT policy and strategy development project, has been organising a programme of workshops to articulate strategies that will enable the various sectors of the economy take advantage of ICTs as growth, productivity and job creation enabler. The accent of the workshops is on private sector operatives and the aim is to reach a consensus for a national ICT strategy that is coherent and supportive of national development goals.
 Contact: Mike Eldon meldon@symphony.co.ke or Chrales Nduati privatesector@kpsf.or.ke

The Africa Regional Center for Computing (founded by Dr. Shem Ochuodho) has since August 2003 been involved in a rapid assessment of ICT policies, instruments, laws, or other documented mandates such as are enunciated in sector working papers. The project is geared towards documentation of earlier efforts and the focus is in collecting and collating instruments for the creation of a historical and inclusive national repository of ICT related policy frameworks.
 Contact: Carey Onyango cfo@arcc.or.ke

When completed the results and outputs of these two projects will feed into a national national ICT policy making and implementation process ensuring to some extent the involvement of the three sectors (government, civil society and the organized private sector).

News in the news

In November two articles in the daily newspapers were not very flattering of the situation of ICTs in Kenya. The Daily Nation of 25/11/03 stated that a turf war had developed within government over ICT policy guidelines while the East African Standard of 26/11/03 reported that a draft ICT policy document was being ignored by key players. The news coverage of ICT issues in December was more positive. The Daily Nation of 16/12/04 reported an unnamed source as having stated that a national ICT Co-ordination Council was soon to be established and that TelKom Kenya had acquired a broadband network signalling a near end to user woes. More good news for users was reported in the Daily Nation December of 17th which stated that all 389 post offices and primary schools in Kenya will have Internet by June 2004.

Newsorthy Past Events

ICTs in Health, Nairobi, 30th September - 1st October 2003
 Organised as the first in the series of 7 workshops by the KEPISA ICT Board it was said to be the first time in the country that professionals of both sectors were engaging in mutually beneficial dialogue.

ICTs in Agriculture, Nairobi, 29th - 30th October 2003
 The second of the KEPISA workshops, it featured a now popular example of the use of ICTs in agriculture e-chopal from India.

ICT Policy and Civil Society in Kenya, Nairobi, 17th -19th November 2003 This workshop was organised by the Kenya Civil Society WSIS Caucus to inform the role of civil society in ICT policy making.

National Investment conference, Nairobi, 20th -21st

November 2003, organised by the Ministry for Planning and National Development, to bring local investors together with policy makers in the national economic recovery effort.

ICTs in Microfinance Nairobi, 25th & 26th November 2003
 The third in the KEPISA sectoral workshops devoted to deepening understanding for and appreciation of the issues.

National Education Conference, Nairobi, 27th - 28th November 2003. This conference was organised by the Ministry of Education, Science and Technology and although very well attended not a lot was heard of ICTs in education.

ICTs in Education, 4th- 5th December 2003
 This fourth KEPISA workshop whose theme was "In search of true value" brought together educationists, government functionaries, private sector operatives and other civil society members to deliberate on ICTs in Education. It appeared to have plugged the ICT gap missing from the National Education Conference.

Announcements

- Events not to be missed; Mark your diary**
- ICTS in Trade, Industry and Tourism 28th - 29th January 2004
 Contact- Chrales Nduati, e-mail privatesector@kpsf.or.ke
 - National E-Government & ICT Convention, Nairobi 22nd -24th March 2004
 Contact- Chrales Nduati, e-mail privatesector@kpsf.or.ke
 - Commonwealth Telecommunications Organisation Implementing WSIS Conference, Nairobi, 24th - 26th March 2004
 Contact: Andrew@aitec.com



Kenya ICT Policy Project Team

Florence Etta (PhD) is the lead Consultant and project Coordinator.

Benjamin Makai joined IDRC in November 2003. He is the Project Assistant for the Project. Before joining IDRC Ben was working for Safaricom Ltd as an Applications Support Analyst. Benjamin holds a BSc in Computer Science from Egerton University.

Contact Information

For more details about the Kenya ICT policy project contact **Kenya ICT Policy Project**
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Box 8.2: KIPNews No. 2, January – March 2004**KIPnews**

Kenya ICT Policy Project Bulletin
The time is now!

No.2 Jan - March 2004

In the first volume of this bulletin published in December 2003, we said the time was then and the place was KENYA and so it still is. This is the second volume in the series through which we hope to keep sharing news, views and opinions on issues of Information and Communication Technologies as they unfold in Kenya and around the region. We were delighted and encouraged by the reactions we received upon introduction of KIPnews. In this volume we share some of the messages which we received in this respect. And in direct response to some of the subscriber comments, we have changed the publication policy of KIPnews from once each quarter. After this edition you will be able to read KIPnews every month. Send us your views about the bulletin or indeed your news. **Florence Etta**

**PROJECT UPDATE
KIPNEWS
ICT DONOR ROUNDTABLE
EVENTS/ANNOUNCEMENTS**

PROJECT UPDATE

A bit of history to begin with

In 1997, the Canadian International Development Research Centre launched the Acacia initiative as Canada's response to the call for an African Information Society Initiative AISI that had been endorsed by African ministers and governments in 1996. The AISI (Initiative) is still being kept alive and well by the UNECA, Addis Ababa. A long and continuing e-

discussion is one of its many visible legacies. Since this early beginning, IDRC's Acacia has become twinned with Connectivity Africa (CA) making them two sides of the same coin. So when some individuals suggest, as some have, that Acacia is dead they are not right at all. It only has a new identity which is inseparable from CA. Connectivity Africa was launched in Kananaskis, Canada during the G8 Summit in June 2002 to improve access to information and communication technologies (ICTs) in Africa by applying Canadian expertise especially in relation to education, health and community development. So technically speaking the good work that Acacia has been doing is only being extended and deepened by this change. And so it was that in 2003, following a visit by the President of IDRC, Maureen O'Neil and in support of the Kenya Political Transition and related activities, IDRC approved the Kenya Transition Umbrella project. This project consists of a series of small research initiatives to transform visions into action by providing the required research, information and structure to move forward. Two of these projects are in the area of ICTs, and they complement the Kenya ICT Policy Project: For details of the Kenya ICT Policy project go to: http://web.idrc.ca/ev_en.php?ID=50209_201&ID2=DO_TOPIC

In this issue:

The first of these projects titled "ICT Policy and Strategy Development project" is being implemented by the Kenya Private Sector Alliance (KEPSA) ICT

Board). The African Regional Centre for Computing (ARCC) is in charge of the second project which is concerned with a rapid assessment of ICT policy initiatives in Kenya.

Since September 2003, the KEPSA ICT Board has been organising a series of workshops to enable the various sectors of the economy take advantage of ICTs as enablers of growth, productivity and job creation. The aim is to reach a consensus on a coherent national ICT strategy that would support national development goals and economic recovery.

The ARCC project has been looking at policies, instruments, laws, or other mandates as enunciated in cabinet or sector working papers. This documentation is a necessary precursor for a historical journey of national ICT efforts at policy making and it will provide a valuable backdrop for the policy framework currently being developed by the National Communications Secretariat.

KIPNEWS ON-LINE

In January, the first volume of the Kenya ICT Policy project electronic news bulletin KIPnews was introduced and circulated to over 100 members on KIPlist. The response to the e-newsletter was overwhelmingly positive and encouraging. Some of the messages sent in reaction to that first volume of our news bulletin are reproduced hereunder. The reactions tell of the value of KIPnews.

We say a big thank you to all those who sent these messages. If you wish to be subscribed to KIPlist, the project mailing and discussion list, send an email to: bmakai@idrc.or.ke or fetta@idrc.or.ke

Constantine Obuya wrote, "This is

a great idea! I am certain this will be a very rich discussion forum that will definitely fill the existing gap in the area of sharing info & knowledge on ICT policy developments. Thanks for coming up with this much needed initiative for Kenya and the African Region". David Aduda, said "Having an ICT discussion is an idea whose time has come.." Hilda Munyua observed that "This is indeed a timely forum for sharing and exchanging information as Kenya is still in the process of developing its ICT policy". "Compliments for kick starting this list, it's very timely indeed" said Edith Adera of IDRC. Lornah Murage simply "Thank(ed us) for putting FAWE on the list of this newsletter which is an exciting development. I would also request that FAWE Kenya Chapter also be added to the list". Carey F. Onyango, sent "Congrats for this wonderful idea...long overdue. No one had thought of it", while James Nguo of ALIN wrote "Thanks for the unique role you are playing in bringing the ICT players closer. This is another good initiative". Dr Johnson Nkuuhe a parliamentarian from Uganda said "I would like to be on the list. Thank you" and Willy Simons wrote, "Thanks for including me in your mailing list. I am a relative newcomer to this elect group of people, but the development of a national ICT policy and strategy is a topic in which I take a keen interest".

NEWS ABOUT THE ICT DONOR ROUNDTABLE

Since December when the ICT Donor Roundtable was initiated, the meetings have been held monthly. Two meetings of the roundtable took place in February

and March. New organizations such as GTZ, AUSAID, the Embassy of Finland were represented and as in the first one in December, participants were emphatic that a structure such as a roundtable is very valuable and that it was long overdue. In February, for the first time, the presentation of an ICT project was made by the Kenya Private Sector Alliance ICT Board to the Roundtable.

If you are a donor or development organisation supporting any ICT for development project or initiative and wish to know more or join, please contact Ben Makai; 254-20-2713160-1; E-mail: bmakai@idrc.or.ke

NEWSWORTHY PAST EVENTS

January 28th - 29th Nairobi:

ICTs in Trade, Industry and Tourism workshop, the fifth in a series of seven sectoral workshops to bring the private sector into discussions of ICT policy was held by the KEPSA ICT Board. Workshop participants were regaled with the story of the first successful online coffee auction.

February 13th Nairobi:

Integration Workshop: This workshop, aimed at increasing synergies, collaboration and coordination of national activities related to ICT policy and strategies, was organised by the Kenya Private Sector Alliance ICT Board with support from the IDRC Regional Office for Eastern and Southern Africa. Workshop participants called for the Office of the President to act as a one stop shop for national ICT matters and to play a key role for a national convention on ICTs in partnership with the private sector

and civil society organisations.

February 25th - 26th 2004 Nairobi:

ICTs in Infrastructure workshop, the sixth in a series of seven sectoral workshops organised by the KEPSA ICT Board aimed at bringing private sector operatives and ideas into discussions of a national ICT Policy and strategy.

March 23rd - 25th 2004 Nairobi:

Kenya National ICT Convention, co-located with the CTO conference for obvious reasons, the convention was the last in the series of workshops organised by the Kenya Private Sector Alliance ICT Board as part of the activities of the Kenya Transition Programme supported project on ICT Policy. The conference communiqué called for stakeholder collaboration and progress with the articulation of a national ICT strategy. The conference was well attended and hugely successful with notable media coverage in the newspapers (East African Standard and prime time slots on two national TV channels KTN and KBC for the project co-ordinator).

March 25th -26th 2004 Nairobi:

The CTO's Implementing the WSIS Action Plan conference took place in Nairobi where the proposed roadmap for implementing the WSIS Action Plan was presented, discussed and adopted by ministers, heads of regulatory bodies, senior business executives and others. The roadmap is a framework to enable governments achieve the Millennium Development Goals and World Summit of the Information Society targets.

ANNOUNCEMENTS

Events not to be missed:

Mark your calendar for the following;
East African Telecommunications Workshops, Nairobi, 27th - 28th

Contact: Andrew Karanja, AITEC
AITEC Kenya: The 14th Annual Kenya Computing, Internet and office Equipment Exhibition, Nairobi, 24th -26th June 2004
For details of events organised by AITEC, visit: www.aitecafrica.com/events/events.html

Contact Information

For more details about the Kenya ICT policy project contact

Kenya ICT Policy Project
IDRC, Liason House, State House Avenue,

P.O. Box 62084, 00200, Nairobi, Kenya

Tel: 254-20-2713160-1

E-mail: bmakai@idrc.or.ke
or fetta@idrc.or.ke

Project Information

URL: http://web.idrc.ca/ev_enph?ID=50209_201&ID2=DO_TOPIC

KIPLIST ASSESSMENT

Four distinct methods were used to collect and collate data for the assessment of the KIPList. KIPList content analysis involved firstly delineating two time periods, April 28th -20th September 2004 and February 21st – 29th April 2005. These time periods were randomly selected, all postings to the list during this period, were counted, the subject matter and date of posting as well as the poster or sender were all treated as discreet data pieces and tabulated. This data was analysed to generate the nature of discussions that had occurred on the list, the main actors, and the dynamics. The second method of assessment consisted of a message posted to the list on Tuesday 15th March 2004 that asked subscribers to respond to five short evaluation questions on the utility of the list. Only three KIPList subscribers responded to this message online. Of these only one response provided full answers, of the other two, one was an explanation and excuse for not having enough experience and the other did not answer all the questions, simply stating that the list was a superb change and communication instrument. On account of the very poor response rate for the online questionnaire, a paper copy assessment questionnaire (see Box 8.3) was created and distributed to participants at a KICTANet meeting. Eleven questionnaires were returned, one was invalidated. The forth manner in which KIPList was assessed was through very short targeted interviews with a few key informants (6) which are reported in the next section of this chapter.

Box 8.3 KIPList Assessment Questionnaire

Preamble:

The Kenyan ICT project is in the process of preparing a 2 year project report. KIPList was a major project tool and this brief questionnaire is seeking your opinion and assessment of it. Your comments and responses will be treated with the utmost confidence. Thank you.

1. Were you subscribed to KIPList? Yes___ No___
2. Do you read the messages posted on the list? Yes___ No___
3. How regularly do you read the postings on KIPList?
 Many times in one day
 once or twice daily
 3-4 times each week
 Once or twice each week
 Others (please specify)
4. Do you post any messages to KIPList? Yes___ No___
5. How regularly do you post messages to the list?
 Many times in one day
 Once or twice daily
 3-4 times each
 Once or twice each week
 Others (please specify)
6. How useful has KIPList been to you, your organisation, programme etc?
 Very useful
 Useful
 Useless
 Unsure / no comment
7. What was your most memorable post or event featured on the list? _____
8. What was the most distasteful post or event featured on the list?

9. How would you describe the following aspects of KIPList?
 Function: _____
 Content: _____
 Facilitation: _____
10. What would you suggest as the future concerns of the list?

11. On a scale of 1-10 (with 1 as the lowest and 10 as the highest) what score would you give KIP List for keeping you informed and engaged with ICT issues and events in the country ?
 _____ Score.

KIPLIST DISCUSSIONS

The total number of postings between 20th April and 20th September 2004 were 94 while the corresponding number between February 21st and April 29th 2005 was 204 a percentage increase of approximately 202%. How does one account for this incredible difference, taking cognisance of the fact that the comparison is between five months of KIPList discussion in 2004 and about 2 and a-half months in 2005? If this lopsidedness is factored into the analysis it is even more evident that there was so much more vibrancy and dynamism in the list in 2005 than in 2004. At the risk of over simplification, the following can be given as shorthand explanations for this observation and finding.

1. The age and maturity of the list – the list was only six months old in April 2004. By February 2005, it had been alive for 14 consecutive months.
2. Significant events in the outside environment influence list dynamism.
3. The function, character and reputation of the list as useful credible authoritative and informed, had become established. It is seen as the place to be for the celebrated and the knowledgeable in ICTs in and around Kenya. By the time the list had been in existence for seven months, people were ‘applying’ to join KIPList. To some extent this is because the range and type of subscribers was truly wide. But the attraction is not based solely on the people, although it is exciting to encounter powerful people online.

List content has a major part to play in the established character and credibility of KIPList. Analysis of all postings in the selected time period showed that list content fell into three categories namely: discussions and debates, requests and advertisement, public and special group information. Discussions and debates were ignited often but not exclusively by the list moderator. For instance, in the first two months after the list was created, list members were asked what they would like discussed on the list. A list of subjects was generated and in the third month, the first planned discussion commenced with a posting by the moderator. The nature of responses was not dynamic, only a handful of subscribers reacted to the posting – and B was one of the few, and here is what he said:

1. How to ensure that policy gets turned into appropriate practice?

I guess I’ll have to answer this question with another. What if the policy is biased to begin with? My case in point is Kenya’s Telecommunication’s sector policy (1999 and 2001), which

perpetuated Telkom Kenya's monopoly and effectively withheld access to communication by delaying healthy competition in the sector.

2. How to ensure sustainable partnership?

Partnership is all about roles. When the respective parties in a partnership are clear on their roles and active in their position, sustainability should be automatic (shouldn't it?)

So I guess the emphasis on clarity, on roles and fulfilment of responsibilities, becomes key.

Regards, B.L.

Discussions on the list were so slow that panic almost set in and frustration was evidently in the air in May 2004, when B.K. spoke up airing the thoughts of some, if not most, list members. He said:

Could be lack of interest in participating in public dialogue, inhibits development of sustainable partnerships? I thought this forum was going to be educative but something is amiss. B. K. 2/5/04

The one lesson learnt quite early in the life of KIPList is that set pieces of dry, unrelated-to-reality type discussions do not win. The most popular discussions were those that concerned actual events, which had taken place in the country or indeed elsewhere but had resonance within.

List postings were also analysed for importance or popularity on the basis of the number of list subscribers that posted messages on the subject.

In the selected time period in 2004, some of the most popular postings, which generated much interest, were in respect of: the President's Madaraka Day speech, the creation of a new ministry, the launch of the Kenya ICT Education Trust Fund, and the launch of WSIS Africa Regional Meeting 2005. Reproduced hereunder are some of the messages that were posted on KIPList in reaction and response to these events. Actual names have not been used to retain anonymity of subscribers.

Below are samples of KIPList postings:

The President Madaraka Day Speech

Madaraka Day is commemorated on June 1 and it marks Kenya's independence day. There is usually a huge public gathering where speeches are made to reaffirm commitments and report to the nation on significant achievements. The President and the nation are on 'show', if you like.

Dear list members,

Please find attached, for those of you who like me, could not make it to Nyayo Stadium to mark the day. I have copied the section that might be of interest to list members here below.

Any comments?

'With regards to communication, we recognise that Information Communication Technology will determine the winners and losers in the new economy.

Today about two million, seven hundred thousand Kenyans have mobile phones, while the number of landlines stands at 330,000. The licensing of a third mobile operator and second national operator is expected to increase competition and reduce costs. It will also ensure wider access of communication services to Kenyans.

Further, the government is implementing e-government strategy to bring greater efficiency in Government, and to provide Kenyans with convenient access to government information and services.'

Cheers,

F. E.

Why does the rhetoric never have any resemblance to what is really happening on the ground? The only reason to drive down the cost of Internet Connectivity and develop ICT is to allow service providers (ISPs) to implement their own VSAT gateways. Anything less is simply a political smokescreen. The licensing of an SNO may improve quality of service but as has been proved time and again, in country after country, it will not drive down prices to the sort of level that are necessary to make ICTs available to the vast majority of Kenyans. Until the government engages in meaningful dialogue with the Private Sector to map out the way forward, these public statements are nothing more than meaningless rhetoric.

Yours still frustrated,

R. B.

My humble opinion is that there is a lot to be juggled and balanced...like the liver...as Hon. Michuki would put it.

Before VSAT gateways are implemented privately or Telkom sold to multinationals, the local investors must be protected in a country where the foreign investors are heavily favoured through ten-year tax breaks, up-front payments and the false belief of local support being inferior to channel support. Sometimes it's not just about the money to be made and cost reductions, it is also who makes the money and who benefits from profits. Disastrous strategies have been known to impoverish locals at the expense of multinationals and foreign companies. Let's learn from Argentina.

To re-phrase your statement:

Until the government engages in meaningful dialogue with the Private Sector INCLUDING CIVIL SOCIETY (THE CITIZEN'S WATCH DOG) to map out the way forward, these public statements are nothing more than meaningless rhetoric.

Regards, B.K.

Actually concur.

ISH

Unfortunately, to those in the industry and engaged at various levels in dialogue with ministry, regulator, operators etc... this is a repetition of platitudes that are quite worn out. It is clear that the ministry has made no progress whatsoever over the past 1½ years in identifying priority areas in the communications sector and addressing these. All of the mentioned undertakings were initiated by the previous government and are part of the planned liberalisation of the sector. The sad thing is that all of the other good stuff has been sidelined – apparently due to various vested interests, agendas and counter-agendas in the midst of the wheeling and dealing that it seems most of our public servants are spending most of their time doing.

The president needs the right people doing the right jobs and, honestly speaking, we don't have the right people handling communication issues.

In the meantime – the industry continues to be strangled to death by Telkom Kenya and anarchy reigns in the international call scene. How many of you have had difficulties receiving international phone calls or even calling Kenya from outside the country? All this is due to poorly designed and overburdened illegal international bypass systems operated with impunity. At the moment, Kenya's communication industry is a crying shame and a big joke. Nuff said, I have learnt that it's more important to do something about the problem rather than talk about it. I'm happy that some of us are working to see a variety of actions to aggressively address issues over the next few weeks.

...pulling hair...

B.L.

I'm not sure if the government / ministry / interested parties are aware of the serious plight of our international connections. Currently most signalling links to France Telecom and BT are out of service and "Telkom are working on it". The sad and shocking thing is that TKL were unaware of the problem (no apparent management system) and at first denied it even existed until we brought it to their attention. This problem and many, many others are ongoing and there is no apparent mechanism to either improve or offer any alternative to the

business community. There is no service mentality at all, and the “entry” of the 3rd mobile operator and 2nd SNO will not make any impact.

M.J.

It is quite disheartening to hear the same story repeated over and over again about the government’s commitment to ICT while at the same time, frustrating the efforts of private sector in developing the industry. Officials at the Ministry of Transport and Communication have no clue what ICT really means to this country, other than the strategic interest groups that surround them and the benefits they might gain. And so we are in for a long and difficult road to make any useful impact in the telecommunication services of this country.

I have been out of the country a number of times and I find it impossible to call Kenya. Telkom Kenya, instead of focusing on improving the infrastructure for which it has enjoyed exclusivity for years, is now jumping into the Internet industry to compete with ISPs while millions of Kenyans are unable to even make a call. It leaves one to wonder why Mobile Operators in Kenya cannot have direct international connections but instead rely on TKL.

Further, in this day and age, one wonders what this myth about ISPs getting direct VSAT uplinks is all about that the government should restrict it to some outdated category called “National Operator”.

We will need to continue engaging the government on these issues and press for true liberalisation of the market.

Regards, S.B.

Yet another example of “all-eggs-in-one-basket” mentality that has dogged us as a nation. I simply cannot understand why incompetence and ineptness seems to be the desired quality in selecting people to fill key positions in the communications public sector.

This kind of problem would have been understandable eight years ago when technology was very limited and the global markets were fixed. There is no excuse for it today.

I think that these kinds of problems must be highlighted as a failure of the organs of government and a violation of basic human/constitutional rights. The laxity and disregard with which the matters have been handled year after year are agonizing, especially to those of us whose business suffers phenomenal losses over even as little as one hour’s lack of connectivity.

My question is; who do I sue?

B.L.

BUDGET DAY SPEECH BY THE MINISTER FOR FINANCE TO PARLIAMENT

(Budget day is significant and is awaited and watched keenly especially by private sector operatives. It is in early June each year).

Dear list members,

Sorry to have taken so long to post this but I have only just returned from travel and have only just seen the full text of the budget day speech. I have copied the sections that seem to apply but, by all means, if you have seen any others which list members need to know please circulate. If not, what do you think of these sections reproduced here under?

The currently unfolding KICT consultative process in response to the call from Head of Service Ambassador Muthaura, may already have taken your opinions into consideration.

Cheers,

FE

SPEECH DELIVERED TO THE NATIONAL ASSEMBLY ON 10TH JUNE BY HON. DAVID MWIRARIA, MP, MINISTER FOR FINANCE OF KENYA, WHEN PRESENTING THE BUDGET FOR FISCAL YEAR 2004/2005 (1ST JULY, 2004 TO 20TH JUNE, 2005).

Nairobi 10 June 2004.

TELECOMMUNICATIONS

ICT Policy – Mr. Speaker, efficient and cost effective information and communication technology (ICT) has become essential to economic growth and development. For this reason, the government has consulted with stakeholders and prepared an ICT policy which will be ready soon. This policy will provide guidelines on use of Internet and other forms of telecommunications while increasing access to ICT at much lower costs. However, we still have much ground to cover before achieving a reasonable level of connectivity and cost effectiveness in telecommunication services.

Fixed or landlines – We urgently need to increase stock of fixed lines, and make them reliable and cost effective. As the current monopoly, enjoyed by Telkom Kenya, comes to an end at the end of this month, we will need to move fast on liberalisation, especially with regards to creating a reliable and cost effective international gateway.

Satellite dishes (very small aperture terminals or V-SAT)

In the meantime, we expect the second fixed – lines operators together with third mobile phone provider to be licensed soon. On its part, the Postal Corporation has installed VSAT in more than 500 facilities throughout the country to supplement its facilities in all districts headquarters. This will expand its penetration beyond its current level

of being the provider with the most widespread internet connectivity in the country. This service is critical to electronic trade and information sharing.

Internet in rural areas, beyond Nairobi and Mombasa.

Already, over 60 internet service providers have been licensed, 31 of whom are operational, but, more are needed, not just in Nairobi and Mombasa, but whole country including schools and colleges. As Hon. Members are now well aware, ICT service providers have created many jobs and continue to create more. This means the liberalisation of telecommunications continues to create more jobs than those Telkom Kenya may lose as a result of privatisation.

EDUCATION:

Mr. Speaker, we now live in the information age where access to information and communication technology is critical to success, not only within Government but also in commerce and production. For this reason, the youth will continue to require proper training in information and communication technology (ICT). It is therefore appropriate that education and training facilities become the natural platform to provide appropriate ICT skills. In this connection every Kenyan who has the capacity to contribute to improvement of ICT training should feel challenged to do so.

—————
Hello all,

On account of the fact that sometimes attachments are problematic, I have taken the liberty to copy Dr. N's contribution re the budget day speech in this email below for your information.

Cheers, F.E.

Hello,

Please look at the attached file which compares speeches by ministers in Uganda and Kenya, regarding ICTs.

The Kenyan's speech is miles ahead.

J.N. 29/6/2005

The KENYA BUDGET SPEECH and the UGANDA BUDGET SPEECH in the INFORMATION AGE

(What they said about things that matter to the knowledge economy....)
Meanwhile, what is Uganda saying.....in the budget speech?

KAMPALA, 10 June 2004

(ii) COMMUNICATION

32. Under the Rural Communication Development Programme, a Fund was launched in 2003 to improve communication access in rural areas. The objective is to ensure a minimum of one or two public

access points to telephones in each sub-county and Internet points in every district by 2005. Under this Fund, during Fiscal Year 2004 /05, there are plans to extend the telephone network to 154 sub-counties, and to establish 32 Internet cafes, and 20 multi purpose community telecenters.

HIGHER SCIENCE EDUCATION

37. Government will from now on, sponsor a dedicated number of students pursuing courses in critical disciplines at higher institutions of learning. Furthermore, salaries for such professionals will be enhanced both at higher training institutions and in the service.

Hello, Thanks for this. Does anyone know what TZ and Rwanda said?

S.O.

Hello, I know what TZ said, recognised the importance of ICT, but the arrangement was such that this message was spread throughout the budget speech.

No clue what Rwanda said, but they are so far ahead in the ICT policy area.

Sincerely, J.N.

I am contacting the CSK sister association in Tanzania (TICTA) as well as Juma in Rwanda (he is in the process of assisting the setup of association there) on this and will share the results of how those 2 countries coped with ICT in their budget proposal.

Kind regards. W.

CREATION OF NEW MINISTRY

Late in June 2004, the President, H.E. M. Kibaki announced the creation of the Ministry of Information and Communications. This move brought together, in one ministry, sections that had been parts of others. Information was part of Tourism for a long time before and Communications was in the Transport ministry. It was a welcome development and stakeholders were delighted.

From: W. J.

To: KIPLIST <kiplist-cl@lyris.idr.ca>

Date: Thu, 1 July 2004 08:36:02 +0300

Subject: New Ministry of Information and Communication

Fellow Kiplist members,

The creation of the ministry of Information and Communication is good news to us all.

We have seen things move faster in countries with such stand-alone ministries. We hope that all ICT related organs in our Government

will now be consolidated into this ministry so as to have one channel of communicating and implementing ICT related issues and policies in our country. The appointment of Hon. Rapheal Tuju to this ministry is also welcome. His professional background (and business I believe) is in the ICT industry.

Creation of this ministry is timely. It comes at a time when Telkom Kenya's monopoly on various ICT services provision comes to an end. It will be interesting to see how fast investors will move in to take advantage of the more liberalised market. Putting a ceiling on the number of Internet licenses to three, and limiting the number of national operators to two, is certainly not the best. We would have wished to see a fully liberalised market but I think we are moving in the right direction as the sector is gradually opening up.

Its good luck to all as we restructure our minds and contribution to this new environment.

J.W.

From: computer society<csk@nbi.ispkenya.com>

To: KIPList <kiplist-cl@lyris.idr.ca>

Date: Fri, 2 July 2004 18:31:58 +0300

Subject: Re: New Ministry of Information and Communication

Dear all,

Is anyone on the list privy to the official ministerial role specifications? If so, please share, especially for this new ministry of Information and Communications. I wish to go beyond the title (where I note in passing that "Technology" is missing) and understand what the content is.

Kind regard, W.S.

Bro. W. and fellow workers,

Allow me to piggyback on your comments about "one-stop-shop" that the government just created. This morning I attended an opening session of AITEC workshop at KICC where Shem was the keynote speaker. I would summarise his comment in one question to the industry, "WHICH WAY DO YOU WANT TO GO?" Remember the cat story?

If you cannot take advantage and ride on Information & Communications, then our murmurs will never get anywhere. I submit that it would be narrow to peg technology to computers. We must broaden the sector and define the platform more soberly.

God bless, M.M.

That was a major win for the industry, I am surprised there don't seem to be any celebrations.

A second major milestone has been the expiry of the TKL exclusivity. May be taken for granted, but these are major milestones, which in my opinion will have far-reaching impact on the growth of the industry. S.O.

DISSOLUTION OF CCK BOARD

While in the middle of the 2nd National ICT Convention, the ICT community was shocked to learn of the dissolution of the board of directors of the CCK, the industry regulator. Emotions were predictable, and poured on the lists.

One of the most passionately discussed issues on KIPList this year concerned the dissolution of the Board of Kenyan regulator, the Communications Commission of Kenya.

A sample of some the messages are reproduced hereunder.

Date: March 7, 2005 1:41:24 PM EST

To: *DigAfrica@yahoogroups.com, Discuss@afrispa.org*

Discuss@afrispa.org

Subject: [AfrISPA. Discuss] STOP PRESS! Kenyan Govt dissolves CCK Board!

I am sitting here writing this e-mail in a state of shock and disbelief. Two hours ago I received a frantic phone call from a shaken member of the press to inform me that CCK has been dissolved.

In a press release that was sent out at 7:45, the Minister for Information and Communication, Raphael Tuju announced that he has dissolved the CCK Board of Directors and sent the Director General S. Kirui on compulsory leave. The former secretary to the National Communications Secretariat Dr J. Kulubi has been appointed as acting DG.

This is an utter disgrace and has shocked the industry to the core! My phone has been ringing. This government interference in our sector has gone too far! And especially coming the day after a damning report on how the immediate former Assistant Director was relieved of duty by the Minister for Communications, after exposing a massive racket in which Telkom Kenya was being fleeced of millions of dollars. It appears that this most recent development has the 3rd GSM licence fiasco as some kind of smoke screen- maybe to divert Kenyans short attention span from the very serious questions that the investigative report in yesterday's East African Standard raises.

Anyway I now need to go to my arsenal and get ready to do battle.
Weep for your country dear Kenyans- as we fight to bring sanity into
our nation's affairs!
B.L.

Forwarded message

Date: Mon, 7 Mar 2005 13:53:14 – 0500
Subject: Fwd: [AfrISPA. Discuss] STOP PRESS! Kenyan Govt dissolves
CCK Board!
Holy molly.
T.E.

Agree ...holy terrible Molly....
Lets all engage in collective weeping at the ICT convention tomorrow.

A.W.M.

Press Release
For Immediate Release

Tuesday, March 8, 2005

The 7th of March 2005 will go down in history as one of the darkest days in Kenya's and Africa's communications sector. This is the day that the Kenyan Government, in a totally incomprehensible manner dissolved the Communications Commissions of Kenya's Board of Directors and relieved the Director General of his duties.

The actions taken by the government can only be construed as intrusive, obstructive short-sighted and diversionary as they come in the midst of an ongoing liberalisation of the sector, end of exclusivity of Telkom Kenya and fast convergence of the technologies that are currently presenting regulators worldwide with unforeseen challenges.

It is our contention, on behalf of the industry, that this was a hurried, unplanned and poorly thought out action. The ongoing disputes within the sector which have been prompted by the newly opened market demand that the country have a stable, objective and level-headed regulator. The immediate former Board of Directors and Director-General had successfully managed Kenya's transition into a competition framework.

Besides this, the immediate former Director General is the current Chairman of the International Telecommunications Union Council which oversees telecommunications worldwide. This is due to recognition by the International community of CCK's outstanding

efforts to reform Kenya's regulatory environment from one of the worst in the world to the current status, where we are being emulated by countries such as South Africa because of our exemplary and progressive regulations.

This action by the Government has thrown the entire industry into disarray. The CCK Board plays such a crucial role that now no further licenses can be issued, no disputes can be settled and no formal regulatory interventions can take place and there is no clear communication from the Government as to how affairs within the sector are to be managed.

Currently over 100 companies await the processing of their licenses in order to establish business, employ Kenyans and bring communications facilities and services to the economy. This has all been cut short by interference from the very Government that committed itself to economic reforms, improved employment and support for private-sector driven development.

The appointment of an acting Director-General from a ministerial department, also raises questions as to the sincerity of the Government in providing for an independent regulator as mandated by the Law (KCA '98).

We do not need to emphasise the fact that the same Government has failed in its primary role of providing policy guidance for the sector over the past 4 years, and instead has resorted to frustrating and now completely disabling the only agency that has promoted investment and development within Kenya's communication sector.

On hearing this news, the Chairman of the African ISP Association, Mr. W. Stucke, who is based in South Africa reacted by saying "Good Grief! Now watch investments in Africa as a whole, not just Kenya wither up and blow away in the wind..."

It is our understanding that the position of Director General has tenure of office under the Communications Act '98, and his removal from active duty without any explanation begs the question as to whether the government really respects the Law. This same law has safeguards to protect the regulator from interference but these seem to have been completely ignored by the Government who today are interested parties in the communications sector. We hereby express our outrage at the way in which this matter has been handled and demand an immediate explanation from the government, regarding its actions and its plans to restore confidence and stability in the communications sector in the shortest time possible.

Mr. Joseph Mucheru For Telecommunications Service Providers of Kenya (TESPOK)

Reactions from outside of the country were also posted to the list.

Forwarded Message

From: E.O.

Reply- To: Discuss@afrispa.org Discuss@afrispa.org

Date: Tue, 8 Mar 2005 01:00:42 +0200

Subject: [AfrISPA. Discuss] Africa underseige, we have an opportunity to salvage it

Dear Africans, Africans in the world and global partners,
What happened in Kenya a few hours ago is the same as what happened in Togo with the death of President Gnassingbe Eyadema of Togo a few weeks ago, and if we as a people did put pressure on the Togolese authorities to return to constitutional rule, then I call you to join me in demanding that the Kenyan authorities rescind their decision to interfere with a State institution in the manner in which they have done.

I think some form of industry(s) and individual reaction is needed because it is important for us to send a message out there that it is totally unacceptable to tamper with State institutions that uphold democratic tenets and the rule of law on our continent.

I am afraid but this has a direct bearing on other sectors like water, electricity etc., and can happen anywhere in Africa. Utility regulatory institutions are very important and we must push back, actions that treat them this way - this is a major threat to the rule of law. It is also important for us to see this as a major setback for public policy, donors, private sector, regulators, consumers that are not only represented in the IP and Telecom sector but also in other state sectors.

Please, the least you can do is send an e-mail to the Kenya State through; contact@statehousekenya.go.ke

And to the President through; president@statehousekenya.go.ke

You can also send a letter or make a call or telegram to the Kenyan government through;

Office of the President

Harambee House, Harambee Avenue,

PO Box 30510, Nairobi,

Tel. (254-020) 227411

Telegrams: "RAIS"

OF WHAT USE IS THE DISCUSSION LIST?

In April, in preparation for the end of the IDRC phase of the Kenya ICT Policy project, an evaluation of KIPList was conducted. The aim

of this on-line and off-line evaluation was to assess the utility of the discussion list in forging change and transformation in the service of policy making. Of course it is difficult to say with certainty that the list changed anything specific, but the nature of use to which the list was put can be a proxy for early conclusions on what might have been catalysed through its agency.

The list was a popular notice board for meetings, national and international. It was used to organise participation, and influence outcomes of significant events such as the ICT conventions in 2004, 2005, and the WSIS Africa Regional meeting held in Accra in 2005. It served as a conduit for venting anger, for sending and spreading revolutionary ideas, for placing professional requests or questions or simply for making social contacts.

FINDINGS FROM KIPLIST EVALUATION

Florence Etta *Fetta@idrc.or.ke* wrote:

Dear valued members of KIPList,

KIPList was one year old in February and as the moderator I am attempting to put together an assessment of this instrument of communication, discussion etc.

Could you please take a few minutes as you usually do to answer these few questions?

Hi Florence here are my answers to your survey in CAPS

1. How useful has this list been to you? Your organisation? Your network? Etc? TO SAY THE TRUTH, IT HAS BEEN THE LIFELINE OF MY NETWORK
2. What was your most memorable post or event on the list and why?
THE DAY BILL KAGAI WAS CONTACTED BY THE HEAD OF CIVIL SERVICE, BECAUSE IT MADE ME REALISE THE POWER OF THE LIST
3. What would you have liked to see done on or by the list that was not done? TO REVIEW ALL THE LIST MEMBERS CONTACTS
4. What future do you wish for this list?
TO LIVE FOREVER AND UNDER SIMILAR SUPERB FACILITATION
5. Please anything else that you wish to share is welcome.
THANKS A TRILLION
C.N.

The 'memorable post' referred to above needs some explanation – and contextualisation because it is a significant outcome of the discussion list. In June a letter was written to one KIPList subscriber from the office of the head of public service and secretary to government as the postings below show. The letter brought more

direct engagement with list members and the constituency represented on the discussion list. This letter ignited action from list members which culminated in the hosting of a couple of meetings by IDRC KIP Project where the broad strokes of a proposal, to be tabled to the government were drawn. The meeting to table this proposal has still not materialised.

Tuesday, June 15, 2004 6:34 AM

Subject: Invitation to dialogue by Amb. Muthaura

Hello List Members,

I don't know how many of you have received a letter OP/CAB.15/5a dated 9th June 2004 from the secretary to the Cabinet, Amb. Francis Muthaura, which in part reads as follows: 'I am in receipt of all your mails and comments made in regards to Government's commitment to the development of the communications sector in the country and the implementation of the e-Government strategy'. 'Apparently, there are issues requiring urgent resolution in the sector. Unfortunately, these cannot be resolved through murmuring.

There is need to get together for a solution' '.....will be appreciated if we can have a brainstorming meeting with representatives of the various stakeholders to chart the way forward for this crucial sector'. We need to act urgently since further delay will be too costly for our country. Kindly let me know from you whether this proposal is acceptable and when the meeting should take place.

I would believe this is quite a representative forum to see how we can aptly respond to the Amb. Set an agenda and the proposed date for the meeting ..etc..etc. Would IDRC volunteer to organize the session on our behalf?

Regards.

B.K.

Tuesday, 15th June, 2004, 17:45

Dear B (and others)

This sounds like a great opportunity for the industry, and AITEC would be pleased to facilitate the meeting – possibly at our AITEC Kenya event over 1-3 July. Friday 2 July would be our preferred date. What about a morning session, limiting it to 3-4 hours. We'd be prepared to foot the venue and catering costs (for morning refreshment breakfast). Perhaps, we could even find some one to sponsor a lunch at the end.

Give us a green light and we'll start working on it straight away.

Best

S.M.

Wednesday June 16th, 2004, 10:00AM

To: KipList

Subject: re: Invitation to dialogue by Amb. Muthaura

Hi S.

With all due respect, I feel the approach you are suggesting is not appropriate. We have been invited to dialogue, but not mandated to organize the meeting and then invite the Secretary to the Cabinet. As govt, they should be in charge and in control of this. I suggest IDRC, as KipList moderators capable of bringing all stakeholders together. Industry should not be seen as trying to usurp the process.

I would propose that as different stakeholders, we just raise the key and pertinent issues/problems and our suggested recommendations. Not everything but maybe 3 pressing issues in mobile telephony, internet, software, hardware etc. then get opinion about them from industry players, civil society and development partners. In total maybe a maximum 5 A4 pages report printed on one side (words size 12). We should then organize a delegation of maybe 6, 2 reps each from private sector, civil society, development partners to submit the report and on it. Then we should press for feed back on those pertinent issues within a specific time frame hopefully within June...before Telkom is on 30th.

Wednesday June 16th, 2004, 10:36AM

To: KipList

Subject: re: Invitation to dialogue by Amb. Muthaura

Thanks Bill for sharing the dialogue invitation with the KipList members. I agree that it is about time serious dialogue took place between the government and the ICT stakeholders. I also endorse your suggestion that IDRC take the lead in urgently organizing this meeting and identifying key representatives to meet with Amb. Muthaura.

Florence – what do you say?

EM

June 16, 2004, 10:49 Am,

Dear B

Thanks for the information. I think its high time we had the meeting. How come none was sent to the Kenya WSIS Caucus. Maybe you take this up.

Best regards

JN

Wednesday June 16th, 2004, 11:51AM

Hi all,

Very happy the way this is developing and the fact that we are starting down the road towards what looks like a responsible partnership

between govt, civil society and private sector in charting out Kenya's ICT future.

One concern, let this not become simply another talk shop where we meet, say all the nice sounding things, thump each other heartily on the back and then go back to life as usual. I urge that we must at this first meeting agree (or disagree) that each point of discussion must have clear and specific deliverables and outcomes.

This implies that more time (and work) than can be covered in one meeting will be required—meaning a process. It would be useful if after agreeing (or disagreeing) about an action agenda: a discussion about process ensues.

It would also be helpful if Amb. Muthaura could help stop our heads spinning by clearly pointing out the best mechanisms for engagement with government regarding ICT issues. At the present it is unclear who handles what between: Min. TranComm, Min. Edu & Tech, Min. Info & Broadcasting, Min. of Fin (Govt IT services), Cabinet Comm on ICT, Parliamentary Comm on ICT, National Comm. sec, Off. Pres.

My centi mbili,
B.L.

12:19PM 6/16/2004

Hi ya,

I also concur that a structure seems to be developing here. What I know, (correct if wrong) is that KIF is a private sector organization. Therefore, KIF is one stakeholder...so to speak. Civil Society is represented by the Kenya Civil Society WSIS Caucus. See www.kenya-wsis.org

We have to balance equal representation amongst stakeholders and gender...if possible. Assuming we maintain status quo at 6 reps, my personal view of the emerging trend looks as follows;

Private sector – Represented by;

KIF – Charles Nduati

Computer Society of Kenya- Waudo Siganga

Civil Society

Kenya WSIS Caucus – James Nguo

Open Source Foundation for Africa – Bill Kagai

ICT Donor Consultative Group (Development Partners)

IDRC – Florence Etta

USAID – Esther Muchiri

(Oops...Almost balanced the gender aspect as well

The ICT components (with only 3 main problem areas and recommended solutions) for discussion might include inter alia;

Mobile Telephony
Internet
Software
Hardware
E-government Strategy

If we can get these ICT reps meeting at IDRC to thrash out strategy on the key issues and start developing the report to be submitted to the Amb...we might be heading somewhere. The stakeholders should be given a week to liaise with their members, then we synthesise the report on this list ready for submission and defense by the said persons. If all works we are talking of meeting Amb. Muthaura 24th or 25th of this month.

Again my personal and humble opinion.

B.K.

Dear members, I have communicated to Mr. Kirogo (Amb. Muthaura's Personal Secretary) who has reiterated their commitment to meeting ICT stakeholders in Kenya. He has promised me that despite their very busy schedule he will ensure we get audience with Amb. Muthaura as soon as possible 'even if it is on a week-end' to quote him verbatim.

Salut

B.K.

09:22 AM 6/29/2004

B, list members, - the meeting will be worth waiting for.

Kind Regards,

W.

02:20 PM 6/29/2004

Re: Meeting with Amb. Muthaura

To: "Kiplist" kiplist-cl@lyris.idrc.ca

kiplist-cl@lyris.idrc.ca

Good work B and all those who have contributed to this process so far. The meeting when it does happen would have been well prepared for thanks to you all.

Cheers

FE

As stated earlier, the meeting referred to still has not taken place. One wonders what to make of this uncertainty - how to evaluate it.

The offline assessment questionnaire (see Box 8.3) asked respondents to indicate if they have found the KIPList useful. 80% of the respondents reported that it is very useful and 20% described it as useful. In response to the question 'How would you describe the function of KIPList,' the responses included the following: 'Very good knowledge sharing network, important, playing a very pivotal role in ICT', 'information sharing on industry', 'a forum for Kenyans to discuss'. Respondents described KIPList contents as 'excellent, informative, best practice, high on emerging issues, very interactive, ICT activities focus, great'. Descriptives used for the facilitation 'by IDRC' as one respondent put it were 'OK, excellent, medium and quite competent'. The respondents gave KIPList the overall average score of 8.4.

Asked what their most memorable posting had been up to the date of their responses, half of the respondents, reported that it had been the dissolution of the CCK board. For 30% of the respondents the comments and responses to the draft ICT Policy posted to the list in April 2005 were the most memorable.

In response to their view of the future for KIPList, respondents suggested the following; expand, more inclusive, must continue, we need a list like this constantly.

CONCLUSION

It is evident that unlike the e-newsletters the online discussion list has created a new space for encounters. Many people are using this space for a variety of different purposes and differently. What is abundantly clear is this; despite its acclaimed usefulness, government officials have not yet got into the practice of using it actively. Active use means regular posting to the list. So whereas this new space is supporting new styles and modes of participation, in other words spawning electronic activism, the government is being shown to be anti-participatory. How e-government will fare under this situation is any one's guess.

As it currently stands, the government does not have a wide area network, only one out of the almost 30 ministries has full connectivity and a local area network. As of April 2005, the Ministry of Planning and National Development had started sending official communication to non-ministry contacts through e-mail, one of the very few. Despite claims by Okongo, in Chapter 9 of this volume, not all civil servants have e-mail addresses yet although it is noteworthy that the Ministry of Planning's ICT unit has commenced this activity. The Permanent Secretary in the Ministry of Information

and Communications used a yahoo e-mail address for collecting public comments on the draft ICT Policy. However, the singular act of inviting public participation, on the part of Engineer James Rege, can be seen as revolutionary. The immediate question that comes to mind is this: why was this call not posted on KIPList for example? The moderator eventually reposted it on the list. It is fair to conclude that the government does not yet recognise the e-medium as an official channel for information.

This must be seen as the explanation for the near total absence of postings by public servants on KIPList but they strongly maintain that they read it. Three senior government officials in two ICT Strategic units in short separate interviews remarked as follows:

- "I always read it".
- "Sometimes they sound very uninformed".
- "I monitor KIP. I take my breakfast on KIPList. I need to know what they are thinking".

But reading and knowing what the public out there is thinking is not sufficiently supportive of participation and participatory policy making. It is still short of expectations when the government reacts to events on KIPList using its traditional *modus operandi* of official letter and physical meetings.

This episode proves that the two modes of communication online/electronic and off-line/ paper based are important and need to be used for the foreseeable future.

Since April 2005, discussions have taken place and plans have been drawn up for the smooth hand-over of the KIPList to a Kenya based organisation. The Kenya ICT Federation as well as the young KICTANet are top contenders, to continue the tradition of online and real time discussion.

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**PART 3: SECTORAL AND THEMATIC
CASE STUDIES**

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CHAPTER 9

THE E-GOVERNMENT EXPERIENCE IN KENYA: THE STORY SO FAR

Vincent O. Okong'o

Introduction

In December 2002, the historic political transition that took place in Kenya installed a popular government which arrogated itself a mandate to enhance democracy and citizen empowerment and to promote good governance, the rule of law, and social justice. This mandate formed the foundation pillars for the National Alliance Rainbow Coalition (NARC) government. The administration pledged to deliver a better life for Kenyans; 'empowering and providing them with a democratic political atmosphere under which all citizens can be free to work hard and engage in productive activities to improve their standard of living' (ERS, June 2003: xiii).

The e-government strategy, approved in January and published in March 2004, is one element, another framework for delivering 'a better life' through services in a better, convenient, and cost effective way to Kenyans. The e-government strategy is thus linked to the mandate and pledge made by the government to change the lives and livelihoods of citizens for the better. Services envisaged include, among others, the ability of citizens and business to file tax returns and make tax claims online, download passport forms online, and for government to undertake police operations online.

This chapter provides insights for understanding e-government in the context of a developing country such as Kenya, examines the framework for e-government as contained in the strategy document for Kenya, reviews the milestones so far attained and highlights some of the challenges that remain unresolved.

E-GOVERNMENT: A DEFINITION

Electronic government, or e-government is often seen as the use of a range of information technologies (ITs), such as wide area networks, Internet, and mobile computing by government agencies to improve effectiveness, efficiency, service delivery and to promote democracy. E-government is the use of IT to provide government services and to provide investment in people, tools, policies, and processes (GOK, 2004).

The Organisation for Economic Cooperation and Development (OECD 2003) regards the use of ICTs, and particularly the Internet, as a tool for achieving better government and observes that the impact of e-government at the broadest level is simply better government; it suggests that e-government is more about government than about “e”. It enables better policy outcomes, higher quality services and greater engagement with citizens.

Heeks (2001) observes that governments have been practicing e-government for more than 50 years pointing out that using the first mainframe computers in statistics offices around the world was “e-government.” Heeks deconstructs e-governance into three aspects: improving government processes (*e-administration*), connecting citizens (*e-citizens and e-services*) and building external interactions (*e-society*).

These definitions seem to imply that e-government is a fundamental element in the modernisation of government.

AN OVERVIEW OF E-GOVERNMENT IN KENYA

This section provides a brief overview of the Kenyan e-government strategy. It outlines the goals and objectives to be achieved, discusses the milestones attained and the lessons learnt since the commencement of implementation in March, 2004.

Goals and Objectives

The overall goal of e-government, as stated in the policy document (Government of Kenya, 2004) is to make the government more results oriented, efficient, and citizen centred. E-government should enable citizens to access government services and information as efficiently and as effectively as possible through the use of Internet and other channels of communication. The e-government strategy seeks to achieve the following objectives:

1. improve collaboration between government agencies through reduction in the duplication of efforts and through the enhancement of efficiency and effectiveness of resource utilisation;

2. improve Kenya's competitiveness by providing timely information and delivery of government services;
3. reduce transaction costs for the government, citizens, and the private sector through the provision of products and services electronically;
4. provide a forum for citizens' participation in government activities.

The e-government strategy for Kenya also outlines activities, and processes critical for the modernisation of government regarding these as a means towards the enhancement of transparency, accountability, and good governance. The activities are set within a frame of short, medium, and long term achievables. The strategy recognises that the effective and efficient realisation of e-government objectives depends on the availability of skills and correct attitudes within government. To this end, government personnel at all levels are to be adequately equipped through relevant training. This approach signals a paradigm shift in government *modus operandi* for change management. Training is now a pre-requisite for all government staff. On the other hand, to ensure a continued pool of IT knowledge within Government, all training programmes for government staff should have an IT component.

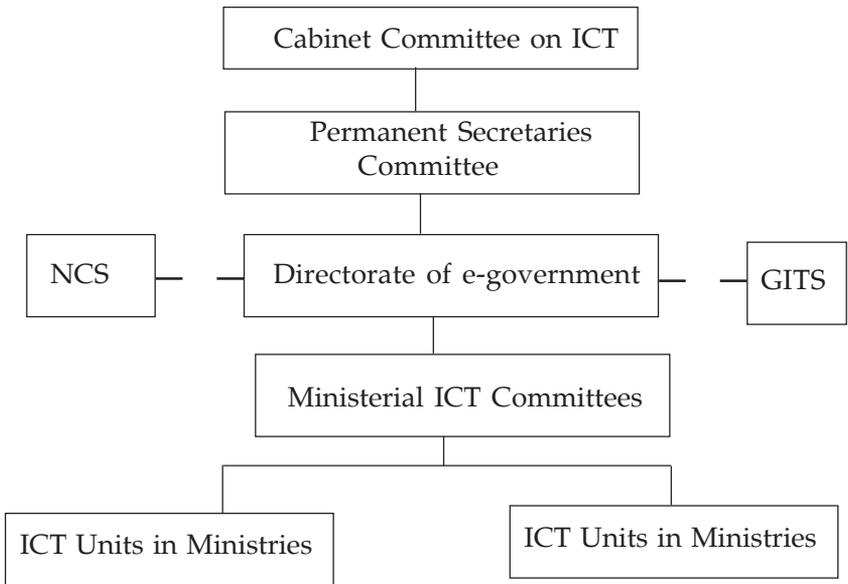
Milestones Attained

E-government is seen as one of the highest priority core poverty programmes that will contribute significantly to the achievement of sustained economic growth and poverty reduction, and lead to the attainment of the Millennium Development Goals (MDGs) in Kenya. The basis of this perception is the belief that e-government will facilitate better and efficient delivery of information and services to the citizens, promote productivity among public servants, encourage participation of citizens in Government, and empower all Kenyans. For the Government to serve the people better and to meet its development objectives through e-government, considerable investments are needed in institutional capacity building and human resource development, as well as information and communication technology (ICT) infrastructure. Appropriate policy and regulatory reforms are also required to ensure equitable, reliable, and affordable access to government services and information.

To this end, the Government has created an institutional structure for coordinating and overseeing the implementation of e-government. At the apex of the institutional structure is the Cabinet Committee on ICT. The cabinet committee oversees the implementation of e-government strategy. The Permanent Secretaries

(PS) ICT Committee coordinates the implementation of e-government and ensures that all ministries are following similar agreed general directions. The PS ICT committee directly supervises the work undertaken by the e-government committees in collaboration with ministries. The e-government committees in ministries review the ICT projects in the ministries, undertake audits of IT capacity, establish support to the ministries’ policy mandate, identify both technical and institutional gaps and inadequacies, and make appropriate recommendations. A directorate of e-government has been constituted as a strategic first to coordinate and prepare the government as a whole including planning the implementation, monitoring and evaluation of the process. An ICT secretary, the equivalent of a PS, has been appointed to head the directorate.

The organogram given in Figure 9.1 shows the current institutional arrangements for e-government.



Legend:

NCS = National Communications Secretariat

GITS = Government Information Technology Services

ICT = Information and Communications Technology

Source: *E-Government Strategy (2004, March, 19)*.

Figure 9.1: E-government Institutional Framework

Other milestones attained since the creation of the e-government task team in 2004 include:

1. All organs of Government, the Cabinet Committee on ICT, the Permanent Secretaries Committee and ministerial e-government committees have attended sensitisation workshops and seminars at which the conceptual underpinings of e-government implementation have been discussed.
2. An inventory of ICT capacity and assets within Government has been taken as a baseline statement of capacities and capabilities. It is being refined to be used for planning purposes to facilitate the development of a robust ICT infrastructure.
3. Cabling of government buildings is ongoing. This cabling process is intended to provide infrastructure and connectivity between and within government buildings.
4. The Integrated Financial Management System (IFMIS) and the Integrated Personnel and Payroll Database (IPPD) have been tested and are being piloted in a number of government ministries.
5. Email addresses for all civil servants are currently being created.
5. Training programmes are being developed and ministries have been encouraged to train their staff on ICTs with a focus on working in an e-government environment.
7. ICT security guidelines on the use of ICTs in government offices have been developed. The guidelines will ensure that ICT equipment and services procured and used in Government, meet stipulated security standards.

LESSONS LEARNT IN KENYA

In a Policy Brief highlighting the policy lessons from current experience in member countries, the OECD suggests ten guiding principles for successful e-government implementation. These include leadership and commitment, integration, inter-agency collaboration, financing, access, choice, citizen engagement, privacy, accountability, and monitoring and evaluation. For any country implementing e-government, these principles should form the beacons in evaluating the success of any national e-government effort.

The Kenyan experience shows that the following factors are critical to the successful implementation of e-government policies and strategies:

1. **Senior Management Commitment and Leadership:** Senior management provides focus, direction and leadership which are essential for the participation of other government employees in the e-government objectives. The formation of a Cabinet Committee on ICT in Kenya is a case in point. The Cabinet Committee on ICT has shown commitment to key areas of e-government including government-wide ICT infrastructure,

cross-ministry cooperation and coordination, integration and sharing of systems, and adherence to standards.

2. The government is poised to make adequate budgetary provisions and forge viable public-private partnership to invest in e-Government projects. The government is also working with donors and other international development partners to provide support for e-government. UNDP and IDRC are among the first development partners to provide financial support to the e-government directorate.
3. The development of a regulatory framework for public-private partnerships in Kenya is ongoing. Once operational, this will be useful for the implementation and roll-out of e-Government. According to the EUREXEMP's final report, (2004, November), public-private partnership has been effectively used to implement some e-government projects. It was found in Germany, Finland and, Estonia, that outsourcing specific workflows and activities to private or to public-private companies led to speedy digitisation of workflows and services. In Finland, for example, data exchange and data interoperability had been outsourced from clearing house operators. This proved cheaper than making process or organisational changes in back offices. Case studies, which highlight the importance of public-private partnerships in implementing e-government, revealed that significant outsourcing of processes, workflows and authentication mechanisms result in changes to internal operations and resourcing.
4. ICT Personnel: The recruitment, training, re-training and retention of ICT professionals is critical to the success of any e-government strategy. Compensation mechanisms are required to support the recruitment and retention of top level ICT professionals. There is a high turnover of ICT professionals employed by the government in Kenya. Models have to be developed to support and enhance the retention of ICT staff in government.
5. Management and Process Re-engineering: The implementation of e-government involves new ways of doing the same jobs and requires that some processes be re-engineered. The e-government directorate for Kenya is developing synergies with the relevant agencies in charge of human resource management and reforms to drive change management as an integral part of the e-government agenda.
6. Enabling Legislation: Enabling legislation is required to achieve some of the objectives defined in the e-government strategy. These objectives include legislation to support and enable electronic transactions, the use of electronic signatures and authentication as well as legislation to deal with computer security and cyber crimes.
7. Monitoring and Evaluation: A methodology to monitor and

assess progress towards the goals defined in the e-government strategy needs to be articulated, metrics for evaluating strategy implementation developed, discussed, and approved.

CHALLENGES AND THE ROAD AHEAD

Major challenges still remain in the implementation of the e-government strategy for Kenya. ICT human resources are limited in government, and institutional infrastructure to facilitate a faster rollout of the e-government strategy is limited. The ICT systems that have been so far installed remain disjointed and fragmented and the ICT solutions are generally under-utilised, thus duplication and wastage remain. The lack of ICT standards hinders widespread growth and utilisation of applications. In practical terms, a number of technical, operational, and regulatory prerequisites must be instituted before e-government can have an impact on efficiency and effectiveness of service delivery to citizens, poverty reduction, and economic growth.

A business plan needs to be prepared to address the challenges and it should assist in refocusing efforts towards the implementation of the e-government strategy. The business plan should propose measures for putting in place viable public-private partnerships for the purpose of achieving the stipulated objectives of the e-government strategy, for enhancing partnerships, mobilising resources, and for fast-tracking activities for rapid results.

The major points of focus in the medium term are automation of back-office systems, acceleration of connectivity and the integration of systems and records, in addition to developing capacity within government. These medium term goals will translate into better communication and information sharing within government. The main tasks to be accomplished within the medium term period are as follows:

1. the training of all civil servants on computer literacy and web-based applications and Internet use;
2. operationalisation of email addresses for all civil servants;
3. implementation of an integrated system for the registration of persons;
4. facilitation of the exchange of mail among discussion groups and the calendaring of events across a common platform;
5. roll-out of district offices information infrastructure;
6. acceleration of the automation and integration of government information and records;
7. operationalisation of web-enabled databases and data sharing within government.

In the medium to long term, the focus will be on spreading and deepening efficiency and effectiveness for service delivery to citizens and the business community. E-governance or digital democracy will be the guiding principle in the way government products and services are provided to the people. The Government will introduce and enhance e-talking to citizens by providing citizens with government publications, such as the *Kenya Gazette*, laws and regulations, immigration forms, passport application forms, etc., through websites, some of these services are already available online, such as the *Kenya Gazette*. Other initiatives identified in the e-strategy policy include:

- enhancing listening to citizens by increasing the input of citizens into public sector decisions and actions;
- enhancing e-policing so that a traffic policeman could, for example, electronically access details of a car or a driver in the event of an accident;
- enhancing the provision of election services online such as e-voting to ensure that there is no congestion at polling halls and that vote counting is done quickly;
- introducing an electronic payment system to enable payments of utility bills, among other types of bills, electronically.

CONCLUSION

E-government is fundamental in efforts to modernise government. It provides developing countries with a common framework, goal and direction across public sectors. It aims at making governments more results oriented, efficient, and citizen centred. It is for this reason that in Kenya, e-government is taken very seriously as one of the highest priority core poverty programmes that will significantly contribute to the achievement of sustained economic growth and poverty reduction and the attainment of the MDGs in the country.

But the Kenyan experience shows that commitment and leadership by senior management, adequate financing mechanisms, tooling and re-tooling of government staff to create a pool of highly qualified ICT personnel; undertaking requisite management and process re-engineering, providing enabling legislation; and instituting a results based monitoring and evaluation systems are critical factors for the success of e-government policies and strategies. In conclusion, technical, operational, and regulatory prerequisites must be guaranteed before e-government can have an impact on efficiency and effectiveness of service delivery to citizens, poverty reduction, and economic growth.

REFERENCES

- EUREXEMP, (November, 2004). *Does e-government pay off?* Capgemini - Consulting Technology Outsourcing. Final report, final version. Retrieved on April 19, 2005 from <http://www.eupan.org/index.asp?option=documents§ion=details&id=19>
- Government of Kenya, (March, 2004). E-government strategy: The strategic framework, administrative structure, training Requirements and standardisation framework. Nairobi: Government Printer.
- Government of Kenya, (June, 2003). Economic recovery strategy for wealth and employment creation, 2003-2007. Nairobi: Government of Kenya.
- Heeks R., (2001). Understanding e-governance for development. UK: IDPM, University of Manchester. Retrieved April 19, April 2005, from http://www.sed.manchester.ac.uk/idpm/publications/wp/igov/igov_wp11.htm
- Organisation for Economic Co-operation and Development (OECD) Policy Brief, (March, 2003). The E-Government imperative: main findings. OECD. Retrieved on April 19, 2005 from <http://www.oecd.org/dataoecd/60/60/2502539.pdf>



CHAPTER 10

ICT POLICY AND ICT INITIATIVES : WHAT LINKAGES ?

Joseph Muliaro Wafula and Nick G. Wanjohi

Introduction

The Government of Kenya has not hidden its intention to mainstream ICT into government operations, invest in adequate ICT education and training, implement a well targeted tax reduction and/or tax incentives on both computer software and hardware, review the legal framework to encourage adoption and use of e-commerce. It has, after all, developed a master plan (Government of Kenya, 2003) for e-government. The Government of Kenya has also developed a bill - 'Information Technology Bill 2002' - referred to as the IT Bill. The IT Bill, is intended to provide a regulatory framework that recognises the importance of information technology in economic and social development, it is intended to facilitate the use of electronic transactions in the country; promote business and community confidence in the use of information technology; and enable businesses and individuals to use electronic communications in their dealings with government (Government of Kenya, 2002). But the IT Bill is yet to be enacted into law as is the ICT Policy.

ICT PROJECTS IN GOVERNMENT

In spite of the absence of an ICT Policy and an IT Bill, many ICT projects are currently being implemented within government. This chapter examines some of these and attempts to assess their contribution towards the vision of an ICT enabled society, as

articulated in the draft national policy. Despite the absence of an ICT Policy, an E-government Strategy was approved in January 2004 with the policy statements and implementation guidelines made public in March 2004.

KENYA E-GOVERNMENT PROJECT

Totally home grown, the Kenya e-government project commenced in grand style, with support and championing from the highest quarters in government. Unlike the ICT Policy, there was no dallying. One month after the NARC government assumed office, the project was approved and three months into the life of this administration, the strategy (policy document) was complete, published and widely circulated. The institutional architecture for implementing the strategy was also created as discussed in Chapter 9.

The “Kenya E-government Strategy” (Cabinet Office, 2004) document was designed to achieve a set of goals and objectives, namely, to efficiently deliver government information and services to the citizens; to promote productivity among public servants; to encourage participation of citizens in government; and to empower all Kenyans in line with development priorities outlined in the Economic Recovery Strategy for Wealth and Employment Creation (2003-2007).

However, despite its impressive beginnings, some of the limitations of the Kenyan e-government strategy to date, are as follows:

1. Electronic publishing of key information to citizens like jobs and examination results has not yet taken place.
2. E-government needs to be publicised. This has not happened. Citizens need to be told about e-government so that they can participate or get involved.
3. An e-government champion is missing in action, thus, hindering the necessary momentum required for sustainable implementation and publicity of e-government.
4. A clear demonstration of political will to mobilise resources for e-government is lacking.
5. The implementation is basically top-down and taking a phased approach, starting at central government level (ministries) down to provincial level and finally to district level. There is no indication of how local authorities will be brought on board.

6. The strategy is biased towards supporting the G2G components more than the G2C components. Local authorities (LAs) are not mentioned at all in the e-government strategy.
7. Only the Internet as a communication channel, is clearly identified in the strategy. Other channels of communication, such as FM radio, short messaging system (SMS), and TV, that are more widely available, are not mentioned.
8. The e-government strategy has numerous disjointed parts, and is likely to experience challenges in its implementation. The following observations support this statement about the e-government strategy:
 - a. It quotes best practices from other countries without outlining how these will be achieved here in Kenya.
 - b. It applauds general standards to be observed and does not outline them or refer to any existing document. This poses an obstacle to implementation. Where implementation is already done, or ongoing, integration will be the challenge.
 - c. It fails to emphasise public-private partnership in the rollout of e-services.
 - d. It does not mention outsourcing among its key methods of supporting e-government rollout.
 - e. It lacks an evaluation/audit mechanism.
 - f. Finally, government officers developed it independently. Other stakeholders did not have an opportunity to participate in its formulation, yet they are expected to participate in its implementation for its success.

In view of some of these gaps in the e-strategy and in particular with respect to local authorities, and in an attempt to illuminate this, a survey was conducted in Bungoma district in Kenya. The survey revealed that local authorities are neither informed nor involved in the ongoing national e-government implementation.

ICTS FOR LOCAL GOVERNMENT

The research was undertaken to establish how ICTs and e-government are packaged into the currently unfolding local government reforms. The research also attempted to establish the degree of involvement of local authorities in both the national ICT policy formulation process and the e-government strategy. The five local authorities that

participated in the research were the Municipal Council of Bungoma, the Municipal Council of Webuye, the Municipal Council of Kimilili, the Town Council of Sirisia, and the Town Council of Malakisi.

It was observed across most of the local authorities that whenever they required computer generated accounts, budgets, and reports, they had to outsource these services. Most of the local authorities are now planning to train their personnel as well as install their own computer systems.

The Kenya Local Government Reform Programme (KLGRP) aims to improve the local authorities' financial management and revenue mobilisation particularly by deploying Integrated Financial Management System (IFMS). The already existing Local Authorities Transfer Fund (LATF), and now the e-government project, should accelerate the acquisition of these systems by local authorities and enable them realise the objectives of the KLGRP. IFMS should apply to all local authorities and not to a select few as is the case currently.

Most of the local authorities were not aware of the e-government strategy released in March 2004. Those that were had learned about it through the media and not the usual official circulars from the Ministry of Local Government. Local authorities did not know what to expect from the e-government strategy. All they knew was that there were advantages to adopting e-government and they would like to have those benefits, especially those that brought cheaper and faster communications and service delivery to citizens, increased transparency and efficiency, and supported greater participation of citizens. ALGAK intends to establish monitoring, follow-up, and control systems at all levels, including progress reports; review meetings and reports; budgets and budgeting control systems; and reports from special committees/task forces.

ICT provides local authorities with the opportunity to acquaint themselves with new strategies for effective lobbying, advocacy, design, implementation, and delivery of services to citizens by using those management information systems that meet local, national, regional, and international trends. The overall theme of the ALGAK strategic plan for 2002-2006, is 'participatory democracy and governance for sustainable development through local authorities' (ALGAK, 2002). ALGAK's strategic priority areas and objectives

include the development of strategic partnerships for effective programme implementation.

Local authorities ought to be directly involved as key stakeholders in ICT policy making processes. Though the Ministry of Local Government is acknowledged for having participated in the national ICT policy process, there is no indication that local authorities that form the base of local government participated, as revealed by the research done in Bungoma district. The national ICT policy (Ministry of Information and Communications, 2004) highlights the ICT needs of local authorities that reflect the needs of citizens, despite local authorities not being aware of it. Since the local authorities provide the interface with citizens, a lack of direct involvement in ICT policy formulation will complicate and present a real challenge for policy implementation, especially the G2C aspects.

OTHER ICT INITIATIVES IN KENYA

A 2005 study conducted in government ministries, under the auspices of the MPND, provides valuable information on current ICT initiatives in the public sector. It is important to note that the initiatives identified by this research are not exhaustive, and constitute a representative number only of the key regional, national, provincial and local initiatives. Figure 10.1 provides a sample of ICT initiatives in ministries that adequately reflects the trends, current gaps and overlaps.

The research sample was drawn from the existing 29 government ministries, key government agencies with ICT responsibility namely: the Communications Commission of Kenya (CCK), Kenya Revenue Authority (KRA) and Central Bureau of Statistics (CBS), were included in the sample. Interviews, questionnaires and document reviews comprised the data gathering methods. The analysis of questionnaires was done using SAS Software package.

ICT PROJECTS/INITIATIVES IN THE MINISTRIES

Fig. 10.1: Ministry ICT Projects by Sector

Ministry	education			Central Govt.	Local Govt.	education			Policy	Trade	Agriculture	Environment	Tourism	Community	Skill Dev	Research \$ Development	Culture/sports	Adult edu	Water	Livestock	Land	Energy	Law/legal
	Health	Primary	Secondary			Tertiary	SMEs	Business															
Co-operative																							
Agriculture																							
Water																							
Health																							
Tourism/Wildlife																							
Environment																							
Justice/Constitution																							
Land																							
Transport																							
Foreign Affairs																							
Home Affairs																							
Info/Communication																							
Energy																							
Education																							
Local Govt.																							
Labour																							
Trade/Industry																							
Regional																							
Roads/Public																							
Planning (CBS)																							
Finance (GITS)																							
Office of President																							
Gender																							
Livestock/Fisheries																							

Key:

Colour fill means ministry has an ICT initiative in the corresponding sector in the column

No fill means ministry does not have any ICT initiative in the corresponding sector in the column

Figure 10.1 shows that there were very few ministries in which ICT projects or initiatives had not been undertaken. The ministries of Environment, Justice and Constitutional Affairs, Energy, Local Government and Labour did not seem to have ICT projects. The most popular ministries for ICT projects were found to be Planning and National Development and Finance. It must be borne in mind that these two ministries are home to the most advanced public users of ICT – the Central Bureau of Statistics and the Government IT Services. The Figure suggests that aspects of trade, policy and research and development were the most common elements in the ICT projects. Most of the ICT initiatives in the ministries were similar and consisted largely of infrastructure development and website content development. Connectivity did not appear to be high on the project agendas.

Only the Ministry of Finance had full internet connectivity and a LAN possibly because of the Government Information Technology Services, commonly referred to as GITS housed there, which has been the node for much government ICT action. This ministry has also been the site for much of the investment and operationalisation of government ICT efforts. A major ICT initiative in financial management information has been anchored by the

ministry. Other ministries rely on ICT officers on loan from the Ministry of Finance.

Other findings of the study include the following: Eighteen of the 21 ministries (86%) that were involved in the research, found technology innovation of significant concern to them.

The Ministry of Agriculture, with funding from USAID, has been engaged in developing an information database for an interactive website as part of the ministry's strategy for the revitalisation of agriculture through e-farming.

The CCK and IDRC have funded a Universal Access Study. The study aimed at establishing rural demand as a prerequisite for proposals on financial mechanisms on universal access. The study, completed in 2005, has suggested guidelines and principles for a Universal Access Fund.

An ICT Trust Fund was established in 2005, comprised of 20 public and private enterprises to help mobilise funds to support ICT in schools.

The Kenya Education Network (KENET), another USAID initiative, has connected over 22 member educational and research institutions nationwide. Its aim is to develop sustainable communication and network through high-speed access to the global Internet.

The World Bank is also supporting an ICT initiative called Kenya Kountry Business Incubator (KekoBI) aimed at nurturing, protecting and nourishing ICT ideas and businesses.

The Ministry of Health is working on an e-health ICT initiative. The project, whose main objectives are to enable dissemination of information to both health workers and patients; and to impart knowledge, skills, and improve patient management by health professionals, started in 2000.

The Ministry of Transport, in a joint ICT project with Safaricom and Celtel called SMS3000, aims at assisting the police force with reports from citizens via personal mobile phones.

An Electronic Reporting System for road construction and maintenance is being funded by SIDA, GTZ and DANIDA. A GIS project on mapping, reporting and evaluation of all roads in Kenya, completed in 2004 and ready for deployment as from June 2005, was supported by the World Bank.

The Ministry of Education, Science and Technology is developing an Education ICT Strategy. The World Bank is funding the development of an Education Management Information System (EMIS).

The Tourism Trust Fund (TTF) is supporting the development of a web portal that will promote and publicise Kenya.

A project for a statistical information system for generating an index of industries and labour productivity, developed by the Ministry of Trade and Industry with the help of UNDP and UNIDO, started in 1990 and is now in its final stages.

The Central Bureau of Statistics (CBS), a parastatal in the Ministry of Planning and National Development, is computerising all districts to enable them collect and analyse local statistics. An Integrated Multi-sectoral Information System (IMIS) is being developed to support interoperability and inter-sectoral transfer of data and information with support from the World Bank, USAID and CIDA. The STAT-CAP project is aimed at training police, prisons, educationists and health experts on how to use statistics generated in their sectors for planning, prediction and management.

The Ministry of Finance has, since 2001, been the backbone mainly through GITs of most of the government ICT initiatives. It has been responsible for:

1. Government websites development, hosting and maintenance;
2. Recruitment of ICT personnel for government;
3. Preparation of the scheme of service for ICT personnel in government;
4. Overseeing of ICT operations in government;
5. Rollout of ICT infrastructure for government as part of e-government implementation plan;
6. Deployment and maintenance of IFMIS and IPPD software applications under e-government project across all government ministries;
7. Preparation of ICT equipment specifications for government;
8. Development and implementation of ICT infrastructure standards in government.

The Kenya Revenue Authority has a Customs Reforms and Modernisation Project currently unfolding. This project is aimed at facilitating electronic exchange of trade documentation between stakeholders in the customs clearance process.

The e-government secretariat, in the office of the president, has the main goal of implementing the e-government strategy and some of its immediate plans include:

- The provision of official e-mail addresses to all government officers;
- Connection of all government offices via fibre optics replacing Telkom lease lines;
- Completion of all stalled government ICT projects including websites.

ICT INITIATIVES AND ICT POLICY OBJECTIVES

This section of this chapter pursues the nature of relationship between the many ICT projects in government and the ICT policy making process. The draft Kenya national ICT policy, currently in public circulation, identifies four guiding principles namely: infrastructure development; human resources capacity building; cooperation between stakeholders; and appropriate policy and regulation framework (Ministry of Information and Communications, 2004). The policy seeks to achieve the following broad objectives:

1. Facilitate sustainable economic growth and development, wealth creation and poverty eradication;
2. Address development gaps as they relate to women, youth, rural and other disadvantaged groups;
3. Achieve progress towards full socio-economic inclusion of all citizens through the provision of universal access;
4. Stimulate investment in the ICT sector;
5. Stimulate innovation in the ICT sector through research and development; and
6. Provide for increased access to ICT services.

A careful reading of the draft ICT Policy shows that some peremptory mention is made of some of the initiatives under implementation but no strong linkages appear; neither has learning from them appear to have been pursued as a basis of policy statements. It is our hope that the experiences gained from the number of initiatives in the country will inform the final policy and implementation plans.

CONCLUSION

ICT pilot projects must be successful, relevant and replicable to support socio-economic development as well as inform policy. To achieve this, attention needs to be given to the following; local and community level involvement and ownership, mobilisation of necessary financial and other human resources required to implement the project, and to address administrative problems.

Local authorities in Kenya currently need to accelerate their reform agenda in order to deliver the much-needed services in time, efficiently and transparently. The ICT initiatives of the Central Bureau of Statistics (CBS) of computerising all districts to empower them to collect statistics, would have great impact.

The research reported in this contribution has revealed that most of the existing ICT initiatives did not talk to each other and as a result, there was a lot of duplication and overlap. It was suggested

that sectoral ICT policies should guide ICT rollout as well as provide input to the national ICT Policy.

REFERENCES

- Association of Local Government Authorities of Kenya (ALGAK), (2002). ALGAK strategic plan 2002-2006. Nairobi: ALGAK.
- Cabinet Office, Office of the President, (March, 2004). E-government strategy: The strategic framework, administrative structure, training requirements and standardisation framework. Nairobi: Cabinet Office, Office of the President.
- Central Bureau of Statistics, Ministry of Planning and National Development, (2003). Strategic Plan for National Statistical System 2003/4-2007/8. Republic of Kenya.
- Chief Information Officer Branch, Treasury Board of Canada Secretariat. (March, 1998). An enhanced framework for the management of information technology projects. Part II Solutions: Putting the Principles to Work.
- Dzidonu, C.K., (2003). Republic of Ghana national information and communication infrastructure policies, strategies and plans. Accra: United Nations Economic Commission for Africa (UNECA).
- East Africa Community Secretariat, (2001). The East African community development strategy 2001-2005. Arusha: East Africa Community Secretariat.
- Economic Commission for Africa (ECA), (2003a). Policies and plans on the information society: Status and impact. Addis Ababa: ECA.
- Fountain, J. E., (2001). Building the virtual state: Information and institutional change. Washington D.C.: The Brookings Institution.
- Gakiria, A. (November, 2004). Towards a regional e-government strategy: The Kenyan perspective. A paper presented at the East Africa Regional E-government Strategies Workshop, Dar es Salaam, Tanzania.
- Government of Kenya, (2003). Economic recovery strategy for wealth and employment creation 2003-2007. Nairobi: Government of Kenya.
- Government of Kenya, (2002). Information Technology Bill 2002 2nd Draft. Nairobi: Government of Kenya.
- Heeks, R., (2003). Reinventing government in the information age:

International practice in IT-enabled public sector reform. London and New York: Routledge.

- Hitchcock, J., (October, 2002). Building an information and technology vision for Toronto.
- Kagami, M., Tsuji, M., & Giovannetti, E., (2004). Information technology policy and the digital divide: Lessons for developing countries. UK: Edward Elgar Publishing Limited.
- Lynda Herbert-Cheshire and Vaughan Higgin, (2004). From Risky to Responsible: Expert Knowledge and the Governing of Community-led Rural Development. *Journal of Rural Studies* 20 (2004) 289-303.
- Ministry of Information and Communications, Republic of Kenya, (2004). National information and communications technology policy. Nairobi: Ministry of Information and Communications.
- Ministry of Local Government, (August/September, 2001). Kenya Local Government Reform Programme-Local Authority Service Delivery Action Plan. Nairobi: Ministry of Local Government.
- Rodrigues, A. J., & Wafula, J.M., (April, 2004). Global knowledge and the information society: Illusion or reality for developing countries? A paper presented at the International ICT Workshop 2004 on Application of ICT in Enhancing Higher Learning Education, Dar es Salaam, Tanzania.
- Tipson, F. S., & Frittelli, C. Global digital opportunities: National strategies of "ICT for Development." Markle Foundation.
- Trusler, J. South African e-government policy and practices: A framework to close the gap. A paper presented at the Faculty of Commerce, Department of Information Systems, University of Cape Town, Cape Town, South Africa.
- Wanjohi G. N., (2003). Modern local government in Kenya. Nairobi: Konrad Adenauer Stiftung and ADEC.
- Wilson, E.J., III, & Wong, K., (November, 2003). African information revolution: A balance sheet. *Telecommunications Policy* 27, 155-177. <http://www.elsevier.com>

CHAPTER 11

INTEGRATING ICT IN TEACHER TRAINING: REFLECTIONS ON PRACTICE AND POLICY IMPLICATIONS

**A Case Study of the Learning Resource Centre at
the Kenya Technical Teachers College**

*Anouk Janssens-Bevernage with Bart Cornille &
Nyaga Mwaniki*

“Teacher education institutions may either assume a leadership role in the transformation of education or be left behind in the swirl of rapid technological change” (UNESCO, 2002).

Introduction

Information and communication technologies (ICTs) have the potential to enhance access, quality, and effectiveness in education in general and to enable the development of more and better teachers in Africa in particular. As computer hardware becomes available to an increasing number of schools, more attention needs to be given to the capacity building of the key transformers in this process, namely, teachers.

The objective of this chapter is to share some of the lessons learned in a project aimed at the training of teacher educators in the integration of ICTs in the classroom. Based on this reflection, areas of attention in the promotion of the appropriate use of ICTs by teachers are identified.

ICT AND TEACHER EDUCATION

ICTs are one of the major contemporary factors shaping the global economy and producing rapid changes in society. They have fundamentally changed the way people learn, communicate, and do business. They can transform the nature of education – where and how learning takes place and the roles of students and teachers in the learning process.

Education in the East African region faces a number of problems. These problems include the shortage of qualified teachers, very large student populations, high drop-out rates of students and teachers, and weak curricula. All of these negative aspects result in poor delivery of education. The education crisis is worsened by the devastating effects of the HIV/AIDS pandemic, increasing poverty, a brain drain in the teaching community, budgetary constraints, poor communication, and inadequate infrastructure.

While societies in the region undergo rapid changes as a result of increased access to information, the majority of the school-going youth continue to undergo traditional rote learning. Very little is done to take advantage of the wealth of information available on the Internet. Whereas the processing of information to build knowledge is one of the essential literacy skills vital for the workforce in the 21st century, it is often overlooked in current educational practices.

In order to function in the new world economy, students and their teachers have to learn to navigate large amounts of information, to analyse and make decisions, and to master new knowledge and to accomplish complex tasks collaboratively. Overloaded with information, one key outcome of any learning experience should be for learners to critically challenge the material collected in order to decide whether it can be considered useful input in any educational activity. This is the basis for the construction of knowledge. The use of ICTs as part of the learning process can be subdivided into three different forms: as object, aspect, or medium (Plomp, ten Brummelhuis, & Pelgrum, 1997).

- As object, one refers to learning about ICTs as specific courses such as ‘computer education.’ Learners familiarise themselves with hardware and software including packages such as Microsoft Word, Microsoft Excel, and others. The aim is computer literacy.
- As aspect, one refers to applications of ICTs in education similar to what obtains in industry. The use of ICTs in education, such as in computer-aided design and computer-aided manufacturing, are examples.
- ICTs are considered as a medium whenever they are used to support teaching and learning.

The use of ICT as a medium is rare (Plomp, et al., 1997), in sub-Saharan Africa where the availability of resources is a major obstacle to the widespread integration of ICTs in education.

Technology is not new to education. However, contemporary computer technologies, such as the Internet, allow new types of teaching and learning experiences to flourish. Many new technologies are interactive, making it easier to create environments in which students can learn by doing, receive feedback, and continually refine their understanding and build new knowledge. Access to the Internet gives unprecedented opportunities in terms of the availability of research material and information in general. This availability of research material and information happens to both inspire and threaten teachers.

The computer equipment in the few fortunate schools that have them tends to be underused and lacks appropriate education content. Commonly, the computer equipment is used as objects in computer lessons. A few other subject teachers undertake courses in software packages but are unable to integrate or meaningfully insert this knowledge in their daily teaching work. A worrying tendency is that boys are the targets rather than girls when investments in ICT hardware and training are made (Kinyanjui, 2002). If not taken seriously, this will increase gender disparities in education in the sub-region.

Respective governments in Eastern Africa recognise that ICTs have a critical role to play in improving education and are engaged in drafting ICT policies or ICT chapters in a number of development plans across economic sectors. The policies tend to clearly link development to a forward-looking educational sector and increased investment in human resources and ICTs.

In the education sector, curriculum review efforts are geared towards modernisation, including the incorporation of important ICT components. However, even the reviewed curricula tend to treat ICT as a subject rather than as an application tool that can be used in all other subjects, in teaching and learning. Very recent discourse indicates that future curriculum reviews may consider a fully fledged ICT mainstreaming process.

Teacher education institutions and programmes have the critical role to provide the necessary leadership in adapting pre-service and in-service teacher education to deal with the current demands of society and economy. They need to model the new pedagogies and tools for learning with the aim of enhancing the teaching-learning process. Moreover, teacher education institutions and programmes

must also give guidance in determining how the new technologies can best be used in the context of the culture, needs, and economic conditions of their country. The case study reported below has tried to do just that.

A Case Study: The Educational ICT Training Programme at KTTC

A hum of activity fills the room. In one corner, two students are looking for information on trends and issues in vocational training. They have an assignment to undertake an international comparison. Next to them on the Internet, sits their head of department, a much older man. He is looking at management techniques. He started using the Learning Resource Centre a few weeks before when he had no clue about using a computer but learned how to browse in one afternoon. He is stuck and asks the students next to him for help. They happily assist him. It is hard to find the lecturers among all the learners, at first. They browse and discuss. KTTC has changed all because of the Learning Resource Centre.

Learning Resource Centre

The Learning Resource Centre (LRC) was established using flexible modes and innovative methods as a learning centred place where lecturers and students come to teach, learn, or undertake research. The LRC now embodies an ICT unit of 48 networked computers next to a documentation unit and working space. UNESCO provided funding to link the ICT unit to a wireless satellite connection that provides 24-hour Internet access. The LRC remains open after hours and on Saturdays to allow lecturers, students, and non-teaching staff to browse. This is done at a fee of one Kenya shilling per minute – about 75 cents.

The LRC is a project of the Kenya Technical Teachers College (KTTC), funded by the Flemish Office for Development Cooperation and Technical Assistance (VVOB), with some additional support from the United Nations Educational, Scientific and Cultural Organisation (UNESCO). The KTTC established the LRC in 2002 as part of its educational management programme. The LRC integrates the provision of the Internet into a well developed capacity building programme, mainly targeting teacher educators, in-service and pre-service teachers, but also reaching out to the whole KTTC community.

Action research is undertaken on a regular basis in the LRC to improve practice, assess impact, and to inform institutional policy. In this way, the researchers and project personnel try to look at the deeper meaning of teachers' ICT experiences.

What was done?

In January 2002, the KTTC adopted an open learning philosophy in order to offer future learners a wider choice of modes of study through a mixed mode delivery (educational management programme). By blurring the boundaries between classroom learning and learning at a distance, KTTC hopes to reduce or even eliminate the weaknesses of both and benefit from their strengths instead in a strategy called flexible learning. Workshops and training took place to successfully introduce flexible and complex learning in and outside the classroom.

ICTs can be used to support traditional forms of learning, more flexible ways of learning as well as transform learning. Therefore, the Learning Resource Centre at KTTC established an ICT training programme specifically targeted at teacher educators. It focuses on the 'I' and the 'C' of ICT, rather than concentrating on the traditional 'T' for technology. The teachers not only 'learn to use ICT,' but – more importantly — 'use ICTs to learn.' The case study shows that the access to the Internet triggers new attitudes towards learning and teaching.

Integration of ICTs in the Classroom: The Practice

At KTTC more than 100 teacher educators have been trained in ICT, Internet research, modern teaching/learning approaches, and the development and writing of open learning materials. Most of this training takes place during short and regular in-house workshops. Almost 500 pre- and in-service teachers have been offered training on Internet research.

Basic ICT skills training was offered at the beginning of the project. Currently, these skills are being taught/learned with the assistance of self-study CD ROMs. The focus of the capacity building programme has changed. Workshops concentrate on specific education-related themes and tasks, including efficient Internet research, the pedagogical rationale for ICT integration, problem-based learning, innovative instructional methods such as flexible learning and information literacy. Lecturers attend the workshops when they feel ready and are offered almost unlimited access to the computers in order to experiment. It is compulsory for students to attend workshops as part of their curriculum. Most lecturers and students start using the Internet for personal searches. Once they feel somewhat comfortable with the computer, then they start discovering resources for more professional use. The provision of Internet access has triggered interest and enthusiasm in both lecturers and students to undertake training in how to deal with the wealth of information available to them.

Users initiate a search process to access relevant information and for means to integrate this information into learning and teaching practices. This search process promotes the use of higher order thinking and reasoning and problem-solving skills. Lecturers and students are guided through this process which ultimately leads to the efficient and effective handling of information and its incorporation in educational settings. During the first two years of the project, this flexible approach was possible because there was no ready-made training package. The programme was collaboratively constructed by both project advisors and beneficiaries, where both groups built on their respective learning experiences to establish best practices in a real constructivist approach. The approach was built on key principles of adult learning such as flexible and open learning while placing both curriculum and literacy issues higher than those of software and technology.

ICTs in distance education

Flexible learning is often taken as synonymous with distance education. Still, Collis and Moonen (2001) identified 19 different flexibility dimensions. Flexibility can involve options in course resources, in types of learning activities, in support for media learning, and many other possibilities. Indeed, flexibility is a characteristic that may satisfy many stakeholders in education (Kirkpatrick & Jakupiec, 1999). More flexible offering and delivery of higher education may achieve the desirable social goals of increasing access to education and democratising teaching and the learning process by giving greater control to the learner. By freeing up the space, place, and time constraints of studying, it is possible to attract students who previously may not have been able to attend classes due to various life commitments. Taylor (1996) suggest that the term 'flexible' refers to 'practices which utilise the capacities for learner-learner and teacher-learner interaction made possible through recent developments in information and communication technology (ICT) to provide increased 'openness' in both on- and off-campus delivery of educational programs... we use the expression 'flexible modes of delivery' to capture this combination of philosophy and technology and quite explicitly recognise that this combination frees the provision of educational programs from both geographical and time constraints'. Integrating ICT in distance education is not only a way in which institutions can offer more open and flexible learning opportunities, but ICTs can even support the changes in pedagogy and teacher training as a whole.

It was understood from the very beginning that distance education required special planning and specific techniques for course design and that all depended on what type of delivery system would

be chosen. Learning materials for any distance education programme must be developed within a contextual framework involving the learner, the curriculum, and the institution. The learning materials for distance education have to be specially designed according to the principles of self-directive learning. Therefore, the course must be very well structured, with clear objectives and well considered allocation of students' time. And ICTs must be used in innovative and motivating ways. Suitable combinations of media - print, audio, video, and technologies like computers and the Internet - must be selected according to the needs. VVOB Kenya initiated a series of workshops to do exactly that.

From “Learning to Use” to “Using to Learn”

The mere presence of computers or high speed access to the Internet does not imply high use, let alone educational use. Using the computer for word processing or simply as a delivery method does not ensure that the computer is used to address curricular objectives.

In the LRC project, it was found that both lecturers (teacher educators) and students (pre- and in-service teachers) go through three stages when learning how to integrate ICT into their work:

- **Phase 1: Awareness**
Staff and students are attracted by the Internet access. With very basic skills (e.g., from a one-day workshop or being shown by their colleagues), they browse the Internet, mostly for personal searches (e.g., farming, business, parenting) and for email. Teaching staff are confronted with a more “knowledgeable” group of students, who take their downloads to class.
- **Phase 2: Guided Integration**
Lecturers and students undertake a series of workshops and experiment with some of the applications. Integration generates some initial irritations and discomfort and requires individual attention by the LRC team. Staff and students understand how the integration of ICTs impact learning and teaching. Lecturers develop strategies to adapt their teaching to an information-rich environment.
- **Phase 3: Realisation**
ICT based work is central and students are involved in high level thinking, decision-making and problem solving. Some old practices become obsolete. The real issue is not if technology is used in the classroom, but whether technology is enhancing the learning process.

All learners go through these phases at their own pace. A group of lecturers and students can be categorised at various levels.

FINDINGS AND EFFECTS

The LRC programme's focus from "learning how to use" to "using to learn" seems to have given the learners considerable drive and motivation. Quite a few lecturers know how to browse and download necessary learning material (i.e. save and print), but have very little ICT skills. The opportunities to learn basic ICT skills are available to everyone, but a considerable group of users chooses to focus first on the Internet only. They typically rework the material downloaded from the web together with existing books and notes. The final product is then typed by assistants. These lecturers do not feel the need to learn how to use MS Word or other software. However, they intensively use the technology available to them and integrate the results in their daily work. As they become more independent learners, they do not need a teacher to guide them through the learning of basic ICT skills. A CD ROM usually will do, and in such an open and flexible learning environment, resistance to change is almost nonexistent.

The LRC has proved to be a huge success. It has become the department of 'ICT Integration and Open Learning' within the college offering services to the whole KTTC community and beyond. Real learning and action research take place at the new department with centralised resources and a professional service.

Research and evaluation indicate that exposure to ICTs has really changed the lives of lecturers and students in tremendous and positive ways. Students described the changes in their learning environment as follows (Janssens-Bevernage, 2002):

1. They have become more independent learners, who do not consider the lecturers as the sole sources of knowledge anymore.
2. They increasingly enjoy learning.
3. They enjoy the democratisation process taking place at classroom level.
4. They consider their lecturers as students themselves.
5. They have stopped spending considerable time and money running around libraries to look for information when given an assignment.
6. They are better able to assess educational practices and policies.
7. They are proud of being part of KTTC because the college is viewed by outsiders as innovative.

8. Students relate with others as they undertake research activities together and assist each other.

Lessons learned

“The more inspiring use of technology appears to be driven by the private sector, and then generally for ICT literacy courses for the general public. Software developed with educational functionality seems, on the whole, little inspired. This may be a function of budgets, but one wonders if there should not be more emphasis on developing stimulating ICT materials that can demonstrate to educators and their learners how the integration of technology can create far more interesting learning environments”, (James, T., Hesselmark, O., Akoh, B., & Mware, L., 2003).

Available text-based training materials (mainly from donor-funded ICT projects) have similar weaknesses as mentioned above and tend to include many examples which are only relevant for learners in the West. A recent study by SchoolNet Africa (SchoolNet Africa – COL – IICD, 2004) identifies the critical need for much more contextualised learning materials on the Internet which have relevance for learners and teachers in developing countries from a language, cultural, and curriculum perspective. Programmes should be highly localised, with many references to the national curriculum and a large number of local examples. This is the only way to avoid the abstract, unattractive approaches of the available packages. Research indicates that it is essential to include an extensive component that is subject-related so that users can refer to practical examples for ICT-integrated teaching and learning. The modules should refer to the local curriculum in order to be as practical as possible.

The provision of Internet has to be part of a broader educational programme to ensure an impact on the learning and teaching culture. Action research was undertaken as part of the broader LRC experiment to assess how KTTC members perceived changes in organisational culture, including interrelations and teacher/learner attitudes. The assessment concluded that the provision of Internet facilities as part of a comprehensive capacity building programme tailor-made to the needs, contributed to a perceived change in culture at KTTC. Access to the Internet in the LRC was said to enhance a reading culture, break down barriers between young and old, establish a sense of community, entice a student-centred approach, and make learning and teaching more exciting. For example, at the

time of the constitutional review process in Kenya, a group of lecturers undertook extensive research into other constitutions world wide and devised a set of proposals which were presented to and used in one of the meetings. This group of lecturers indicated that the Internet had assisted them in getting quality information and had made them more confident to speak out. The Internet had indirectly supported the democratisation process. In a society with poor access to information, the Internet plays an empowering role.

Another area of understanding illuminated through the pilot project is the culture and practices of the emerging “wired” society. Protocols and the etiquette of email, appropriate use of the Internet, familiarity with acceptable user policies, privacy, copyright practices, and other legal and ethical concerns in the online world all need to be mastered. This part of the learning process has had a positive impact on how lecturers and students perceive the value of the written word and the importance of culture in online communications and the need to communicate in a culturally sensitive manner.

SOME POLICY SUGGESTIONS FOR EFFECTIVE ICT TEACHER EDUCATION

No technology can fix bad educational philosophy, policy or practice, nor can it compensate for a lack of political commitment. The decisions about what to use, how and when, are political and educational decisions that must be made consciously and daringly (UNESCO, 2004).

Provide Training Programmes for Teachers

The provision of ICT access and an educationally sound ICT training programme can only have the required impact if the public administration fully supports this major transformation. Respective governments need to look carefully into the necessary pre-requisites and consequences of ICT integration at the level of curriculum development, the examination system, teacher incentives, among others. Efforts are needed to mainstream ICT appropriately in all subject curricula. The examination systems should be modernised to support ICT rich curricula.

As the first institutions are getting ready to offer comprehensive ICT teacher training based on educational principles and targeting subject teachers, the government could support the existing and upcoming professional development initiatives. A clear incentive package could make it attractive for teachers to undertake similar training.

Make ICT a Priority

As Carlson (2002) indicates, success in ensuring that teachers acquire the skills and knowledge they need to use technology effectively opens the door to all kinds of new educational opportunities for both teachers and students, and downstream economic opportunities for graduating youth and their countries. This success is the key to participation in the global knowledge economy. Accordingly, teacher professional development in the use and application of technology must be given the priority and resources it deserves, while still maintaining a constructively critical eye on its costs and methodologies.

Modernise Training and the Curricula

The fundamental aim is to give the learners the opportunity to become critical thinkers, problem solvers, information literate citizens, knowledge managers and, finally, team members who are proficient in collaborating with others. Meeting this aim requires a fundamental change in how teachers are trained and in curriculum development approaches.

Mainstream ICTs in all Subjects

ICTs should be infused into the entire curriculum. Throughout their teacher education experience and professional development programmes, pre- and in-service teachers should learn how to incorporate ICTs into their own subjects. Restricting technology experiences to a single course or a separate area of teacher education will not prepare students to be technology-using teachers. More attention is needed for this integration into the curricula. The focus seems to be on the classic 'Maths, Science, English' package, giving the dangerously wrong impression that ICTs cannot be integrated in all other subjects. The integration itself tends to be focused on technology rather than on information and communication.

PROFESSIONAL DEVELOPMENT OF SUBJECT TEACHERS

Governments should offer ICT professional development services to subject teachers rather than concentrating on the hiring of ICT teachers only. The focus should not be solely on technology skills.

CONCLUSION

ICTs in education are not transformative on their own. Transformation requires teachers who can use technology to improve student learning. The professional development of teacher educators in the area of ICT

integration is essential. Unless teacher educators model effective use of technology in their own classes, it will not be possible to prepare a new generation of teachers who effectively use the new tools for teaching and learning.

The Kenyan Government together with a network of development partners – through the coordination efforts of Kenya SchoolNet – are currently looking into ways to use the LRC’s best practices and lessons learned as a basis for a programme for ICTs in teacher education.

Many workshops have assisted ICT users with the integration of ICTs in the classroom. Insights and experience gained in the LRC can serve as an entry point in the development of a national/regional training programme. The LRC team has been involved in a number of workshops organised by SchoolNet Kenya and the Commonwealth of Learning who are taking the lead in securing funds for the development of an “educational ICT licence.” This course concept is based on best practices gathered in the LRC project.

REFERENCES

- Anderson, R.E., & Plomp, T., (2000). ICT knowledge management competencies. <http://www.emb.gov.hk>
- Carlson, S., (2002). The missing link in educational technology: trained teachers. <http://www.TechKnowLogia.org>
- Collis, B., & Moonen, J., (2001). Flexible learning in a digital world: Experiences and expectations. London, UK: Kogan Page.
- Cornille, B., (2003). Action Research in the living theory of educators of the higher diploma in educational management. Unpublished Action Research.
- Heide, A., & Henderson, D., (1994). Active learning in the digital age classroom. Portsmouth, NH: Heinemann.
- Janssens-Bevernage, A., (2002). Internal assessment of how KTTC members perceive the changes in organisational culture brought about by the integration of an Internet facility into their working environment.(unpublished Action Research)
- Kinyanjui, L., (2002). Preparing a workforce for the evolving information economy: a survey on ICT access and use in Kenya secondary schools. Nairobi: SchoolNet Kenya.
- Kirkpatrick D., & Jakupec, V. Becoming flexible: what does it mean? In The convergence of distance and conventional education: Patterns of flexibility for the individual learner. USA: Routledge.

- Loveless, A., & Ellis, V. (Eds.), (2001). ICT, pedagogy and the curriculum. London, UK: Routledge Falmer.
- Odumbe, J., (2003). Survey of open and distance education learning provisions in Kenya. Nairobi, (unpublished).
- Peters, O., (2000b). The transformation of the university into an institution of independent learning. In T. Evands & D. Nation (Eds), *Changing university teaching: Reflections on creating educational technologies*. UK: Kogan Page.
- Plomp, T., ten Brummelhuis, A., & Pelgrum, W.J., (1997). New approaches for teaching, learning and using information and communication technologies in education. *Prospects – Quarterly Review of Education*, 27 (3).
- Robinson, B., (2001). Innovation in open and distance learning: some lessons from experience and research. In *Innovation in open and distance learning: Successful development of online and web-based learning*. London, UK: Kogan Page.
- Taylor, P., (1996). Flexibility, technology and academics' practices: Tantalising tales and muddy maps. (EIP 96/11). Canberra: Department of Employment, Education and Training and Youth Affairs, Evaluations and Investigations Programme, Higher Education Division.
- Thompson, H. M., & Henley, S.A., (2000). Fostering information literacy: Connecting national standards, goals 2000, and the SCANS report. Libraries Unlimited, Inc.
- UNESCO, (2004). The need for a systematic approach. <http://unesco.org/education/ict/v2>
- UNESCO, (2002). Information and communication technologies in teacher education: A planning guide. <http://www.unesco.org>
- Van den Broeck, E., (2003). KTTC-Nairobi 2001-2005 internal periodic review report. Nairobi: KTTC. (unpublished)

CHAPTER 12

THE WINNING FORMULA OF COMPUTERS FOR SCHOOLS KENYA

Abigail Obura, Tom Musili and Florence Etta

Introduction

Computers for Schools Kenya (CFSK), started in 2002, is a not-for-profit organisation steered by a board of governors drawn from a cross section of leaders of major Kenyan institutions in the public and private sectors. Computers for Schools Kenya provides youth with IT skills required for competing in today's global economy. Computers for Schools Kenya sources and refurbishes computers donated by public and private organisations and distributes these computers to public secondary and primary schools.

The model of the CFSK programme is adapted from a successful, award-winning Canadian initiative of the same name, Computers for Schools Canada, which has also inspired similar organisations in Chile and Colombia. Kenya is the first African country to replicate the model.

The first Executive Director of CFSK, Mr. Tom Musili, spearheaded the successful establishment of CFSK after a memorable meeting with Mr. Wayne Tosh of Industry Canada in Atlanta, Georgia, in 2001. CFSK was registered in Kenya in October 2002 after weeks of negotiation with government officials and organisations from the private and public sector. CFSK works in cooperation with Computers for Schools Canada (CFSC) and the Ministry of Education Science and Technology (MOEST) in Kenya to achieve its objectives. CFSK officially began operations in January 2003 and deployed the first lot of 20 computers in March 2003. One year later in March 2004, it had donated 1,120 computers to 56 institutions and by 2005, 2,000 computers had been distributed to almost 100 institutions across the country.

This chapter describes this innovative initiative, detailing some of the practical challenges and policy implications of implementing an ICTs in education initiative.

ICTS IN SCHOOLS: THE RATIONALE

Over and above fairly common national goals for education, there exists a clear need and rationale for the incorporation of ICTs into the educational system and process in Kenya as clearly shown in the preceding Chapter 11. Three of the reasons for integrating ICTs into education are:

The risk of being marginalised in the new development dispensation due to information and knowledge poverty: In order to be part of international economic processes that would benefit local people, it is imperative to be part of the international information exchange. To remain apart from it would mean poor prices for national agricultural and non-agricultural produce, unfavourable economic relationships, and an inability to influence or be involved to the best advantage in international events.

The risk of producing redundant human capacity in a globalised job market that envisions unfettered movement of knowledge, labour and skills: Globalisation has brought new opportunities as well as demands on educational systems the world over. The competition is not restricted to learners seeking the best schools and training; it is also between countries seeking to offer the best training opportunities to woo students along with their money in fees on one hand, and, among locations and localities as better managers or sources of knowledge and information, on the other. Winning countries, localities, and locations using ICTs get higher student numbers as well as the money these students bring and offer superior knowledge and information products. In the worst case scenario, Kenyan graduates could be unemployable outside or possibly even inside the country on account of poor training.

Limited resources as an ever-present risk in most education systems, including Kenya: Human resources for the educational system, in the main, teachers, are hugely insufficient especially when the decimating influence of HIV/AIDS in Africa is factored into the teacher supply equation. Non-human resources such as teaching and learning materials are evidently insufficient to support the growing needs of the educational system in Kenya. ICTs can come to the rescue as they can tremendously expand the reach.

CORE ACTIVITIES OF COMPUTERS FOR SCHOOLS KENYA

By a twist of fate, CFSK appeared on the education and ICTs scene in Kenya at the most auspicious time when free primary education, introduced by the government, was swelling the ranks of primary school going populations. CFSK can be said to have come to the rescue of schools and other educational institutions in Kenya by providing a model for guaranteeing the steady and systematic availability of computers and related technologies through a unique plan never before tried in the country. It is for this reason that the story is one worth telling.

The objectives of CFSK include the following:

- collection of donated computers from public and private sector organisations;
- refurbishment and maintenance of donated computers;
- distribution of computers to schools;
- training of schoolteachers, principals, and members of boards of governors and parent-teacher associations.

The primary goal of CFSK is accomplished through a number of core activities and other peripheral, but meaningful ones too.

SOURCING, REFURBISHING, AND PLACING PERSONAL COMPUTERS (PCS)

These three activities, sourcing, refurbishing, and placing personal computers (PCs), constitute the core business of CFSK. These activities form the bedrock upon which all other operations are built. In the short life of the CSFK project between March 2003 and the end of 2004, two thousand previously owned computers had been sourced.

While acknowledging the raging debate about the real and economic benefits of used, old, or pre-owned computers, CFSK believes in well-intentioned efforts to bridge the digital divide between north and south and has crafted a programme that is sensitive to the most commonly cited pitfalls. To avoid dumping, CSFK has established partnerships with reputable agencies in the business of computer sourcing and donations and has defined a standard for PC donations that it will accept. Efforts to generate local donations, as these can more easily be examined, and to check the dumping of unusable PCs, are yielding fruit as Table 12.1 shows, although donations from overseas clearly dominate. To date, the largest local donation has come from Barclays Bank of Kenya, but as the table indicates, there have been different kinds of donations received especially from local

organisations. Donations of furniture, office space, training facilities, web hosting and email facilities, have all contributed in no small measure to the success of CFSK.

Table 12.1: Donations and Contributions to CFSK

Resource Partner	Donation/Contribution
AccessKenya	Email and web-hosting
Barclays Bank of Kenya	200 computers
Barclays UK	200 computers
Canadian Crossroads International	Canadian volunteers
Canadian High Commission	10 computers
Computers for Schools Canada	Training material and content
Connectivity Africa (IDRC)	13 million Kenyan shillings worth of financial support
Countryside Suppliers Ltd.	Motor vehicle and 0.5 million Kenyan shillings worth of financial support
Digital Links International	1320 computers
Government of Kenya	Space and duty exemption
International Development Research Centre	1 million Ksh financial support
Kenya Science Teachers' College	Training facilities
Management Information Systems	Donation of 5 computers and printers
Microsoft East Africa	Donation of software licenses
Nation Media Group	20 computers
Reuters Ltd.	10 system units
Safaricom	Furniture and office equipment
Shell/BP	10 computers
Starehe Boys' Centre	Refurbishing centre and administration offices
St. Lawrence University	7 computers
Unilever	Furniture
US Peace Corps	American volunteers
UNICEF	32 computers, 10 lap-tops
UNESCO	5 computers
Ibero (Kenya) Ltd	3 computers, 2 printers and 1 copier
Tetra Pak	18 computers, 23 Keyboards, 17 Monitors and 16 Mice
Computer Aid International	929 computers
Kenya Airways	Airlifting of 200 computers from Amsterdam; Airlifting of 80 computers from Nairobi to Mombasa
MS Kenya	Contribution towards the purchase of the CFSK trucks
ICRAF	14 computers
Action Aid Kenya	30,000 Sterling Pounds towards shipping 450 PCs from Computer Aid International
Kiambu Institute of Science & Technology	Training facilities
Ogada Secondary School (Kisumu)	Workshop space

Refurbishment of the donated computers is a major engagement of CFSK. All donated computers must pass through this stage in their new life. Once received, computers are cleaned, cleared of any information on the hard drives, repaired, and equipped with new educational software. All computers are then tested to ensure that they are functioning properly before being dispatched to beneficiary institutions. Cleaning and refurbishment takes place in two workshops located at the Starehe Boys' Centre in Nairobi and at the Government Training Institute (GTI) in Mombasa (see Figure 12.1). The first laboratory at Starehe Boys' Centre can store up to 2,000 PCs while cleaning and refurbishing are taking place. The workshop in Starehe Boys' Centre thus acts as a storehouse for just arrived PCs, a laboratory, and a teaching centre. The photo in Figure 12.1 was taken soon after a consignment of donated computers arrived. They will remain in the laboratory until the cleaning and refurbishment is completed before distribution to schools. There is a plan to operate additional workshops in six provinces of the country. Along with refurbishing, a percentage of the PCs received are reserved for dismemberment to provide valuable spare parts used in technical maintenance.

The CSFK strategy for refurbishment is genuinely innovative and points at a possible way to handle technical expertise in other ICT projects. In the new language of development, it can be described as an example of 'best practice.' Most early ICT projects and initiatives in Africa such as Telecentres (Etta & Wamahiu, 2003) and SchoolNets (James, 2004) usually depend on experts to offer technical services often on a commercial basis and in other instances depend on unpaid or unremunerated volunteers. CSFK has created a teaching module for use with trainee technicians, usually students, which provides cleaning, repairs, and general maintenance of computers under the watchful eyes and guidance of technical teachers and technicians. The technical work is thus accomplished as students are simultaneously trained in computer repairs, cleaning, etc. This innovative dimension of the initiative is as exciting as it is valuable. The dearth of technical expertise to maintain equipment and sustain services is often cited as a major drawback in ICT projects in these parts of Africa, and therefore any project with a creative and sustainable strategy to cope with this problem is worth studying and replicating.

Figure 12.1: CFSK Refurbishing Workshop, Starehe Boys' Centre, Nairobi



PLACING/DEPLOYING COMPUTERS

Donating computers to secondary schools and other educational institutions is not new to Kenya, but CFSK has a slightly different way of going about it. CFSK has a defined standard, which all schools accepting computers are expected to meet and maintain. The standard addresses and stipulates specifications for such elements as the laboratories for holding the PC donations, their size, nature of security and power supply, the nature of additional software loaded, involvement of the school and local community as well as mandatory training for school principals and ICT teachers.

One thousand eight hundred and sixty PCs have been deployed to 93 secondary schools, 40 PCs in two teacher-training colleges and 60 in three technical training institutes. One home for destitute children (referred to as 'street children' in Kenya) has received 10 PCs; another batch of 20 PCs has been placed in a school for the deaf; and in one community resource centre 10 PCs have been deployed. The receiving schools and institutions, as shown in Table 12.2, can be found in all the administrative districts of the country, although it is a small drop in the ocean of need. There are currently 4,000 secondary schools in the country. CFSK has pledged to make a difference with PC deployment to schools. Although this pledge has been made in all seriousness, making a difference will take quite an effort. The list in Table 12.2 shows that PCs have been

placed in about 100 institutions to date. This has taken three years. If this pace of deployment is maintained, it could take 120 years to reach all 4000 secondary schools, not to mention primary schools and other needy institutions.

Although not currently a primary requirement for the placement of computers, CFSK is encouraging all partner schools to invest in networking to realise the full potential of their computers and computer laboratories as pedagogical tools, for enhancing school management and the maintenance of facilities.

Table 12.2: Beneficiaries of CFSK PC Placements

	Recipient Institution	Type of Organisation	District
1	Afraha High School	High School	Nakuru
2	Akithii Secondary School	High School	Meru
3	Alliance Boys High Secondary	High School	Kikuyu
4	Alliance Girls Secondary	High School	Kikuyu
5	Ambira Secondary School	High School	Siaya
6	Aquinas High School	High School	Nairobi
7	Burieruri Secondary	High School	Meru North
8	Day Love Children's Centre'	Community	Kikuyu
9	Dr. Kamundia Gathuthi Secondary School	High School	Nyeri
10	Elburgon Secondary School	High School	Naivasha
11	Enoosaen Secondary School	High School	Transmara
12	Gathera Secondary School	High School	Nyeri
13	Giathugu Secondary School	High School	Nyeri
14	Gichuru High School	High School	Meru
15	Githuguri Township Primary School	Primary School	Nairobi
16	Good Shepherd Secondary School	High School	Makueni
17	Government Training Institute	Training Institute	Mombasa
18	Igembe Secondary School	High School	Meru
19	Kagumo Teachers College	Training Institute	Nyeri
20	Kaheti High School	High School	Nyeri
21	Kamandura Girls High School	High School	Limuru
22	Kangaru Secondary School	High School	Embu
23	Kangeta Girls Secondary School	High School	Meru
24	Kanunga High School	High School	Kiambu
25	Karama Secondary School	High School	Meru
26	Karen School For The Deaf Technical Institute	Training Institute	Nairobi
27	Karima Boys' Secondary School	High School	Nyeri
28	Kenya Science Teachers College	Training Institute	Nairobi
29	Kiambu Institute of Science and Technology	Training Institute	Kiambu
30	Kiaragana Secondary School	High School	Kirinyaga
31	Kinyogori Secondary School	High School	Kiambu
32	Kiriani-Girls Secondary School	High School	Murang'a
33	Kitonyoni Secondary School	High School	Makueni
34	Kitumbi Secondary School	High School	Taita Taveta
35	Kyanguli Memorial Secondary School	High School	Machakos
36	Kyome Girls Secondary School	High School	Migwani
37	Manguo Secondary School	High School	Limuru
38	Mahiga Girls Secondary School	High School	Nyeri
39	Mandera Secondary School	High School	Mandera
40	Manyatta Secondary School	High School	Kangundo

	Recipient Institution	Type of Organisation	District
41	Mbitini Secondary School	High School	Kitui
42	Mbooni Girls Secondary School	High School	Makueni
43	Migwani Secondary School	High School	Mwingi
44	Mirithu Girls Secondary School	High School	Kiambu
45	Muhoya High School	High School	Nyeri
46	Munyange Secondary School	High School	Nyeri
47	Munyu Secondary School	High School	Nyeri
48	Murera Secondary School	High School	Kiambu
49	Mwaani Girls High School	High School	Makueni
50	Mwakitawa Secondary School	High School	Voi
51	Mwiciringiri Secondary School	High School	Naivasha
52	Nairobi School (1st Batch)	High School	Nairobi
53	Nairobi School (2nd Batch)	High School	Nairobi
54	Naivasha Day Secondary School (1st Batch)	High School	Naivasha
55	Naivasha Day Secondary School (2nd Batch)	High School	Naivasha
56	Naivasha Girls Secondary School	High School	Naivasha
57	Naivasha Mixed Secondary School	High School	Naivasha
58	Ndalani Secondary School	High School	Machakos
59	Ndaluni Secondary School	High School	Mwingi
60	Ndia-ini Secondary School	High School	Nyeri
61	Ndururumo High School	High School	Nyandarua
62	Ngarariga Secondary School	High School	Kiambu
63	Ngenia Boys Secondary school	High School	Kiambu
64	Njia Boys Secondary School	High School	Meru
65	Nyakiami Girls Secondary School	High School	Nyandarua
66	Ogada Secondary School	High School	Kisumu
67	Ol Kejuado Secondary School	High School	Kajiado
68	Othoro Mixed Secondary School	High School	Rachuonyo
69	Pope Paul The (VI)Junior Seminary	High School	Machakos
70	Pumwani Secondary School	High School	Nairobi
71	Reality Tested Youth Programme	Community Centre	Nairobi
72	Ruaraka High School	High School	Nairobi
73	Sacred Heart Catholic Church	Community Centre	Shanzu -Msa
74	Sacred Heart Roret Girls Secondary School	High School	Buret
75	Senior Chief Koinange Secondary School	High School	Kiambu
76	Shangilia Mtoto Wa Africa	Community Centre	Nairobi
77	Sosio Secondary School	High School	Transmara
78	South Tetu Secondary School	High School	Nyeri
79	St. Alloysius Secvondary School	High School	Nairobi
80	St. John The Baptist Likuyani	High School	Lugari
81	St. Mary's Girl's Thigio	High School	Limuru
82	St.Cyprian Secondary School	High School	Meru
83	Starehe Boys' Centre (High School)	High School	Nairobi
84	Starehe Boys'/CFSK CISCO Programme	Training Institute	Nairobi
85	Taita Academy	High School	Taita Taveta
86	Tala Girls Secondary	High School	Kangundo
87	Tala High School	High School	Kangundo
88	Tambaya Secondary School	High School	Nyeri
89	Thigio Boys Secondary School	High School	Kiambu
90	Thitha Secondary School	High School	Meru
91	Tigoni Secondary School	High School	Limuru
92	Ugunja Community Centre	Community Centre	Siaya
93	Uthiru Secondary School	High School	Nairobi
94	Viyalo Secondary School	High School	Maragoli
95	Voi Secondary School	High School	Voi
96	YMCA Technical Training Institute (Shauri Moyo)	Training Institute	Nairobi
97	St. Monica Chakol Girls'	High School	Teso

MAINTENANCE AND SUPPORT

Maintenance and support are key pillars and factors of success for the programme. These are the distinguishing features of CFSK. In addition to sourcing and refurbishing computers before placing them in schools, CFSK maintains a technical services department, which engages in preventive and curative PC care and maintenance well after the PCs are delivered. All recipient schools sign a maintenance contract and pay a nominal fee per PC for service and support, which entitles each school to two technical visits annually. Over and above the two visits, CSFK runs a telephone technical help line and any number of curative support visits as may be required and requested.

The technical services team, largely composed of volunteers and interns, keep the computer laboratories in partner schools working, minimising down-time from actual breakdowns or from potential ones through pre-emptive maintenance.

Early in the initiative's life, maintenance visits were programmed to fit with the delivery dates, but this model needed to be reviewed. When the number of schools increased, this model was expensive and time consuming as the maintenance crews were spending inordinate amounts of time on the roads – often visiting the same area on several occasions to attend to schools that received their computers at different times.

Technical services are now being organised regionally, where schools are organised in clusters and a given cluster is attended to on the same visit, irrespective of when they might have received their computers. A strategy being contemplated for the future is the creation of regional technical support centres located in some of the partner schools.

TRAINING AND CAPACITY DEVELOPMENT

Training, often regarded as the same as capacity development, is turning out to be CFSK's biggest and most critical activity. It is indispensable to the primary function of placing computers in institutions because it guarantees and prepares recipients for the utilisation of donated PCs. Many previous similar attempts to place PCs in educational institutions failed in part because the organisations involved did not build the required, often minimal, human capacity for the utilisation and maintenance of the equipment provided.

The training programmes are currently aimed at school principals, ICT teachers, and a small number of non-ICT teachers. To date, 838 school principals, IT teachers, and non-IT teachers of the CFSK beneficiary schools have received training. The training addresses three main areas: user proficiency; hardware support and

maintenance; and network installation, configuration, and administration.

USER PROFICIENCY TRAINING

This training is given to principals and non-ICT teachers in PC donation receiving institutions. CFSK has observed that where the principal is ICT-literate, s/he is usually very supportive of the programme and provides more valuable oversight and supervision. It is a CSFK prerequisite for PC donation to a recipient school/institution that the principal makes a commitment to personally attend training at the earliest opportunity before computers are placed in the school. The same training is offered to non-ICT teachers and other staff members and to other non-ICT teachers who show interest in ICTs.

The course, which lasts three weeks during school vacation, is divided into three stages. The first stage covers general PC introduction and windows; the second stage comprises of power point and excel, and the last stage addresses access and the Internet.

HARDWARE SUPPORT AND MAINTENANCE TRAINING

This training has been developed mainly for ICT teachers. An acute shortage of competent ICT teachers is one of the biggest crises in the ICT education sector in Kenya today. The skill set required to be a good ICT instructor is usually the same as that in demand by commercial enterprises and in the ICT sector/industry. The remuneration and job conditions in these latter contexts are much better and win the personnel war to the great detriment of schools. As a result, many of those serving as ICT teachers are those either with limited skills – often restricted to the common user applications – or have recently graduated. But the ICT teacher is usually expected to do a lot more than teach and needs to be quite skilled and capable of serving, in addition to teaching, as the school's information systems manager and user support professional. This CFSK course, offered in two instalments, aims to upgrade ICT skills of teachers to a level where they can play the roles expected and often demanded of them. Teachers in general and ICT teachers in particular, are important elements in the effort to revolutionise the educational system in Kenya through ICTs. Teacher skills and teacher attitudes need to change in tandem with the changing technical environment, that is why their training is so important and also why regular upgrading for them, as the one captured in Figure 12.2, can become newsworthy.

Figure 12.2: Teachers at work upgrading their ICT Skills, Kenya Science Teachers' College - December 2003



NETWORK INSTALLATION, CONFIGURATION, AND ADMINISTRATION TRAINING

This course is designed for ICT teachers. The application of ICTs in pedagogy is most efficiently and productively achieved through a networked system. The best results are achievable when the network is provided with decent Internet access. Most ICT teachers have very limited or no skills in network installation, configuration, or administration.

INDUSTRIAL ATTACHMENT AND INTERNSHIPS

Alongside its courses for teachers, principals, and educational administrators, CFSK offers opportunities for younger individuals to participate in its training programmes. A volunteer industrial attachment and internship programme has at any given time up to 15 young people serving in CFSK from various institutions. These interns and volunteers obtain invaluable on-the-job training with extensive hands-on experience, opportunities that few establishments provide. Over and above the knowledge acquisition and skills development attained by virtue of being involved in the CFSK initiative, the volunteers and interns benefit from staff seminars and workshops in addition to opportunities for working with technically skilled international volunteers who serve at CFSK. A few of the volunteers have subsequently been absorbed into the

staff of CFSK while others have gone on to decent jobs with other organisations, their competitiveness and value having been greatly enhanced by their stay at CFSK.

CURRICULUM AND MATERIALS DEVELOPMENT

One of the key problems identified by CFSK at the onset of the initiative was the absence of a relevant and practical curriculum that could be adopted by partner schools. On one hand, the national ICT curriculum for secondary schools is ambitious and has been repeatedly criticised for being behind the market and current needs of society while foreign curricula, on the other hand, are beyond the limited means of most Kenyan institutions.

CFSK along with Starehe Boys' Centre has spearheaded the development of a modular curriculum with a focus on equipping the student with high-level user skills. The curriculum is built to be flexible, to cater for the unique requirements of each participating institution. Partner schools are currently using the CFSK curriculum to guide their computer literacy programmes for students.

A significant quantity of resource materials to support the curriculum has been developed such as schemes of work, lesson plans, along with teaching and learning manuals. There is still a big gap in the area of resource materials not just for ICT teaching as a subject, but also for the use or integration of ICTs in the teaching of other subjects.

EVALUATION AND CERTIFICATION

An educational curriculum naturally goes hand in hand with evaluation and certification. The CFSK curriculum is no different. Having developed a curriculum on the basis of clearly defined criteria and objectives, CFSK has in collaboration with the Starehe Boys' Centre developed a model for ICT examinations and certification that will truly test the candidates' skills and certify their actual abilities. The examinations conducted by CFSK and the certificates issued are based on sound principles of educational measurement appropriately modified for the unique requirements and challenges of ICT training. Both the curriculum and the examinations have been used in some partner secondary schools. The distinguishing features of the CFSK formal evaluations are as follows:

- Examinations on demand: This plan advocates and endorses examinations upon request. Rather than fix rigid examination dates that may be unsuitable for all partner schools, CFSK encourages partner schools to propose a date for examinations and, working with teachers and using pre-examination

assessments, students are prepared for examinations. Examinations are administered on dates proposed or with only slight variations to accommodate other institutions that may have similar requests.

- **Supermarket Trolley Examinations:** Examinees can choose to be examined for individual units rather than entire modules. The units in a module can be examined in any order or combination convenient for the partner school and candidates. A student must however pass the examinations for all the units in one module before proceeding to the next module. This allows students to build up their ICT qualifications in small steps at a relatively easier and convenient pace without too much pressure.
- **Measuring Practical Skills and Application:** Much of the examination is geared towards the assessment of the acquisition of the principles and concepts and the performance of practical skills and applications. To this extent, 75% of all the marks obtainable in the examination of a module are allocated to 3 practical questions that must be taken at a computer. The remainder of the marks comprising 25% of the total obtainable are allocated to a single theory question, which is not based entirely on recall or rote memory.

SECONDARY ACTIVITIES

Experimenting with new technologies comes naturally to an ICT initiative since technologies change rapidly, and CFSK has embraced this function out of necessity. One secondary activity of importance that is associated with CFSK is the management of computer related e-waste.

Thin client systems are being piloted. Thin client systems utilise older computers stripping down front-line workstations to bare essentials and transferring most of the functions to a limited access server or servers. Thin client solutions reduce the scope for breakdowns and malfunctions and cut down on maintenance requirements, qualities that make them very attractive for resource and finance poor situations. CFSK has trained three young volunteers to test and roll out thin client systems to schools and has, in cooperation with one of its partners, International Development Research Centre (IDRC), set up an experimental thin client laboratory in Starehe Boys' Centre. Plans are underway to develop standards, solutions, and source equipment for future laboratories.

Although strictly speaking Open Source Software cannot be regarded as a new technology, the debates and political passions it generates are still quite strong. Kenya, like many other countries,

is Microsoft territory, and the East African Regional Microsoft Office is a key corporate partner of CFSK. However, CFSK has observed that Microsoft products are expensive and technically resource demanding or driven. Support for Microsoft products is often required for long periods but it is often limited to a period of time, yet the scope for localisation and domestication is still fairly narrow. Without the support and goodwill currently enjoyed from the East Africa Regional Office, CFSK would not be able to deploy Microsoft software in partner institutions. In recognition of these facts, CFSK is experimenting with open source products: Linux operating systems, and Open Office.

E-waste is also a strongly debated issue among computer experts and technicians in relation to the rising phenomenon of the shipping of old and used computers usually from developed to developing countries. The argument is that used or outdated computers can become an environmental and health hazard of significant proportions. Those against this argument view the practice as a sophisticated transfer of a disposal problem from the rich nations of the north to the poor nations of the south. It is argued that the countries where the old computers originate are richer and better equipped with the technical capacity to handle and treat them as waste material. The dilemma lies in the reality that developing nations such as Kenya cannot afford the financial resources for the huge numbers of brand new computer equipment and yet do not have the capacity to safely dispose of the large numbers of used computers they get given which are needed to close the information communication technology (digital) gap. There is no easy or neat way to resolve this, but working with one of its international partners, CFSK has developed an experimental model for dealing with the problem. This entails disposing of any parts of used computers that can be safely disposed of locally comprising mainly of chassis, casing, and other parts that scrap metal dealers are willing to purchase at a small price, while the potentially hazardous parts such as monitors are to be shipped out of the country to South East Asia, South Africa, or Europe for recycling. For longer term sustainability of the disposal function, CFSK is planning to adopt a model that incorporates a small fee in the acquisition price of the computers to be held in a fund specifically to be used for the safe disposal of PCs at the end of their working lives. But sustainability has not been the only challenge.

CHALLENGES

Despite having made significant achievements in the short period of its existence, CFSK faces formidable challenges. Three groups of challenges

that need to be overcome include financial difficulties, human problems, and constraints related to infrastructure or equipment.

Although large numbers of PCs can be donated and usually are, there are costs associated even with getting them from the places of donation to those of their use, costs of insurance and freight for instance. Then there are the costs to the schools, poor schools, for keeping PCs in working order and connected to the Internet and costs to CFSK for running the laboratories and for spares. The list goes on and on. There seems to be no end to financial needs.

What about human factors? What have these factors got to do with PCs? Firstly, the technicians that keep the laboratories clean and PCs repaired need to be found and kept. Although the programme has found a way to cater for the human skill required, quite often the boost in skills leads to their departure from the school system! Then there is the cynicism. CFSK has to increasingly deal with those traumatised by failed ICT initiatives of the past, 'it is a morgue out here.'

Then there is the infrastructure problem. Connectivity and Internet access in Kenya are very expensive and well beyond the reach of most public schools. Getting the World Wide Web available for any reasonable length of time to allow for pedagogical application in schools is one of the biggest challenges CFSK has had to face in its short life.

POLICY IMPLICATIONS OF THE CFSK PROGRAMME

CFSK is operating in a rapidly growing and constantly changing field in which there is yet no defined state policy or direct regulatory authority. There is a national ICT curriculum, and the Ministry of Education Science and Technology's definition of ICTs in education is broad, including the use of technology as a resource for reorganising schooling and as a tool for assisting school-wide development (Kenya Institute of Education, 2002: 29). The ministry needs to set out a realistic but ambitious ICT plan and strategy. The policy framework needs to take a position on norms and standards, and even on the practice of donations of software and hardware, for example, Microsoft's donation of Windows 98 to all the schools in Kenya that receive refurbished computers underlines the complexity of the debate and shows that decisions that need to be made at the national (policy) level. Critics argue that by accepting Microsoft's donation, the Government of Kenya has chosen a short-term solution that may have sold the heart of the market to Microsoft rather than allow a long-term strategy open to other software alternatives such as Open Source Software.

The activities of CFSK thus assume a policy and advocacy flavour although not originally intended to do so.

POLICY RECOMMENDATIONS

Despite there being no single answer to guarantee success, the government and in particular the Ministry of Education, Science and Technology can approach the problem by using a few positive change questions as guideposts to help steer the broad policy decisions and directions for the near future in order to determine what needs to be done and how.

It is critical for technology to be use and need-driven rather than supply-driven. For ICTs in education to reach all Kenyans, technologies must be appropriate, domesticated, useable and affordable. For example, better utilisation of radio and television broadcasting technologies and alternative software applications need to be considered.

Affordability is key. It is pointless to connect schools that are unable to afford their monthly telephone bills. An education or e-rate for all schools could also help higher education and training institutions, as well as research institutions.

Community access will depend on local involvement in the maintenance and security of installed e-school and ICT infrastructure. Champions, ICT experts, specialists, and volunteers are important human success factors, yet effective volunteerism requires major organisation, administration, and general infrastructure.

The generation and availability of quality content relevant to Kenyans and the Kenyan educational system are important for which the revitalisation and re-engineering of the Kenya Institute of Education (KIE) is a necessary precondition.

The use of ICTs needs to be integrated into the entire school curriculum to allow students to assimilate and deploy ICTs in the learning of all other subjects to avoid ICTs being seen either as an irritating add-on or as an esoteric pass time for the elected or anointed.

It is imperative that the Ministry of Education Science and Technology continues to collaborate with other ministries, such as the Ministry of Transport, Information and Communications, the Ministry of Energy, the Ministry of Trade and Industry, etc., to ensure the required cross-linkages so vital in an information and knowledge based society. These linkages will also make e-rated telecommunications charges, more widespread electrification, and additional bandwidth realisable.

Technology programmes and donations are meaningless if the local economy cannot sustain technology use. The financial situation of many schools needs to be carefully considered and creative institutional ICT policies put in place with the support of the

responsible ministry and local education authorities as well as communities to avoid exacerbating inequality.

To assist and ensure coordination, collaboration, and the impartial evaluation of the implementation of a national ICT in education strategy, an advisory council for ICTs in education should be established comprising ICT champions from the public sector, academia, the private sector, and civil society to report directly and regularly to the Minister and Cabinet.

CONCLUSION

The Computers for Schools Programme appears to be doing valuable work and in the process has become an unwitting champion of ICTs in education. Its experiences are real, its challenges huge, and the lessons valuable for the future of a resource poor county such as Kenya. In order to sustain what has already been done and expand into areas still unreached, CFSK needs to review its priorities and strategies regularly, make regular readjustments, but above all it needs many more resource partners and partnerships.

Training in ICTs in Kenya as in many other African countries is a mild crisis. Unsuspecting ICT users and eager professionals-to-be are presented with a plethora of courses and training packages or curricula, both foreign and local, of varying degrees of utility and credibility by an equally dizzying number of training institutions. A strong forward-thinking regulator for this sub-sector would help, as would a coherent national policy and strategy.

REFERENCES

- Etta, F.E., & Parvyn-Wamahiu S., (2003). Information and Communications Technologies for Development in Africa: VOL. 2. The Experience with Community Telecentres. Dakar and Ottawa: CODESRIA and IDRC.
- James, T., (ed) (2004). Information and Communications Technologies for Development in Africa: Vol. 3. Networking Institutions of Learning – SchoolNet. Dakar & Ottawa, CODESRIA and IDRC.
- Kenya Institute of Education, (2002). Art and Design, Computer Studies and Music, Secondary education syllabus. Published and printed by Kenya Institute of Education.
- Republic of Kenya, (2004). National Information and Communications Technology policy. Ministry of Information and Communications.
- Republic of Kenya, (2004). Information and Communication Technology. Strategy discussion paper. Ministry of Education, Science and Technology - ICT Unit.

CHAPTER 13

POSITIONING FOR IMPACT: WOMEN AND ICT POLICY MAKING

Alice W. Munyua

Introduction

This chapter provides a brief overview of the central elements of the gender and ICT debate. It maps the critical milestones in gender and ICT advocacy and, having been one of the critical milestones, which provided a watershed for ICT debates globally, the World Summit on the Information Society (WSIS) is discussed at some length.

Women's access to information has become a major global concern. The measured access and lack of control over communications technology, the stereotypical portrayal of gender roles, and women's limited access to professional careers and decision-making positions in general highlight the urgent need for African women to enter the debate on the development potential and impact of ICTs and to advocate a gender-aware approach.

The task, then, for all – policy makers, the private sector, and civil society – is to create conditions which maximise the benefits of ICTs and reduce the risks – the risks that ICTs contribute to the digital and the information divide because they are developed in a way that is inconsistent with gender equality and development goals. Unless there is an awareness of the potential of new technologies to further entrench disparities, ICTs will reproduce existing social injustices.

ENGENDERING ICT POLICY

The challenge of incorporating gender issues into recent ICT policy processes has required an advocacy campaign on two fronts: sensitising ICT policy makers to gender issues and sensitising

gender advocates to ICT policy issues. Gender advocates have consistently called for the realisation of gender equality within the ICT sector and for ICT diffusion that contributes to positive change in gender relations. It is not enough simply to sprinkle the words “gender” and/or “women” here and there in a gender insensitive policy or strategy document that has been developed from a fundamentally gender blind starting point.

Achieving gender equality in ICTs requires more than mainstreaming gender concerns into the ICT arena. It requires serious commitment. The participation of women and individuals with expertise in gender and policy is therefore essential at all stages of the policy elaboration process so that the gender dimensions of policy statements can be identified and addressed.

Given the potential of ICTs in development and social transformation, women in organised civil society have felt that it is essential that the gender digital divide be addressed. The aim is both to ensure women’s access to the benefits of ICTs and to make ICTs a central tool in women’s empowerment and the promotion of gender equality.

CRITICAL GENDER ISSUES IN THE INFORMATION SOCIETY

This section provides insights into the issues that have shaped and informed the debates, proposals and discussions that have been submitted by the various gender advocacies in the information society movement and the WSIS process.

Gender issues in the information society cover a wide spectrum: integrating gender perspectives into national ICT policies; raising awareness among gender advocates about the importance of national ICT plans for gender equality; promoting gender-responsive e-governance; effective use by women of ICTs and the need for relevant content; promoting women’s economic participation in the information economy; promoting democratic media; and combating the use of the Internet to perpetuate violence and other crimes against women. There is some consensus regarding the importance of a gender focus in information technology and development; but incorporating of gender issues into policy making and implementation, as well as in ICTs for development projects, is more problematic. Women’s access to ICTs is constrained by factors that go beyond issues of technological infrastructure and socioeconomic environment. Socially and culturally constructed gender roles and relationships play a critical role in shaping and limiting the capacity of women to participate on equal terms in the information society. There is a growing body of literature on gender and ICTs that amplifies the issues of gender and technology; literacy and education;

language and content; indigenous knowledge and intellectual property rights; socio cultural and institutional barriers; control, access and effective use; pornography, trafficking, and sexual violence; cost, time and mobility; gender segregation in employment; absence of decision-making structures; and ICT policy and governance.

Due to active advocacy, these issues have gained prominence in recent debates on ICTs, particularly in the run-up to the WSIS.

GENDER AND TECHNOLOGY: ACCESS, CONTROL AND EFFECTIVE USE

Pedestrian and popular views of science and technology often assume that technology is a tool that society can use and not something that can influence society. This ignores the differential influences of technology on various sections of the society and also assumes that technology is gender neutral. Feminists have, however, pointed out that technology is not gender neutral and neither is the policy environment in which it is developed. Some critiques point out the dangers of putting technology ahead of people.

The array of new information and communication technologies is impressive ranging from mobile phones, fixed line telephones, radio, television, print media, satellite technology, to the Internet. This is a complex set of goods, applications, and services used to produce, process, distribute, and transform information. These new ICTs bring a major shift in the vastness, depth, and ease of use. Mobile telephony, built upon wireless and digital platforms, is portable, has much more coverage and is cheaper. Internet telephony is set to make telephony extremely economical all over the world, and Internet radio provides much greater variety and reach than ever before. Computer monitors now act as TVs of the Internet.

Women's access to and control over ICTs is not equal to that of men. Access refers to the ability to make use of the technology as well as the information and knowledge it provides, while control refers to the ability to decide how ICTs are used and who can use them. Effective use refers to the ability of women and girls to use ICTs strategically to advance multiple development goals. There is a huge gap between women and men's access to telecommunications infrastructure. Infocommunications infrastructure is largely concentrated in urban areas, while the majority of women in the developing world, particularly in Africa, are located in remote and rural areas. Simply stated, if the technology is not there, where women are to be found, then women cannot have access to it, use it or much less control it.

ICT LITERACY, EDUCATION AND RELEVANT CONTENT

Illiteracy is a serious problem in Africa. The majority of illiterate people in Africa are women, and of the total out-of-school children, 60% are girls. The inability to read and write is a major barrier to women's access to ICTs because the use of ICT requires various kinds of literacy.

The language of the Internet excludes many from it. Language is not the only basis for exclusion. Content is often not relevant to the situation or lives of African women. Women's viewpoints, knowledge, experiences, and concerns are also inadequately reflected on the Internet, particularly perspectives from women in developing nations. Gender stereotypes predominate and perpetuate those reflected in the print media. There is a need for women to develop, promote, and publish their own perspectives and knowledges to ensure that they are represented on the Internet and in their own voices.

INDIGENOUS KNOWLEDGE AND INTELLECTUAL PROPERTY RIGHTS

Women in most African communities are the guardians of their traditional knowledge and have the right to protect and control that knowledge. Existing intellectual property regimes are insufficient for the protection of indigenous cultural and intellectual property rights.

Intellectual property rights (IPRs) are more often focused on protecting corporate and individual knowledge and have left a variety of cultural products and forms of community knowledge open to exploitation. The critical issue for women in indigenous communities, regarding IPR, involves their control over, access to, and potential compensation for the knowledge they have. The fact that most of their knowledge is considered "old" or trivial places it outside the scope of protection by industrial property laws. Under current international legal mechanisms, local and indigenous women's knowledge is at an increasing risk of exploitation in the race for genetic resources (which in terms of plant-based herbal remedies, for example, has traditionally been the realm of women's knowledge) and the hunt for maximisation of profit.

SOCIO-CULTURAL AND INSTITUTIONAL BARRIERS

One of the more pervasive but intractable problems is "technophobia," the fear of technology. Women often have complex relationships with technology and machines as a result of being

socialised over time to believe that machines and technology are a man's domain and not for women and girls, thus generating a gender bias in attitudes towards studying or using information technology. The social factors that produce these gender differences operate in both institutional and informal settings. In some societies, cultural norms discourage interaction between women and men outside the family, and women may be uncomfortable in situations where men are present either as trainers or as peers.

Pornography, Trafficking, Sexual Violence and the Objectification of Women

New ICTs, particularly the Internet, facilitate the sexual exploitation of women and children. By enabling people to easily buy, sell, and exchange millions of images and videos of women and children, they are exposed to sexual predators who harm or exploit them, often anonymously. Disturbing too is the use of the Internet as a tool in the prostitution and trafficking of women. In 1995 an estimated 1.8 million women and girls were victims of illegal trafficking, and the numbers are growing.

Gender Segregation in Employment

Women tend to be concentrated in end user, lower skilled IT jobs and make up a very tiny minority of managerial maintenance and design personnel. Stereotypical views of women's skills and abilities have made them preferred employees for certain kinds of work even in the IT industry, particularly work related to word processing or data entry. Men are more likely to be found in the high-paying, creative work of software development and design. On average women are paid 30 to 40 percent less than men for comparable work.

Although the number of women in ICT jobs is rising, this has not necessarily affected women's access to decision-making levels and the control of the ICTs and their resources. Women are under-represented in all ICT decision-making structures, including policy and regulatory institutions, boards and senior management positions of private ICT companies. One problem is that at both the global and national levels, decision-making in ICTs is generally treated as a purely technical matter.

ICT Policy and Governance

ICT policy and regulatory frameworks control telecommunications services in African countries. The result of this tight control is that the use of ICTs is negatively affected, particularly where policies and regulations limit the implementation of valued-added services that could bring down the cost of telecommunications services, like

Voice-Over IP (VOIP) and wireless connectivity. The desire to maintain state telecommunications monopolies means that competition is reduced resulting in inflated costs for services which then become unaffordable for the poor, most of whom are women. Without explicit references to gender issues in ICT policy, the chances that women and girls will reap benefits from the information age are lean. Increased awareness of these challenges is important to bridge the digital divide and to involve women in the information society. The potential for ICT-enabled economic, political, and social empowerment of women will only be realised if gender dimensions of the information society are acknowledged and adequately addressed by all stakeholders.

ICT POLICY GENDER ADVOCACIES: IMPORTANT MILESTONES, SIGNIFICANT EVENTS

The notion of gender equality as a human rights issue has evolved over the last ten years, from the World Conference on Women in 1995, to the World Summit on information Society (WSIS) in 2003. The non-governmental women's movement has been the driving force campaigning and advocating for women's rights, empowerment and equality. A brief historical tour of these gender advocacies is attempted hereunder.

The Global Knowledge Conference in 1997 (GK97) was the first major international conference to explore the potential of information technologies and their possible impact on developing countries. At GK97, women participants were also instrumental in drawing up the Canon on Gender, Partnerships and ICT Development, which outlined some principles for development and design of ICTs that emphasised equal participation by women and men, and gender-aware assessments and evaluations of ICT use.

Following a resolution adopted at the 1998 World Telecommunication Development Conference, a task force on gender issues was established with a mandate to ensure that the benefits emerging from the information society were made available to women and men in an equitable manner, particularly in the developing world.

The United Nations Economic Commission for Africa (UNECA) began activities in gender and ICT in 1998 in collaboration with IDRC, at the UNECA 40th anniversary conference on women and economic empowerment. The UNECA/Cisco Networking Academy for African Women, founded in 2001, later awarded scholarships for young women throughout Africa for training in Internet networking technology, leading to certification in networking and training in gender issues and management.

The 5th World Conference on Women held in 1995 in Beijing was the first international conference to debate issues relating to women and ICTs. For the first time, women's access to ICTs, new technologies, and the use of alternative media was made a gender equality concern. The women's movement at that time was already training women in the use of ICTs as well as raising awareness about the urgency of broadening the definitions of media to include women's access to and control of ICTs. Since the Beijing conference, ICTs and gender issues have gained legitimacy. Women's organisations and some international agencies have worked on some of the major ICT issues, and their efforts have resulted in programmes and projects that are now contributing to empowering women in their individual capacities as well as within organisational and community contexts. These organisations and agencies are turning development initiatives in local contexts into more sustainable interventions. These efforts are beginning to link women in organised civil society around the world, leading to the creation of virtual communities and alliances on gender issues to enable greater participation in policy and decision-making. African women are also now using ICTs for networking, communicating, mobilising for action, participating in policy debates, voicing new perspectives, and increasing the number of ways that women can participate in civic life.

During the review of the Beijing Platform for Action (PFA) in June 2000, effective use of ICTs emerged as one of the concerns that needed to be addressed to enhance the empowerment of women. The review also pointed out that traditionally, gender disparities and differences have been ignored in policies and programmes dealing with the development and dissemination of ICTs. Recommendations were made for actions to avoid new forms of exclusion and to ensure that women and girls have equal access and opportunities in respect of developments in science and technology.

By the second Global Knowledge conference in March 2000, the level of mobilisation around issues of gender, knowledge, and information was such that a specific women's forum was held as part of the conference, leading to a comprehensive set of recommendations. In July 2000, the ITU, UNDP, and the United Nations Development Fund for Women (UNIFEM) signed a Memorandum of Understanding to collaborate on developing gender-responsive approaches to telecommunications and ICT policy development.

In 2001, the United Nations Secretary General established a high-level ICT task force to "provide overall leadership to the United Nations role in helping to formulate strategies for the development of information and communication technologies and putting those technologies at the service of development on the

basis of consultations with all stakeholders and member states, to establish strategic partnerships between the United Nations system, private industry, financing trusts, foundations, donors, programme countries and other relevant stakeholders in accordance with relevant United Nations resolutions.”

In March 2002, the World Telecommunication Development Conference established a gender unit within the Telecommunication Development Sector (ITU-D), with responsibility for mainstreaming gender issues throughout the organisation’s work and converting its task force on gender issues into a permanent working group of the ITU-D. The conference also urged the inclusion of a gender perspective in the themes and work of the WSIS. The UN Division for the Advancement of Women (DAW) held an Expert Group Meeting (EGM) on ICTs and their impact on and their use as an instrument for the advancement and empowerment of women in Seoul, Korea, in November 2002. The conference noted gender specific structural barriers, which reinforce women’s lower usage of ICTs.

At the annual session of the United Nations Commission on the Status of Women (UNCSW) in March 2003, one of the themes discussed was women, the media, and ICTs. The conclusions arising from these discussions were to be fed into the process leading up to the WSIS. Many of the women present at the UNCSW in New York and present in Geneva for the WSIS, hoped that the declaration and programme of action to emerge would reflect the concerns that had been raised earlier in the year. But, as a woman put it during one of the gender caucus’ dialogues: “Should we mainstream gender into a flawed information society, or should we create a new information society?” Women’s organisations have faced a lot of challenges in developing a strong position on these issues.

In May 2003, African Diaspora IT executives with successful IT companies abroad, government representatives, civil society organisations and UN system representatives held a conference in Kampala, Uganda, to adopt a declaration outlining specific ways to support African women in the use of information technologies. UNIFEM organised the meeting in collaboration with its UN partners. The meeting also called for the formation of a consortium of Diaspora teams to provide assistance in nine pilot countries – Cameroon, Ethiopia, Ghana, Kenya, Rwanda, Somalia, Tanzania, Zimbabwe and Uganda – and to develop a portfolio of women and ICT projects for potential financing.

In Africa, many efforts to establish and institutionalise free and pluralistic media have been made, but most of these efforts have not included gender as a central issue. For most African women, the exercise of the fundamental freedoms of expression and information

is doubly constrained by patriarchal laws and practice and by economic and political conflicts whose impact is also gendered. The failure to understand these rights from a gendered perspective compounds the situation and also poses gender based difficulties for female media practitioners.

In response to some of these challenges, women's advocacies in the field of ICTs and communication have had to broaden their scope. In addition to addressing and articulating specific issues of women in communication, they now have to focus on fundamental political and social rights, which are crucial for any real transformation of gender roles. At a July 2004 APC Gender and ICTs forum held in Brazil, participants noted that indeed a new women's movement had emerged focusing on the gender and ICTs agenda, but they identified the challenges of a movement that focuses specifically on gender and ICTs and recommended linking the ICTs and gender agendas to economic, social, and cultural rights, as well as the broader development agenda.

ADVOCATING GENDER IN THE WORLD SUMMIT ON THE INFORMATION SOCIETY (WSIS) PROCESS

This section considers women's advocacy efforts and activities in the WSIS process, the challenges, obstacles and achievements either by individual women and men and/or women in organised civil society.

WSIS has been a significant global governance process in which women have been involved. It has provided a venue for discussion on the impact of new ICTs on governance, communication, women's empowerment, and other human rights issues. Prior to the WSIS, there was already an increase in awareness of the challenges presented by ICTs, particularly the challenges that impede access for women. WSIS was organised by the United Nations under ITU's leadership to be held in two phases — the first took place in Geneva, Switzerland, in December 2003, and the second in Tunis, Tunisia, in 2005.

In July 2002, during the Africa regional WSIS preparatory committee meeting held in Bamako, Mali, a group of about 12 organisations responded to an invitation by UNIFEM to contribute to ensuring that gender dimensions are included in the process of defining and creating the Global Information Society. This group formed the nucleus of what became known as the WSIS Gender Caucus. The global WSIS gender caucus was thus established as a multi-stakeholder group, which included women and men from private telecommunications service providers, government, and women located in UN agencies, as well as women in non-governmental organisations (NGOs) and other civil society bodies. The aim of the

WSIS gender caucus has been to advocate for the inclusion of gender issues in the WSIS process and outcome documents. The caucus produced a statement at the Bamako Regional Preparatory Committee Meeting in which they urged African states “to ensure better balance in ICT uses while instituting specific programs that address the needs of women, particularly those aimed at rural and disenfranchised areas.” The group also made several recommendations entreating African governments and all relevant stakeholders to ensure that they build measures for African women’s advancement into their policies and action plans. After this regional meeting the WSIS gender caucus began work on mobilising, and organising in preparation for the first phase of the summit. The preparations included, capacity building of women as well as outreach activities to ensure many women’s groups were involved and understood ICTs within the context of women’s rights to development.

At the first WSIS preparatory committee meeting held in Geneva, Switzerland, a group of women’s NGOs active in gender and ICTs argued the need for a separate but parallel gender group consisting of women and men in organised civil society to ensure that the particular concerns of gender and ICT activists located in NGOs are adequately represented, both within the multi-stakeholder gender caucus and the broader WSIS civil society caucus. The WSIS NGO Gender Strategies Group (WNGSG) was formed as part of the Civil Society Coordinating Group (CSCG) at the Preparatory Committee Meeting by Isis International-Manila; International Women’s Tribune Centre (IWTC); Association for Progressive Communications – Women’s Networking Support Programme (APC-WNSP); Agencia Latino Americana de Información (ALAI); and the African Women’s Development and Communication Network (FEMNET-Africa).

WORKING ON THE GROUND

During the WSIS process, the gender caucus and the NGO gender strategies group worked to push the same agenda under highly pressurised, extremely tight, sometimes impossible, deadlines imposed by the official timetable and the rapidly unfolding events. While government delegates had some comfort and time to develop their positions, gender advocates and, indeed, the civil society as a whole often had only a few hours to respond. This work, driven by a strong motivation to achieve consensus, produced remarkable results. Inputs were rushed from the official summit venues and fed to the various groups to be dissected. Responses and reactions were prepared, sorted out and fed back to various groups and caucuses.

Gender advocates had to frenetically interact with other groups and conduct a huge amount of networking to ensure that gender issues were mainstreamed into the broader civil society lobbying attempts. They had to lobby the various groups and caucuses to ensure that what these groups presented to the content and themes group, which sewed together responses to official documents, would reflect the gender dimension. Alongside these and strengthening the on-the-ground gender advocacy processes was a set of e-mail lists and web sites which simultaneously facilitated interaction between physical meetings and women's organisations and individuals, many in distant places and locations who could not be present in Geneva themselves. Members of the various gender and ICT lists submitted contributions to strengthen some of the positions advanced.

By the second WSIS preparatory committee meeting held in Geneva, Switzerland in February 2003, both the gender caucus and NGO gender strategies group had conducted outreach campaigns, provided much needed information about the WSIS process, provided capacity building opportunities for women, and developed a number of documents as part of their efforts to engender the WSIS process. One such document was titled the "7 Musts: Priority Issues for Gender Equality in the WSIS Process". The "musts" set out some broad principles for WSIS deliberations as a way to include women and their gender concerns successfully. This brief links recommendations from the WSIS Preparatory Committee Meeting (or the WSIS policy) to the 12 critical areas of concern of the Beijing PFA. Both documents explain the need for and pose suggestions for engendering the WSIS process. The document also served as a general information sheet for those just coming into the area or getting to know the issues for the first time.

In November 2003, the NGO Gender Strategies Working Group (GSWG) launched a tiny T-shirt campaign, which had government delegates craning their necks to read a message that, until then, had fallen upon deaf ears. Members of the GSWG and other civil society representatives wore T-shirts bearing the message 'WSIS has a missing paragraph' on the front and the text of paragraph 11A printed on the back. Paragraph 11A (the gender paragraph) states the following:

"A focus on the gender dimensions of ICTs is essential not only for preventing an adverse impact of the digital revolution on gender equality or the perpetuation of existing inequalities and discrimination, but also for enhancing women's equitable access to the benefits of ICTs and to ensure that they can become a central tool for the empowerment of women and the promotion of gender equality. Policies, programmes and projects need to

ensure that gender differences and inequalities in the access to and use of ICT are identified and fully addressed so that such technologies actively promote gender equality and ensure that gender-based disadvantages are not created or perpetuated.”

During Preparatory Committee Meeting 3 (PrepCom 3), official delegates approached some members of the GSWG and inquired about the actual paragraph and where they could get copies of it. The GSWG printed fliers containing paragraph 11A and distributed them to all the official delegates. On the second day of the official meeting, the Canadian government’s representative made a proposal saying: “Delete paragraph 15 (on facilitating increased access and use of ICTs by women) and replace with text on the tiny t-shirts.” Delegates from civil society organisations and even from governments took an interest in the message printed on the shirt and bought some T-shirts. The Canadian government had proposed this paragraph during the intersessional meeting held in Paris on 15-18 July 2003. By the time gender groups got to the third preparatory committee meeting the gender paragraph was missing hence the campaign to put it back into the text of the ‘Principles’. A T-shirt campaign was planned during the Gender and ICT Forum in Kuala Lumpur, Malaysia in August 2003. Anne S. Walker of the International Women’s Tribune Centre (IWTC) designed the T-shirt while ISIS International Manila coordinated the production and distribution.

Thus civil society, including women’s NGOs, succeeded in making an impact on the vision and principles sections of the WSIS Declaration, as well as in introducing a number of proposals relating to social issues and gender.

The adoption by civil society groups of the final WSIS documents was a compromise solution. Thousands of civil society groups in Geneva had argued that it was impossible to truly debate an ‘information society’ without considering who owns information, who controls its production and dissemination, and whose interests that information ultimately serves. They demanded that these issues also be tabled. When their demands were refused, a ‘Civil Society Declaration’ was produced containing an alternative vision of an information society that truly puts people first, holds that information and communication are inseparable, and points to alternative ways of progress. The Declaration entitled “Shaping Information Societies for Human Needs” was unanimously adopted and presented formally to the closing session of the Summit with the request that it be considered one of the official outputs of the Summit.

Without a doubt, the civil society declaration, like the WSIS declaration itself, is a significant reference document for the next phase of the Summit.

NATIONAL ICT POLICY PROCESSES

The Geneva phase of WSIS provided a good opportunity to open spaces for debate and discussion on key information and communication policy issues, not only at the global level, but also at national levels. For example experience, confidence, and knowledge built during the relatively 'safe' spaces of the civil society plenary and caucuses in the WSIS are feeding directly into national advocacy campaigns.

There is currently, a national ICT policy process underway in Kenya, and it is relatively inclusive, involving the private sector. Civil society participation as that of organised gender-oriented or women's groups, has been ad-hoc and often through individual experts. There are no clear and official channels for civil society participation to deal with gender issues and ICT policy. The current Kenya national ICT policy process and document undermine gender concerns in the following ways:

1. Affirmative ICT policies to address societal disparities are lacking as commercial and technology initiatives on their own will not address gender disparities.
2. Affirmative processes that call for the design of the telecom and ICT policy to address gender and societal disparities are absent.
3. The licensing process of service providers does not distinguish between commercial and non-commercial use of ICTs. Consequently, licensing requirements including fees are the same for all operators.
4. A broadcasting policy recognising the role of community radio as an empowering tool for the community is lacking.
5. Actions on ICTs to address gender disparity tend to focus on the delivery of services and are not entrenched in policy. Policy level gender sensitive transformation should be the long-term objective to allow the targeting of resources to the rural woman now largely disconnected from ICTs.

ICT POLICY GOVERNANCE

The government needs to urgently increase democratic space for participation by women alongside men and all stakeholders in the formulation of the whole policy process at all levels.

With the creation of the Ministry for Information and Communication, the time is particularly appropriate to ensure the inclusion of gender concerns in the national ICT policy. Kenya is in the process of elaborating a policy. Gender and ICT lobby groups need to sensitise policy makers, private sector and other civil society groups, including women's organisations, to the important and critical ICT policy issues.

RECOMMENDATIONS FOR ENGENDERING ICT POLICY MAKING

Through out the WSIS process, gender lobby groups have made several recommendations regarding ICTs and women's development. Some of the crucial recommendations are listed below:

- Education and training of more women as a means of dealing with entrenched techno phobia nurtured from an early age.
- New ground in research, analysis, and understanding of the challenges ahead should be broken, with attention paid to the regulatory and policy environments and the influence of these technologies to poverty eradication efforts. Thus, more research for policy change is needed.
- All stakeholders should continue working towards ratifying treaties and protocols that recognise women's human rights, including the right to communication, and include provisions for supporting the implementation of these measures in all action plans, including those arising from the WSIS process.
- Gender-analysis frameworks should be applied in the development of national, regional and international policies and strategies.

CONCLUSION

As well as shaping policies that incorporate a gender ethic in the overall realm of ICTs and communication at the global level, the gender movement is also required to influence legislative and constitutional frameworks at the national level. It is important for women to be vigilant in engendering ICT policy processes. For the women's networks, institutions, and organisations that have not participated in these processes so far, it is not too late. All the gender advocacy groups are encouraging participation. It is only with decisive action at the various levels that the goal of women's equality in the field of ICTs and communication can provide more support and fewer obstacles to gender equality. A list of past activities and the organisations/networks (and their contact numbers) that have been active can be accessed at <http://www.genderit.org> as well as the WSIS gender caucus at <http://www.genderwsis.org>.

REFERENCES

- Gillian M. Marcelle, (February-March, 2000). Gender, Justice and Information and Communication Technologies (ICTs). Paper presented at the 44th Session of the Commission on the Status of Women. New York.

- Plou, Dafne & Wanjira Munyua, A., (2003). Is there a place for Women in the Information Society? Unpublished paper.
- Gillian Mercelle, (June, 2000). Net Gains African Women take stock of information and communication technologies, pp 25.
- The information commons derives from the concept of the village commons – spaces that are accessible to everyone. The global information commons refers to knowledge in the public sphere.
- Nancy J. Hafkin and Sonia Jorge: Get in and Get In Early: Ensuring Women's Access to and Participation in ICT Projects.
- “Old” technologies are non-electronic media like print and analogue technologies and radio. New technologies refer to digital technologies like computers, electronic mail (e-mail) and Internet. In Africa, old technologies play a defining role in meeting the information and communication needs of a large majority.
- Appleton, Helen, Fernandez, Maria E., Hill, Catherine L. M. & Quiroz, Consuelo, (1995). “Claiming and using indigenous knowledge,” in Gender Working Group, UN Commission on Science and Technology for Development, Missing Links: Gender Equality in Science and Technology for Development, pp 55-82.
- Natasha Primo, Jennifer Rudolf and Alice Wanjira Munyua “The Role of Information and Communication Technologies in the Development of African Women” Association for Progressive Communications (APC) African Women. *www.apc.org*
- Interview with Mercy Wambui, <http://www.developmentgateway.org/node/133831/sdm/docview?docid=346180>
- ICT Policy for Civil Society Training Pack <http://www.apc.org/english/capacity/policy/curriculum.shtml>
- ICT Policy for Civil Society Training Pack <http://www.apc.org/english/capacity/policy/curriculum.shtml>
- APC Women's Networking Support Programme Perspective, (2003). See Karl, Marilee (ed.), (2000). Transcending the Gender Information Divide. *www.globalknowledge.org/my/GKII_WomenForum_Final_Report.doc* <http://www.unicttaskforce.org/about/principle.asp>
- L. Muthoni Wanyeki, (December 2003). “Choices We (Must) Make For Ourselves: Women and Transnational Media” paper presented at panel on globalised media and ICT systems and structures and their interrelationship with fundamentalism and militarism organised by Isis International-Manila WSIS Geneva, Switzerland.
- Plou, Dafne & Munyua, Alice, (2003). Is there a place for Women in the Information Society? Unpublished paper. <http://www.Geneva2003.org/home/index01.html>

Angela Kuga Thas, (July, 2004). Reflections, paper presented at Association for Progressive Communications (APC) Gender and ICTs forum. Brazil. <http://www.genderwsis.org>

See <http://www.genderit.org>

<http://www.isiswomen.org/pub/we/archive/msg00115.html#mar8>

<http://www.geneva2003.org/wsis/index_c01_2_08.htm

<http://www.geneva2003.de>

<http://www.apc.org/english/news/index.shtml?x=14125>

www.apc.org

<http://www.nodo50.org/wsis/>

http://alainet.org/active/show_news.phtml?news_id=5118

Sean Ó Siochrú, (June-July, 2004). Will the Real WSIS Please Stand-up? The Historic Encounter of the 'Information Society' and the 'Communication Society' Paper for: 'Gazette - The International Journal for Communication Studies' Vol. 66 No. ¾.

Association for Progressive Communications: What does the 'information society' mean for social justice and civil society? http://rights.apc.org/nationalfaq_wsis_v1.pdf

http://www.genderit.org/CSW/african_caucus.htm

Wamuyu Gatheru and Muriuki Mureithi, (September, 2004). Communication Rights in the Information Society (CRIS) Campaign: Global Governance and Communication Rights in Kenya. A Status review. Unpublished report.

Marcelle, G.M., (2000). "Transforming information and communication technologies for gender equality, Gender in Development. Monograph series number 9, New York: UNDP. <http://www.undp.org/gender/resources/mono9.pdf>

Jorge, S.N., (2001). "Gender-aware guidelines for policy making and regulatory agencies", prepared for the Task Force on Gender issues, August 2004, Telecommunications Development Bureau (BDT), International Telecommunications Union (ITU)

Angela Kuga Thas. Unpublished paper "reactions to the day's discussions and presentations" APC WNSP Global Forum June 4th – June 6th, 2004, presented June 5th 2004, Rio de Janeiro, Brazil.

CHAPTER 14

OF GATEWAYS AND GATEKEEPERS: THE HISTORY OF INTERNET EXCHANGE POINTS IN KENYA AND RWANDA

Brian Longwe and Coco Rulinda

Introduction

The Internet in Africa has been growing steadily over the past several years and is beginning to play a significant role in Africa's development, creating employment, providing opportunities for innovation and entrepreneurship, as well as acting as an enabler in the digital delivery of government services, education, radio, and healthcare among others. The new possibilities provided by Internet technologies present African countries with an opportunity to leapfrog phases of development and make use of the most recent innovations to establish a strong information society and increase the distribution of wealth among the populace, thereby addressing the poverty that has plagued the continent to date.

Unfortunately, the overall impact of the Internet as an enabler in Africa has been severely curtailed by a number of elements. Topping the list is the lack of efficient paths to carry growing local and regional traffic between Internet Service Providers (ISPs) in Africa. This problem occurs both on a national as well as on a regional or inter-country scale. For example, when an African Internet user sends a message to a friend in the same city or a nearby country, that data travels first to Europe or the United States before getting back to the African city or nearby country. It has been estimated that this use of international bandwidth for national or regional data costs Africa in the order of US\$400 million each year. This situation has its parallel in

telephony where it may be easier to route a call from say Nairobi or Dar es Salaam via Europe or the United States to a neighbouring country than to do so directly. A connected Africa is vital. When African countries communicate with each other in this manner, the loss of money due to inefficient traffic routing is astounding. The net result is that poor African countries get poorer.

The vision of a connected Africa begins with the building blocks of the Internet. At the national level, Internet traffic between ISPs has been optimised in a number of countries with the introduction of Internet Exchange Points (IXPs), which allow ISPs to interconnect and offload correspondent traffic. Only 11 of the 53 countries in Africa have internet exchange points. The result is an inefficient exchange of African inter-country traffic through hubs located overseas mainly in the US and Europe. This means that Africa is paying overseas carriers to exchange “local” (continental) traffic on its behalf. This is costly and inefficient. It is, therefore, well within the interest of all countries in Africa to find ways of optimising Internet traffic, through building better and more robust networks to support intra-continental traffic flows. This will create opportunities for private sector investment.

BEGINNING GATEWAYS

For most African countries, access to the Internet began with the national telecommunications corporation offering digital links, mostly satellite based, to the local market which consisted mostly of ISPs and other Internet access providers such as cyber cafes or telecentres. In essence, the national telecommunications corporation became country ‘gateways’ to the Internet and, by extension, the rest of the world. Herein lies the origin of the ‘gateway-centred’ Internet development approach in Africa, and the gate-keeper phenomenon. This genesis for the Internet meant that as the local demands for Internet access grew, so did the size of the “gate.” ‘Gateway-centred’ Internet development evolved. Internet access is measured in terms of *bandwidth*, which is “the capacity for data transfer of an electronic communications system.” This meant that the local “gateway” increased as the amount of bandwidth available to the local market. This was arguably the most logical form of growth, until a myriad of problems revealed the inherent weaknesses. With the ‘gateway-centred’ Internet development, almost overnight, the very facilities, which had been touted as gems in the communications industry became the biggest nightmare. This can be clearly seen in the example of Kenya’s 3-day Jambonet network failure in 1999. Despite the fragile situation presented by a country depending on one single gateway for all of its Internet

communications, the national telecommunications companies fought hard to keep the market from being “opened up” to competition. In time, the very people supposed to facilitate access and connectivity for the country became the bottleneck, the gatekeepers, locked up the country’s communications sector tightly.

The budding ISP community in many African countries became agents of change and quite often the most vocal on issues relating to sector liberalisation. Among some of the initiatives triggered by ISPs, the most significant was the introduction of IXPs into the world of African Internet. Cisco Systems, the largest networking company in the world has said “IXPs are the keystone of the entire Internet economy”. IXPs are the interconnection points of the Internet. In other words, IXPs are the places where ISPs interconnect with each other. An IXP can be described as a clearinghouse for Internet traffic, and the mantra among IXP practitioners is “Keep local traffic local.”

The majority of ISPs use their international circuits to carry traffic to other ISPs within the same country. In some cases, an email sent by a user to a correspondent across the street will be carried out over one ISP’s international circuit, to the US or wherever the upstream provider’s network terminates usually in Europe or the US, and then back down another ISP’s international circuit to the intended recipient. This unnecessary routing of traffic consumes a lot of bandwidth on these international circuits and causes unnecessary congestion. Various reports suggest that between 30-40% of all Internet traffic is local.

The commercial nature of the Internet, and the rapidly growing traffic it has generated, has provided tremendous incentives for ISPs to increase the number of IXPs. The locations, names, and years of establishment of existing IXPs in Africa are as follows:

- South Africa – JINX, established 1997
- Kenya – The Kenya Internet Exchange Point (KIXP), established 2001
- Uganda – UIXP, established 2003
- Tanzania – TIX, established 2003
- Mozambique - MOZIX, established 2003
- Egypt – EGIX, established 2003
- Nigeria – IBOX, established 2003
- Democratic Republic of Congo – KINIX, established 2003
- Rwanda – RINEX, established 2004
- Swaziland – SZIX, established 2004

Despite the significant increase in momentum with the creation of IXPs over the past two years, it is worth noting that there is still a glaring need for IXPs on the continent. Despite this need, setting up IXPs has not been easy.

THE KENYAN EXPERIENCE

Localising Local Internet Traffic

The concept of a facility that would ensure local routing of inter-ISP traffic within Kenya was first mooted within the ISP Task Force of the East African Internet Association in 1997. At the time, ISPs in Kenya obtained their international Internet connectivity through international leased lines from the Kenya Posts & Telecommunications Corporation connected to European and American network service providers. At the time, KPTC was the only telecommunications organisation allowed by law to carry international traffic from the point of origin to termination.

In 1998, KPTC launched Jambonet, the country's Internet gateway and backbone. Jambonet provided local ISPs with in-country access to the Internet via high capacity links between KPTC and international network operators. The cost of international Internet connectivity was reduced by over 50% with the introduction of Jambonet services leading to the termination by most ISPs of their international leased line connections choosing instead to connect to Jambonet. However, despite links to the local gateway, most inter-ISP traffic was still leaving the country and returning after traversing one or two other countries. This instigated the drive for a local facility that would keep Kenyan traffic within Kenya because of the costs.

After attending a Networking Workshop for Developing Countries hosted by the Internet Society (ISOC) in San Jose, California, US, in June of 1999, one of Kenya's Internet engineers obtained knowledge about how to design, set up, and maintain an IXP. Upon returning to Kenya, he proceeded to share this information with other ISPs. This new information instigated and helped the young ISPs to crystallise their vision for a local IXP.

During the various discussions relating to the establishment of the IXP, a number of different models were evaluated for the Kenya IXP. It was agreed, on a technical level, that the KIXP would be based on the same model as the Hong Kong Internet Exchange. This model is called the Layer Two Route Reflector IXP Model.

Architecturally, the KIXP core is designed to transmit data at the fastest possible speed and consists of two high speed ethernet switches. Each IXP member has the option of connecting their routing equipment to both switches. That way if one switch should fail, the other would take over automatically. The core is supplemented by two 'route reflectors' – specially configured routers that will bounce routing logic to all members at the KIXP until there is convergence, and all the routers have the same view of the network. This design

aspect allows for quick and easy policy implementation at the exchange point. The design enforces a multilateral peering policy for all members, thus allowing everyone to peer with everyone else. This design reduces the amount of configuration that needs to happen at the ISP router. The ISP then only has to have a peering session with the route reflector to see and exchange traffic with everybody else at the exchange point. Based on the existing design, the exchange point is capable of supporting up to 48 ISPs. This capacity can be extended further to support up to 200 individual ISPs.

SETTING UP THE IXP

Setting up the IXP involved debates on the location of the IXP, operational resource considerations, and an evaluation of the local traffic. One of the biggest debates was with regard to where the IXP would be hosted. A number of options were evaluated which included the following:

- The first option considered was Telkom Kenya, ostensibly the most suitable option since it was the incumbent public national telecoms operator. Some of the reasons cited in favour of Telkom Kenya included the fact that as national operator, all ISPs already had existing data links to its data network. Additionally, due to its central location, it would be much easier for all ISPs to gain physical access to the IXP, regardless of their location. This option, proved to be unworkable because Telkom Kenya declined the ISPs' request to host KIXP.
- The University of Nairobi was considered as an alternative host for KIXP mainly due to its dynamic computer studies faculty and its central location. The biggest concern about using the university was the frequency of student riots. Since the KIXP was expected to serve a mission critical purpose, this concern eliminated the university as a viable and serious option.
- A couple of ISPs that had their offices conveniently based in the CBD offered to host the IXP. The challenges here were both which ISP to choose out of the two as well as the fact that most of the other ISPs expressed a high level of dissatisfaction and would not trust them as competitors to handle the IXP without seeking to give themselves undue and possibly unethical advantage.
- After an evaluation all of the various options without finding one that satisfied all the ISPs or with which they were all equally comfortable, the idea of leasing space in a conveniently located building was posed. This idea was well received and allayed most of the fears and concerns expressed by the ISPs. It was

finally unanimously decided that a neutral, leased facility would be the best. A lease was taken up for 1500 square feet on the top floor of a strategically located building in the Nairobi city centre. So began the KIXP.

A main operational resource consideration was cost. As with any other type of data networking or communications infrastructure, costs fell into two broad categories: setup and operating costs. Setup costs included the cost of purchasing equipment for the core of the IXP as well as furnishing the room where the IXP was to be located with backup power, air-conditioning, equipment cabinets, and the relevant security fixtures. The initial equipment was funded both by a donation from Cisco Systems Incorporated as well as a small grant from the United Kingdom's Department for International Development. Other setup expenses were covered by funds from the Telecommunications Service Providers of Kenya (TESPOK). Since the space where KIXP was located was not free, it was necessary to find a way of covering the operating costs, such as rent, electricity and insurance costs. A monthly subscription fee for all members connecting to KIXP was introduced to cater for operating costs.

The exchange point went live on the 21 October 2001 with four connected ISPs exchanging traffic initially. An assessment of the local traffic since the initial stages, apart from the period during which the KIXP was shut down due to hostile regulation, shows that there has been a significant impact and improvement on the performance of the local infrastructure.

CHALLENGES

The challenges that faced the IXP included an all out attack on the KIXP with the threat of a shutdown; a legal battle to get KIXP back on track; coming up with a compromise solution; and an operational policy review. The moment the announcement that KIXP was live went out and following press releases to the local dailies to the same effect, an almost immediate attack issued from Telkom Kenya, the national telecoms operator, and incumbent. According to Telkom Kenya, KIXP was operating illegally and contravening exclusivities granted to Telkom Kenya which were valid until 2004. Telkom Kenya, exercising political muscle, put a high level call through to CCK, the regulator, to shut down the KIXP. The CCK wrote to KIXP demanding immediate shutdown on the basis that the facility was operating without a licence, an order that was effected.

The CCK order and the ensuing legal battle to get KIXP back on track were received with much alarm by the ISP community. The ISP community was determined to fight the battle. Close scrutiny of the Communications Act '98 and the Regulations of 2001 revealed the startling truth that KIXP did not need a licence to operate as it was a facility operated cooperatively by licensed providers. A case was then presented to the Communications Appeals Tribunal with a strong technical argument showing that KIXP was merely a standard, off-the-shelf ethernet hub. If the KIXP were to be shut down, then the CCK should shut down every computer network in the country since the technical architecture and components were equivalent. The Telkom charge was thus shown to be invalid. Thus was the road to a compromise solution paved. The CCK's response to this appeal, duly served by the Communications Appeals Tribunal, was an informal phone call to the chairman of TESPOK, the ISP association, with a request to explore an out-of-court settlement. It was clear that Telkom Kenya had misrepresented the situation and, because the matter was made public and had received a significant amount of attention and coverage in the local and international media, it was necessary to find a face saving solution and make everybody happy.

The approach eventually adopted was the establishment of a company called KIXP Limited, which then applied for an IXP licence, which CCK duly granted. This made Kenya the first country in the world to have an IXP licence.

Regarding operational policy relevance, in the time that KIXP has been operational, it has become a key and integral part of Kenya's local Internet infrastructure and has made it possible to have robust, real-time, online applications which are relevant to the local community to be developed. A good example is the online employment web portal, *www.myJobsEye.com* which has thousands of jobs and jobseekers in its database and has been able to significantly shorten the employment/job seeking time.

In the course of 2004, it emerged that the policies that governed membership and use of KIXP were restrictive since they allowed only licensed ISPs to be members and to connect to the IXP. This realisation prompted a policy review which lifted all restrictions on membership and lowered joining fees by 600%. The new policy has allowed non-ISPs such as the academic network Kenya Education Network (KENET), as well as the national domain name registry, Kenya Network Information Centre (KENIC), to become members and localise their traffic.

THE RWANDAN EXPERIENCE

About Local Traffic

Discussions between the various stakeholders, the planning process, and the RINEX architecture, as for the Kenyan experience, are crucial aspects when talking about local Internet traffic in Rwanda.

The Internet was launched in Rwanda by the national telecommunications operator Rwandatel when Internet services started in 1997. In 2004, Rwanda had six operating ISPs: Rwandatel, Mediapost, National University of Rwanda (NUR), Kigali Institute of Science, Technology and Management (KIST), Artel Communications, and Terracom. Before June 2004, the ISPs were using international operators to carry their local as well as international Internet traffic. The high cost of the satellite links as well as delays in connection made the situation unbearable and limited the growth of the Internet in Rwanda.

After long negotiations, the ISPs agreed to establish a peering point in the Rwanda Information Technology Authority (RITA), though the details of how to establish and fund it remained unclear. One of the major challenges at that time was the total absence of technical knowledge regarding how to set up and maintain an IXP.

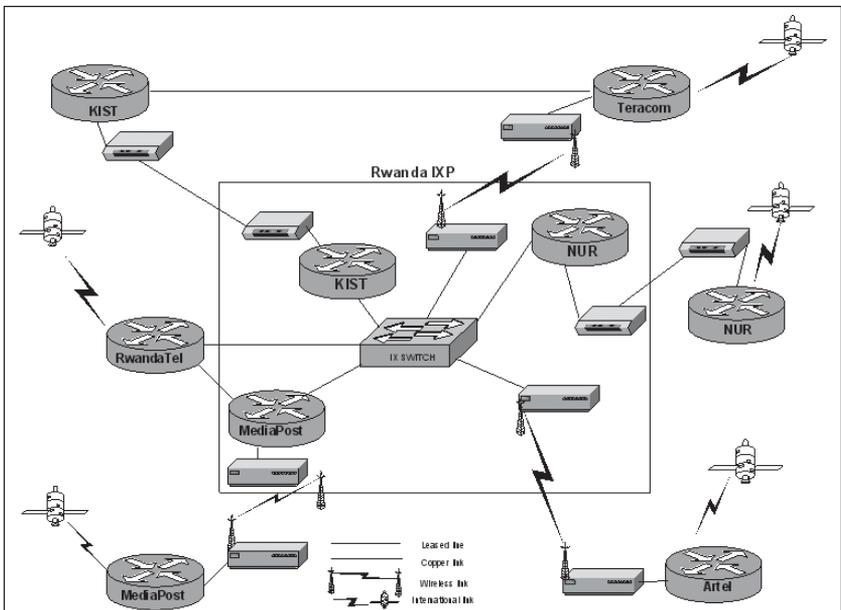
In October 2003, the Swedish International Development and Cooperation Agency (SIDA), one of the major contributors to ICT development in developing countries, and Rwanda in particular, agreed to assist Rwanda in the establishment of the peering point. Rwanda had fulfilled the prerequisites needed for assistance including the creation of a coordinated and neutral body to host the peering point, the existence of at least two independent ISPs in the country, an association of the ISPs willing to work together in the peering arrangement and a team of technicians from the various ISPs trained in the techniques of setting up and maintaining a peering point.

The Rwanda IX project thus started in February 2004 and ended in June 2004, funded by SIDA. The project involved cooperation between the Royal Institute of Technology (KTH) in Sweden and RITA in Rwanda. Once the project plan was fully developed and ready for implementation, it was formalised under the name of Rwanda Internet Exchange (RINEX). The aim was to implement an IXP in Kigali, Rwanda, and create local human capacity that would be able to utilise and manage the IXP. The project included training courses taken by a team of four Rwandans in Communication System Design (CSD) in the Department of Microelectronics and Information Technology (IMIT) at KTH.

For the RINEX architecture, as for the KIXP architecture, the two-layer based IXP solution was approved by all the stakeholders because of its simplicity (to set up and to administer) its reliability and independence. Each ISP brings its circuits from its backbone or co-locates a router and connects to the IXP switch to exchange local Internet traffic with traffic from other local ISPs. This situation keeps the local traffic local and saves international bandwidth. Reliability is achieved by the IXP through having a redundancy switch. The IXP can keep the operational tasks to a minimum since ISPs are responsible for their own configurations and policies.

Figure 14.1, showing two concentric boxes, is a schematic representation of RINEX. The inner box represents the equipment that is located in the IXP premises. This consists of the IXP core and ISP routers and communications equipment. Individual ISP communications equipments link their IXP router back to their main backbone in the outer box, thereby providing the means by which to offload the local traffic onto the IXP.

Figure 14.1: RINEX Topology



KIST – Kigali Institute of Science, Technology and Management
 NUR – National University of Rwanda

SETTING UP THE IXP

As with the IXP in Kenya, setting up the IXP in Rwanda involved the same aspects: a debate on location of the IXP; operational resource considerations; and an evaluation of the local traffic. An additional factor of ownership structure was crucial in the Rwandan case. Initially, the RINEX was intended to be located at one neutral location as agreed by all the ISPs to ensure functional neutrality. This required a place with electricity, a power generator, security, telephones, office space, and an air conditioner. Unfortunately, there were not enough resources available to prepare such a room. Rwandatel had all the facilities in its premises and offered to host the IXP at least initially. Rwandatel was approved as the RINEX host as almost all the ISPs had links to Rwandatel.

In respect of ownership, some of the opportunities which existed in Kenyan were not in Kigali. The academic entities in Rwanda lack physical facilities, and the private ISPs lacked capacity and capital. The possible ownership options included hosting by a non-profit association, a government institution, or a national private trade organisation. RINEX stakeholders proposed a mixture of the three ownership proposals as possible solutions as follows:

- The RINEX to be owned and managed by the RITA, a government institution, for a trial period of 6 months;
- Once a RINEX members association is created and institutionalised, the ownership should be transferred to it, creating ownership by a non-profit association;
- Rwandatel, the incumbent Public Telephone Operator (PTO) would host the IXP making it easy to start since this organisation has good infrastructure but keep functional neutrality by having RITA manage the IXP and later the RINEX member association.

A simple administrative model where all members would be equal in all respects, independent of size, was proposed. The proposed structure consists of 2 entities: the RINEX Council and the Executive Committee. The RINEX Council is a formal managerial unit which is responsible for making decisions regarding RINEX. It is to be open and democratic, having one representative from each connected organisation or member, and a president with each representative having one vote. The president for the initial 6 months is RITA. After this initial trial period, RITA will transfer the presidency to the RINEX Council. This will be continued on a rotational basis among all the members. The period of rotation will be determined by the stakeholders during the trial period.

It is very important to note that by being an open organisation, the IXP must be open to any future ISP, university, or any other organisation with an external gateway that wants to connect to the

IXP, provided it fulfils the requirements. The Council is expected to deal with strategic decisions such as changes to the functioning of the IXP, policies, costs, investments, and new (value-added) services, as well as the joining and termination of members. Members' participation in this process ensures that the IXP will not try to deliberately interfere with members' businesses.

Operational issues are the responsibility of the Executive Committee that consists of two units: the administrative unit and the network operation unit. During the early trial period, the operational duties were performed by the RwandaIX team members in collaboration with RITA. The administrative unit is the first point of contact for the RINEX. It handles the relations with the suppliers, housing partners, and RINEX members. It executes the decisions taken by the Council and follows them up.

The network operations unit is responsible for the technical duties such as connecting/disconnecting a new member to/from the IXP equipment, hosting, troubleshooting, etc. The co-author of this chapter is the contact person for technical operations of the RINEX. Once ownership has been transferred to the RINEX Council, members can nominate a suitable person to this post. The requirements will be determined by the RINEX Council during the trial period. It is recommended that this person not be appointed on a rotational basis.

The RINEX is a non-profit organisation and should be self-financing as far as operational resource considerations are concerned. The initial equipment for setting up the IXP and the training of the RwandaIX team members were sponsored by SIDA.

RINEX is not supposed to compete with its members' businesses; hence, the budget needed for the IX will be used for maintenance only. Rwandatel is currently providing resources, such as space, telephones, security, electricity, a power generator, technical assistance together with the RwandaIX team members, and the administrative duties performed by the RwandaIX team members. The IX running costs for the time being include only the depreciation of equipment and the annual fee for the *www.rinex.rw* domain name.

On July 26, 2004, the RINEX was officially launched by His Honourable the Prime Minister of Rwanda, Mr. Bernard Makuza. An assessment of the local traffic shows that all six ISPs operational in Rwanda are connected. Rwandan ISPs are now exchanging local traffic locally at zero cost, and the connectivity speed between them has increased significantly. This efficiency allows for the development of local ICT applications in the country, such as e-learning, telemedicine, e-commerce, and e-government that had been stopped due to the high cost of satellite links some time back.

Challenges

The challenges facing the IXP include the suspected non-neutrality of the location of the IXP and the institutionalisation of the RINEX.

Some ISPs were reluctant to connect to the RINEX because they thought that the IXP would be managed by Rwandatel since it is hosted there. This threat has been relieved a bit by an explanation by the management of the RINEX that ensures its neutrality. Having the IXP hosted at the national PTO always brings some threats about the neutrality of the IXP. Hence, agreements must be signed and respected.

The ICT policies at the national level should cover the national IXP policy, and the RINEX policy should conform to the national IXP policy, keeping in mind that, for the time being, in Rwanda, the national IXP policy has not yet been written. The need for elaborating an IXP policy at the national level is therefore crucial for the sustainability of the RINEX.

CONCLUSION

At the moment, due to the lack of inter-country connectivity, African countries are depending on overseas carriers, primarily in the US, Europe, Asia, and the Middle East for exchange of traffic between African ISPs. African Internet users are paying dearly for this.

The Internet in Africa will never have the desirable positive impact on the continent as a whole until high capacity, inter-country links called IXPs are established. It would also be ideal for the infrastructure to be established based on open access models that allow any operator or provider to access the infrastructure at equal cost.

Keeping in mind the critical role that IXPs play in the development of a country's Internet infrastructure and in turn their contribution to the global Internet, it is imperative for any government, regulator or policymaker to incorporate an IXP in the national ICT development strategies as a concrete means of providing an enabling environment for ISPs and other ICT sector players.

In addition to encouraging the establishment of IXPs it is also important to address the policy constraints that are presently impeding the establishment of cross-boarder connectivity by potential regional carriers. One of the biggest constraints is the need for operators to acquire licenses for each country in which they expect to establish infrastructure.

PART 4: LEARNING FROM OTHERS

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CHAPTER 15

THE DEVELOPMENT OF ICTS IN RWANDA: PIONEERING EXPERIENCES

Silas Lwakabamba

Introduction

A central pillar of Rwanda's economic growth strategy is ICT-led socioeconomic development through the National Information and Communications Infrastructure (NICI) Policy and Plan. While Rwanda shares with many other African countries issues of poverty and weak institutions, the implementation of the NICI Policy and Plan presents unique challenges resulting from the social disintegration following the 1994 genocide, which resulted in the destruction of much of the human capacity, infrastructure, and the social fabric. Rwanda's case illustrates how progress can occur even when the enabling conditions are still weak. This chapter demonstrates that when political will and good management are present, satisfactory albeit irregular or imperfect, results can be achieved.

BACKGROUND

Rwanda is a tiny land-locked country with a population density of more than 306 people per square kilometre, placing it among the most densely populated in Africa. Agriculture remains the major economic activity, contributing 46% of GDP, accounting for about 90% of the labour force and contributing 72% of exports, mainly tea and coffee. Unfortunately, the agricultural sector continues to suffer from deforestation and soil erosion and is often subject to climatic vagaries that result in fluctuations in harvest.

Characterised by a very weak export base, vulnerability to export price shocks and the devastating effects of the 1994 genocide,

Rwanda remains one of the poorest countries in the world. On account of the realisation of these constraints, Rwanda has adopted the knowledge paradigm of development as the cornerstone of its economic recovery strategy as detailed in the Vision 2020 and the Poverty Reduction Strategy Paper (PRSP). The main strategy, in the short to medium term, is to use ICTs for poverty reduction through its catalytic and leveraging effect by improving access to basic services, education and health. The long term strategy is to position Rwanda within the global competitive digital economy.

This chapter highlights efforts of the Government of Rwanda in:

- introducing, developing, and applying ICTs in key institutions in the country;
- formulating and implementing a national ICT policy;
- establishing regulatory ICT institutions;
- building ICT human capacity for future sustainability through higher education.

The chapter examines the achievements made by the Government of Rwanda to date in implementing the national ICT policy, the challenges faced, and the opportunities.

RWANDA NATIONAL ICT POLICY FORMULATION PROCESS

Adopting ICTs as an enabler for economic development demands a comprehensive approach because of the need to go beyond the requirements of a single sector and to facilitate more general deployment of ICTs. The Rwanda ICT policy framework is based on a national Vision 2020, which aims at making Rwanda a middle-income economy by the year 2020. The principal policy instrument for this vision is the National Information and Communications Infrastructure (NICI) Policy and Plan.

The NICI Plan is supplemented by a comprehensive blueprint based on a set of eight pillars, each with a series of specific initiatives, which serve as components of a strategic vehicle for achieving policy objectives. The NICI Plan identifies eight areas of major strategic action — human capacity, infrastructure, e-government, community access, ICT in education, Foreign Direct Investment (FDI), regulatory and legal issues, and private sector facilitation. It also sets forth policies in support of harnessing the potential of ICTs to achieve development goals.

The United Nations Economic Commission for Africa (UNECA) supported the development of the NICI Policy and Plan within the framework of the African Information Society Initiative (AISII). The outcome of this support is the ICT policy framework entitled “An Integrated Framework for ICT-Led Socioeconomic Development

Policy and Plan for Rwanda” released in October 1999. The document was the subject of extensive consultations and dialogue within the government and among the key stakeholders. It was subject of a national debate between June 18 and July 28, 2000. The government established an ad-hoc task force during the policy formulation process, to coordinate feedback from the various stakeholders, using a participatory approach. KIST (Kigali Institute of Science, Technology and Management) was represented on this task force by two members, one of whom is the current rector and author of this chapter.

Consultations on the policy document culminated in 2000 with the Government of Rwanda adopting the national ICT policy to support its socioeconomic development vision aimed at poverty alleviation. The strategy document entitled, “An Integrated ICT-Led Socioeconomic Development Policy and Plan for Rwanda 2001-2020,” of 2001 incorporates an elaborate National Information and Communications Infrastructure Plan 2001-2020.

As a direct consequence of the national endorsement and the adoption of the policy and plan, the Rwanda Information Technology Authority (RITA) was established in October 2002 by an Act of Parliament. RITA is charged with the responsibility to articulate, catalyse and facilitate the implementation of national and sectoral ICT programmes outlined in the NICI Policy and Plan. RITA’s mandate focuses on e-government, human capacity development, infrastructure and community access and applications of ICTs.

Since the completion and adoption of the NICI Policy and Plan in 2000, tremendous progress has been made. Overall teledensity in Rwanda has increased phenomenally. Cellular services now cover 70% of the country with a subscriber base that has increased five-fold in five years. Rural telephony has seen massive deployment of Very Small Aperture Terminals (VSATs) across the country. The telecommunications infrastructure continues to be rebuilt with relatively modern switching capabilities that provide a variety of services. Broadband technologies are rapidly evolving with extensive fibre optic infrastructure being deployed. In fact, Rwanda has been selected as a testbed for WiMAX demonstrator applications.

The telecommunications sector is undergoing reform and privatisation. Through an independent multi-sector regulator, various reforms have been instituted as prerequisites for a basic framework for the growth of the sector. A strategy of concurrent privatisation and liberalisation with phased-in competition and regulation has been adopted. In principle, licensed operators can

provide any telecommunication service open to competition, without seeking additional licensing. Indeed, the incumbent fixed-line operator (Rwandatel) is currently listed for divestiture with a bundled mobile license.

ESTABLISHMENT OF NATIONAL ICT RELATED INSTITUTIONS

The Rwanda Information Technology Authority (RITA)

Rwanda recognised the critical importance of national strategies for the effective utilisation of ICTs in achieving development goals. These strategies have been effected through the establishment of various agencies, with RITA as one of the most significant new entrants. RITA is the national ICT implementation and coordination body under the supervision of the National Information & Technology Commission (NITC) chaired by the Prime Minister. It is an autonomous body linked to the ICT Divisions/Directorates of each ministry, and with other ICT-related organisations in the public and private sectors.

RITA worked on an interim basis until the beginning of March 2003 when the first Executive Director was appointed, and in July 2004 additional staff joined the institution. These included the Director for the private sector, education, and community programmes. RITA is, therefore, currently in full operation.

A national computing centre is in the process of being established. It will promote shared infrastructure and applications among government institutions, establish and maintain a government core network and portal, promote common policies on the management of ICTs in government, and provide advanced computing services to organisations that need them.

The Rwanda Utility Regulatory Agency (RURA)

The Rwanda Utility Regulatory Agency (RURA) was established by law No. 39/2001 on 13 September 2001. It is the overall multi-sector regulating organ for various public utilities which provide the following services:

- telecommunication networks/or telecommunications services;
- electricity;
- waste products removal from residential or business premises;
- extraction and distribution of gas;
- transportation of persons and goods.

The establishment of a multi-sector regulatory authority in Rwanda is a first step towards a supportive environment for long term capital investment in the ICT industry. However, license application processes have been a problem for new telecommunication companies desirous of operating in Rwanda. Delays in processing applications are common, a situation which also contributes to delays in driving ICTs forward in the country. According to law No. 39/2001, establishing RURA, and law No. 44/2001, governing telecommunications in Rwanda, RURA is the only institution allowed to grant licenses for the installation and exploitation of a private radio communication station or VSAT. However, the new regulatory agency is too young to handle the huge current and load of licensing issues for all the sectors for which it has responsibility. Table 15.1 shows the number of licenses that were issued by RURA in 2003.

Table 15.1: Number of licenses issued by RURA in 2003

PS TN*	Cellular	Paging	Public Data	VSAT	Closed User group data	ISP	Cyber café
1	1	0	0	15	0	6	100

Source: Rwanda Utilities Regulatory Agency

* Public Switch Telephone Network

KIST AND ICT CAPACITY BUILDING IN RWANDA

The government's aggressive push towards creating a knowledge-based society through the use of information and communication technologies was also behind the strategic move to build the desperately needed human resource capacity, a formidable and long-term challenge. The Government of Rwanda is acutely aware of limitations in human capacity in all sectors. Statistics indicate that only 1% of the total population enrol at the tertiary level, less than 5% of the workforce are trained beyond secondary level, 100 engineers are available in the country of 8.3 million inhabitants, and only 0.1% are trained managers. According to the final draft of "The Vision and Strategic Framework for the Multi-Sector Capacity Building Programme in Rwanda" (Wangwe & Kiragu, 2003), "only about 6.5 percent of the workforce has some university education, 2.7 percent has a university degree, and many technical, professional and managerial positions are either vacant or filled with expatriates or unqualified staff."

This shortage of human capacity is exacerbated by widespread poverty and by the devastating legacy of the 1990-1994 civil war and genocide. The genocide wiped out over one million people, many of whom were professionals and other skilled personnel, others fled

into exile. Besides the low level of skilled human capital, Rwanda is also faced with other challenges, such as a weak industrial base.

In an attempt to rise above this extremely dismal picture and fall in step with fast-paced globalisation and modern technological advances, the Government of Rwanda needed to establish public institutions of higher learning. Such an institution's mandate would be to train nationals in various skills and professions to fill the gaps in the labour force. An integrated strategy and action plan was thus developed to address the critical issues concerning the effective utilisation of information technology in the education system. The Kigali Institute of Science, Technology and Management (KIST) came into being in November 1997, in response to this need, with the singular mandate to train and educate young Rwandans in the field of science and technology and to supplement the then 34 year old National University of Rwanda, which focused mainly on courses in medicine and humanities. The pioneering challenges of setting up the institute included developing programmes to train both technicians and engineers.

KIST came on the scene as a new African university in a different garb. During the planning stages, it was realised that the mainly theoretical education offered by conventional universities would not be very relevant to Rwanda at its stage of development. Strategies were laid out for the Institute to build an indigenous and technical human resource base, capable of developing all sectors of the economy. All of KIST programmes were consequently designed to include theory, but with a strong practical component and a market driven orientation in a bid to address the development needs of the country and satisfy the new requirements. In respect of ICT programmes relevant to the ICT sector, KIST currently offers full time and part time programmes in Computer Engineering, Information Technology, Electronics and Telecommunication Engineering, leading to the award of either diplomas or bachelor degrees. In addition, the Institute offers basic computer courses to all students in all disciplines. The curriculum is reviewed annually to keep it in tandem with the rapid technological changes.

In July 2002 and March 2004, KIST graduated 28 and 44 respectively, with degrees in Computer Engineering and Information Technology. These were the first and indigenous graduate ICT engineers in Rwanda. All of these graduates have already secured employment as ICT managers or ICT systems administrators in the public and private sectors. Indeed, due to the increased demand for ICT experts, some of the graduates had secured jobs while still in their final year. The Institute is also implementing a continuing education programme through its Centre for Continuing Education, covering a wide range of courses such as computer applications; electronics and

telecommunications; radio and television repairs; computer courses for secondary school technical teachers; training programmes for intermediate ICT technicians, etc. Some of the courses are tailor-made to suit the needs of customers. KIST has also introduced CISCO Network Academy and Microsoft Certification Programmes as well, which allow students to get hands-on experience with state of the art equipment.

Some KIST graduates and current students of Computer Engineering and Information Technology are employed in Internet cafés while others have set up their own Internet cafés to serve the public. Seven years after its establishment, it is evident that KIST is slowly but surely making an impact in ICTs in Rwanda, resulting in increased employment and contributing to more efficient public services.

The Institute has positioned itself at the forefront of ICT deployment and application at different levels in the country, through distance education programmes via satellite as part of the African Virtual University, Internet service provision, and consultancy activities.

INTERNET IN RWANDA

Internet use in Rwanda started early in 1996 with a very limited number of users. Internet services were launched by Rwandatel, the state owned telecommunications company, with equipment provided by the Leland initiative. Leland was a USAID-based project aimed at providing high-speed Internet connectivity, particularly to Sub-Saharan Africa. In providing the equipment, Leland had, at that time, expected both the Ministry of Telecommunication and Rwandatel to allow other private initiatives to become Internet Service Providers (ISPs). Unfortunately, Rwandatel was not about to open the turf to competitors, it refused to co-operate and retained its dominant position as the only ISP until 2001.

In early 1999, the National University of Rwanda (NUR) in preparation to offer Internet services received its first network equipment including servers, routers and modems, but spent two months waiting for a leased line from Rwandatel. By the time the approval from Rwandatel was received, the monthly ISP fee was a heavy US\$2,500. In September 1999, the two major higher educational institutions, NUR and KIST, received VSAT donations from the Leland initiative, allowing each institution access to high speed Internet connectivity. With Rwandatel determined to ward off any form of competition, the process of getting licenses for VSATs for the two institutions was an uphill task that was accomplished only after intervention from top level authorities after which KIST and NUR started operating as ISPs providing Internet access to remote users through both dialup and wireless technology.

When KIST started offering Internet café services to the public at \$1 per hour, there were only two private Internet cafés in Kigali, whose charges were \$7 per hour. This price difference ignited protests from the providers but KIST believed that it would make a lot of difference to the public to have affordable Internet services. At the same time, other Internet cafés started business with connections to Internet provided through KIST, NUR, and Rwandatel, and as a consequence, the charges for Internet services started to climb down, making Internet access much easier for the public.

DEVELOPMENT OF THE TELECOMMUNICATIONS SECTOR

Things have also changed in the telecommunications sector. The interconnection agreement between the two premier companies, Rwandatel (for fixed line services) and MTN Rwandacell (for mobile services), for example, was negotiated in 1998. This preceded the existence of any regulatory body. The termination charges on this interconnection settlement agreement have never since been revised. Initially, Rwandatel was in a good position with many more subscribers because MTN Rwandacell was not yet fully deployed. However, the situation is now completely the reverse. Rwandacell has over four times the number of subscribers as Rwandatel, and the rate for telephone calls from mobile to fixed lines is prohibitive, which discourages most users from calling from mobile to fixed telephones. The current estimate is that 90% of interconnection calls are initiated from Rwandatel network and terminate on MTN Rwandacell network (fixed to mobile). This means that Rwandatel has to pay a tremendous amount of money to MTN Rwandacell as termination charges for the use of the MTN Rwandacell network.

There is now a third telecommunications company in Rwanda, African Rural Telecommunication (ARTEL), planning to put in place 400 VSATs to cover the whole country by the end of 2004. By the time of its official launch in October 2002, ARTEL had initially put 40 VSATs in place mainly in rural areas, and by mid 2004, 210 VSATs had been installed all over the country. ARTEL is committed to ensuring that the fruits of the current ICT boom are spread evenly throughout the country.

CONSTRAINTS TO UNIVERSAL ACCESS

In many cases, access refers only to the availability of telephones, and in some cases, only to having computers available within a certain radius. Real access to ICTs involve far more than just the infrastructure.

Although the cost of Internet services, VSAT and leased lines for internal connections are coming down, services are available mostly in Kigali, the capital city. This leaves potential rural beneficiaries without or with very limited access to ICT services. From the perspective of a pioneer and an insider, the major factors which hinder universal access to the majority of Rwandans are as follows:

1. Limited telecommunications infrastructure and access: The extent and quality of ICT infrastructure and access to the Internet varies widely. Computer hardware is in short supply, and some of the hardware that does exist is outdated.
2. A small skilled resource pool: The lack of a skilled ICT human resource pool leaves Rwandans dependent on outside expertise and support, and as a result, they are unable to take advantage of ICT opportunities that exist both within Rwanda and in more developed countries. But this situation is being addressed through institutions such as KIST, the NUR, and other institutions of higher learning.
3. Absence of potential political leadership: Except for the “Rwanda ICT Champion,” the President of the Republic of Rwanda, the majority of policy makers and political leaders are only now slowly becoming ICT literate and innovative in using ICTs for decision-making. For long, the majority of policy makers relegated ICTs to technicians and treated them as peripheral to the many other issues confronting the Government of Rwanda. Politicians are faced with many competing and urgent demands, and only a few see the tangible benefits of investing in ICTs. This is, however, changing slowly.
4. Inadequate financial resources: Affordability and many competing demands are limiting ICT development and its application.
5. Weak ICT business base: There are few Rwandan ICT businesses. Furthermore, ICT is still not directly factored into the Rwandan national economic development strategies.
6. Gaps in baseline information: In every conceivable area, there are critical information gaps. There is, for example, no consistent information about the extent of penetration and usage of new technology or the existing skills base. A survey conducted in the country recently assisted communities to identify their needs, opportunities, and strength in the use of ICTs. A summary of the assessment results of a study conducted in 2003 all over the country in the local sector, large business sector, and the small-medium enterprises sector (SME) is summarised in Table 15.2.

Table 15.2: Use of ICTs in Rwanda

Economic sector	Sector	Estimated level of ICT engagement				
		Non-ICT	CT Only	Basic ICT	Networked ICT	Intensive ICT
Public sector	Local Government	46.4%	5.7%	34.9%	13.0%	0.0%
Private sector	Large Businesses	0.0%	2.2%	9.7%	77.8%	10.2%
	SMEs	18.1%	25.1%	17.5%	34.8%	4.4%

Source: *e-readiness report 2003*

From the above table, the Ministry of Local Government reports a relatively high level of ICT access: large businesses have a comparatively high degree of ICT usage, and SMEs are evenly distributed across the spectrum, reflecting the varied conditions under which SMEs operate in Rwanda.

SUPPORTING THE DEVELOPMENT OF ICTS IN RWANDA

In spite of the constraints, computers and related ICT equipment are in use in almost all government departments, in higher education institutions, in major service and private sector companies, and in diplomatic and development agency offices. All ministries are connected to the Ministry of Finance for budget preparation and payroll. The government and various donors are funding computerisation in public administration and in education as a means of supporting good governance and human resource development.

Donors have provided the backbone support for ICT programmes in the country. UNECA assisted in the preparation of the NICI-2005 Policy and Plan; the Swedish International Development and Cooperation Agency (SIDA) is providing institutional support to RITA. USAID spent US\$1m in 2002 on computerising the operations of the Ministry of Justice, both in Kigali and at 21 sites around Rwanda. A further substantial sum is being provided by USAID to link the Ministry of Local Government with the 12 provincial administrations. USAID is also supporting the government in the computerisation of primary schools, with at least one computer to each primary school. A World Links project is aimed at connecting Rwandan schools committed to the training of secondary and primary school teachers. To achieve this ambitious goal, USAID created an alliance of partners that includes Microsoft Africa, Alpha Soft (a local ICT company), Computer-Aid International, and others to work

together. SIDA financed the computerisation of the Auditor General's Office, while the Department for International Development (DFID) has supported the computerisation of the Rwanda Revenue Authority (RRA). These are only a few examples of on-going ICT activities in Rwanda.

POTENTIAL OPPORTUNITIES

The government believes that most of the remaining challenges can easily be converted into opportunities for sector growth, and among the areas which need urgent attention are the following:

- improved high capacity connectivity using fibre optics within the country;
- development of new services and products which exploit the access to increased bandwidth such as e-commerce, e-government, e-health, and e-education;
- reduction of unemployment through jobs offered by above e-services;
- reduction of payment to foreign telecommunications (satellite) facility providers.

CONCLUSION

There is no doubt, whatsoever, that at the moment Rwanda's ICT sector is growing fast and this situation is likely to continue in the next few decades. The development of human capacity in the ICT sector is, however, a critical issue that must be given immediate attention. Along with human resource development programmes, the curricula developed in higher education institutions should be designed to meet the Rwandan labour market requirements both qualitatively and quantitatively, and the demands of changing technologies, particularly in the ICT sector.

Rwanda's ICT policy has all the necessary components for success, from institutional framework to market liberalisation. The big challenge is the development of human resources with adequate capacity to effectively implement the policy and the adoption of required standards and regulations. Rwanda's approved policy document is not to be perceived as cast in stone. It serves only as a guiding instrument which needs regular review to accommodate the flux in an environment prone to rapid technological change. Considering where the country has been, where it is now, and the direction in which it is heading, it appears certain that Rwanda's use and development of ICTs will greatly contribute to a fast-paced development in the future.

REFERENCES

- Esselaar M. & Associates, (2001). A country ICT survey for Rwanda. Report prepared for Swedish International Development Cooperation Agency (SIDA). Kigali: SIDA.
- Government of Rwanda, (2000). An Integrated ICT-led Socio-Economic Development Policy and Plan for Rwanda, 2001-2020. Kigali: Government of Rwanda.
- Government of Rwanda, (). Vision 2020. Kigali: Government of Rwanda.
- Government of Rwanda, (). Law No. 39/2001, Establishment of RURA. Kigali: Government of Rwanda.
- Government of Rwanda, (). Law No. 44/2001, Telecommunications. Kigali: Government of Rwanda.
- Government of Rwanda, (2002). (National Poverty Reduction Programme, Ministry of Finance and Economic Planning). Rwanda: Poverty Reduction Strategy Paper. Kigali: Government of Rwanda.
- Lwakabamba S., (May, 2002). ICT and employment in Rwanda. In KIST (Ed.). Seminar on the curriculum in the service of national development: What skills do our children need. pp. 99-105. Kigali: KIST.
- Ministry of Transport and Communication, (2001). Government of Rwanda: Budget Report. Kigali.
- Rwamasirabo E., (May, 2002). ICT and education in Rwanda. In KIST (Ed.). Seminar on the curriculum in the service of national development: What kills do our children need. (pp. 92-95). Kigali: KIST.
- Wangwe, S. & Kiragu K., (2003). The vision and strategic framework for the multi-sector capacity building programme in Rwanda. Publisher.
- World Bank, (1988). Education in sub-Saharan Africa: Policies for adjustment, revitalisation and expansion (pp 74-75). Washington D.C: World Bank.

CHAPTER 16

THE UGANDA KNOWLEDGE AND INFORMATION SOCIETY: EARLY LESSONS FROM ICT PROJECTS

Fred Kintu, David Obot and Laurent Elder

Introduction

Uganda has received a substantial amount of support from donor agencies in the past decade in the area of Information and Communication Technology (ICT) for development. It was, for example, a focus country of both the Canadian International Development Research Centre's (IDRC) Acacia initiative and the Netherlands International Institute for Communication and Development's (IICD) ICT programmes. This has translated into a myriad ICT projects being implemented in various sectors of Ugandan society, most notably in rural infrastructure, education, livelihoods and health. It would seem essential that Uganda learn as much as possible from these experiences, as lessons from implementing these projects could play an important role in ensuring that Uganda develops an appropriate ICT strategy and action plan. These lessons could also be useful for other African countries, particularly countries such as Kenya, which are embarking on the road towards defining an ICT strategy and plan. The focus of this chapter is on summarising the experiences and lessons from projects, and special attention will be given to the Acacia programme in Uganda, which has undertaken substantial evaluation work in Uganda.

UGANDA IN THE 1990S: THE EVOLUTION OF ICTS

Debates about the relevance of ICTs to development intensified from the 1980s and resulted in numerous national processes in the developed North. These processes were aimed at mainstreaming ICTs into the social and economic development strategies of respective countries. In 1993 the USA established the Information Infrastructure Task Force (IITF) charged with the responsibility 'to provide leadership in integrating IT into the systems that support government's operations.' Japan created the Telecom Council 'to define a national strategy aimed at adequate access to the information highway to all Japanese households by 2010'. Canada aimed at maximum utilisation of ICTs in 'every part of life everywhere in the country ... because telecommunications had become a principal engine of economic and social activity'.

Processes at the international level triggered examinations by African states of their positions in the light of "the Information Revolution". In 1995, African states, with assistance from the United Nations Economic Commission for Africa (UNECA), the International Telecommunications Union (ITU), the United Nations Educational, Scientific and Cultural Organisation (UNESCO), IDRC and the Bellanet Secretariat, helped develop the African Information Society Initiative (AISII). The UNECA Conference of Ministers responsible for economic and social development not only endorsed the initiative but developed a detailed plan which was christened, 'The African Information Society Initiative: An Action Framework to Build Africa's Information Highway.' The plan stimulated African governments to either speed up or start developing their respective national ICT policies 'to reflect overall development priorities'.

Uganda's journey towards an ICT policy is traceable to political commitment and to the privatisation efforts. Statutes related to this process include the Press and Journalist Statute of 1995, the Electronic Media Statute of 1996, the Communications Act of 1997; and the Rural Communications Policy of 2001. The outcome of these policy activities was evident in increased investments in communications infrastructure, notably in mobile telephony, frequency modulated (FM) radios, televisions and Internet services (as reflected in Table 16.1).

Table 16.1: Uganda Information and Communication Technologies Infrastructure 1996 to 2004

Services Provided / Year	1996	1998	1999	2000	2001	2002	2003	June 2004
Fixed telephone lines	46,000	56,000	58,000	58,000	56,149	59,472	65,793	71,272
Mobile subscribers	3,500	40,000	70,000	140,000	276,034	505,996	777,563	987,456
National telephone operators	1	2	2	2	2	2	2	2
Mobile cellular operators	1	2	2	2	3	3	3	3
Internet access service providers	2	7	9	9	9	*	*	*
Internet/e-mail subscribers (wireless access)	*	*	*	500	6,500	6,500	7,024	8,000
Internet/e-mail subscribers (dial up)	*	*	*	4,000	4,500	*	*	*
VSAT international gateways	*	*	*	4	8	8	8	8
Public Internet service providers (cafés)	*	3	8	17	17	17	18	18
Public payphone licenses	*	7	13	19	18	*	*	*
Paging service providers	2	3	3	3	3	*	*	*
FM radio stations	14	28	37	40	110	117	125	129
Television stations	4	8	11	11	20	22	23	25
Private radio communications operators	453	530	688	688	1,210	*	*	*
National postal operators	1	1	1	1	1	1	1	1
Courier service providers	*	7	8	10	10	11	19	19

Source: Uganda Communications Commission, 2003 and 2004. <http://www.ucc.co.ug> (28 October 2004).

*Data not obtained.

The growth of ICT infrastructure from 1996 to 2004 (Table 16.1) can be seen in, for example, the growth in the number of fixed telephone lines, which have risen from 46,000 to 71,272. More impressively, mobile phone subscribers increased from 3,500 to an incredible 987,456 in the same period. FM radio stations also increased from 14 to 129, and television stations from four to 25. The government plans to award service agreements to three or more Internet service providers to render universal Internet access services (through Internet Points of Presence) in 32 designated districts. The growth in the ICT sector is but one aspect of Uganda's impressive first steps into what some call "the new economy," the knowledge and information economy. It is also essential to understand the various ways in which projects or experiences using ICTs have had an impact on the most important aspects of Ugandan life: governance, education, health and livelihood.

ICTS PROJECTS IN DIFFERENT SECTORS

ICTs and governance

Governance may be defined as ‘the exercise of economic, political and administrative authority to manage a country’s affairs at all levels’. It is comprised of mechanisms, processes and institutions which citizens and groups use to articulate their interests, exercise their legal rights, meet their obligations and mediate their differences. In Uganda, citizens’ participation in governance is provided for in the Constitution, as well as in the decentralisation policy.

Prior to privatisation of telecommunications services in Uganda, public access to the president, cabinet ministers, and government officials was rather difficult, and in some cases impossible. However, there is now progressively more access to the executive, the judiciary and parliamentarians, and important structures in government, due to ICTs. Presently, the public has access to the President through telephone hotlines to the State House and through the State House website. President Museveni himself has made it a practice to interact with citizens all over the country through phone-in programmes on government and private TV and radio stations.

One experience worth mentioning was that of 21 October 2004, when Uganda’s President appeared on the 93.3 KFM radio talk show, ‘Tonight With Andrew Mwenda Live.’ In the programme, those opposed to some of his views such as Dr. Kiiza Besigye and Major General Mugisha Muntu challenged the President and a frank debate ensued.

Similarly, various programmes have enabled not only government officials but also representatives of the private sector, civil society and development partners to discuss wide-ranging issues of governance openly over the media. The ‘People’s Parliament’, locally known as the ‘Ekimeza’, organised by Radio One, broadcasts pre-recorded debates every Saturday afternoon. ‘Ekimeza’ has enabled ministers, members of parliament and the general public to engage in various discussion topics. Formerly, there was no mechanism to bring the public to explain and defend its positions openly. The programme has provided platforms to stakeholders, and many topical political, economic, cultural and social issues have been discussed.

ICTS AND CITIZENS’ EMPOWERMENT

Empowerment is akin to capacity development. It means the process by which individuals, groups, organisations, institutions and societies increase their abilities to perform functions, solve problems and achieve objectives. Further, the population tends to understand and

deal with their development needs in a broader context and in a sustainable manner. ICTs have the potential to rapidly build capacity through intensive sharing of information at all levels, and prompting action where necessary.

In some cases, the employment of ICTs has saved resources from misuse. For example, the Northern Uganda Social Action Fund (NUSAF), a one-hundred million dollar, five-year project that is currently providing grants to poor communities in eighteen districts in the war ravaged areas of northern and eastern Uganda, benefited from ICTs. Corrupt project facilitators had been fraudulently collecting funds from these poor communities and frustrating their access to grants. Access to the grants was unconditional, but the facilitators demanded fees that they had themselves set. The frustration prompted the community leaders to broadcast their frustration through Radio Unity, an FM radio station operating in Lira district, northern Uganda. The public was very concerned. They used mobile phones to discuss this particular problem and suggested ways for action. The culprits were apprehended and made to pay back the funds they had corruptly collected from the poor communities. Further, their employment contracts were terminated. The NUSAF programme changed its employment procedure to include vetting of facilitator appointments by the community leaders, and these were to apply to all its project sites in all the eighteen districts where NUSAF is operating.

ICTS AND HUMAN RIGHTS PROTECTION, PEACE AND CONFLICT RESOLUTION

ICTs have been extensively used to enhance citizens' awareness of their human rights. The Human Rights Commission has education programmes in a variety of local languages. These are broadcast live by radio stations and citizens make phone calls to ask questions relevant to them. The presenters, often officials working in human rights organisations, provide answers. In addition, those with access to the Internet use such facilities to reach the respective offices and responses are usually obtained.

ICTs have also provided access to the rebel leaders in the conflict areas of Northern Uganda. There is a remarkable use of mobile phones, linking the peace negotiators and the insurgents. Appeals have been launched through the FM radio stations to the insurgents and many have responded by surrendering. The President, the Acholi Religious Leaders Peace Initiative (ARLPI) and the military commanders have all used ICTs in their various attempts to bring about peace in northern Uganda. At times, the Lord's Resistance Army commanders have directly called the Uganda People's Defence Force's (UPDF) military

leadership and expressed their views on matters they considered of concern to them. To this extent, at least, ICTs have supported communication between groups unable to meet face to face in the quest for peace, conflict resolution and, ultimately, the protection of human rights.

The Canadian Physicians for Aid and Relief (CPAR) with support from the Acacia initiative, have established a programme to help war returnees. Established in the Lira and Apac districts of Uganda, the programme is aimed at facilitating the re-settlement of war abducted children, youth, and women by way of ICTs. Northern Uganda has been badly affected by civil war, which has resulted in over 700 000 internally displaced people. In the region, the burden of war and suffering has mostly been borne by women and young people, who have been the targets of abduction, captivity and sexual abuse. Many have lost family members and property, necessitating a change of gender roles and other forms of livelihood. The CPAR IDRC project, entitled Strengthening Productive Capacities of Youth and Women War Returnees, aims to apply information and communication technologies (ICTs) to their reintegration. It does so by integrating ICTs into existing economic activities, and applying them to vocational skills training; counselling, mental health and trauma healing; income generating activities (credit, agriculture, business); and peace-building. This important project has essentially shown the importance of using ICTs to reintegrate parts of society that have become excluded.

ICTS AND HEALTH

Health related threats such as HIV/AIDS, malaria and tuberculosis are affecting the development of Uganda. However, proper information on treatments and better disease management can help prevent these diseases and offer better patient care. Timely, accurate, and relevant information is essential for an efficient and effective health system. ICTs can help collect community health information, support doctors and nurses in their daily work, enhance health administration and the distribution of medical supplies.

Uganda has been working for several years to improve the surveillance information in the health system and therefore, improve patient care. Through the leadership of the Ministry of Health, significant progress has been made in implementing the new Health Management Information System (HMIS). However, the effectiveness of the HMIS is constrained by the level of development of ICT infrastructure. Over the last year, Makerere

University Medical School, HealthNet Uganda and SATELLIFE, supported by IDRC, have been involved in a trial of handheld computer technology in the health sector through a project entitled 'the Uganda Health Information Network (UHIN)'. The handheld computer, also known as the Personal Digital Assistant (PDA), has become commonplace in developed country healthcare settings to capture, store, interpret and retrieve patient information, and to manage pharmaceutical, financial, logistical and epidemiological information. Recent studies conducted in Uganda bolster the expectation that handheld computers can function effectively and can improve the management of information. The fact that Uganda has one of the best cellular telephone networks in Africa, with a significant proportion of the country having full coverage is a prospective strength.

The UHIN project therefore, uses PDAs to create an information-sharing network among health workers in Uganda. The PDAs connect to each other using a new product called a "Wideray Jack." A remote server communicates with Jacks located throughout the country on the existing mobile network on a regular and scheduled basis, exchanging data that is then forwarded to its final destination.

During the pilot phase, health providers were given handheld computers and were trained by HealthNet Uganda to use them for work related purposes, and for their own use as an email exchange tool. A total of 70 health staff were trained and 70 PDAs and 12 solar chargers were supplied. Regular review meetings at the implementation sites were organised and the Uganda Health Information Network offered regular user support.

Preliminary results show the effectiveness of this ICT solution in enhancing health information sharing in the pilot sites. Through timely reports, timely decision-making and by cutting down costs of stationery and travel, hand-held computers have shown that they can improve health service delivery.

Another important health project builds on the infrastructure of the pioneering East African telemedicine project of the 1980s, "HealthNet." This project, entitled "Enhanced Access to Health Services and Information Through ICTs" was also supported by IDRC. One of its main objectives was to electronically link Mulago Referral Hospital with rural hospitals and clinics, telecentres, and medical research institutions in other foreign countries. The aim was essentially to provide distance education to medical students and other health workers; enable faculty and hospital staff to disseminate health information to health workers in local hospitals, and allow rural hospitals to access resources at Mulago.

ICTS AND EDUCATION

By the end of the 1980s, the Uganda education system had collapsed courtesy of a protracted civil strife and the accompanying economic deterioration. Uganda had the lowest literacy rate in East Africa. In 1996, President Museveni promised free primary education for all school-age children, up to a limit of four per family. The immediate result of the policy was a dramatic increase in school enrolment, with the number of pupils in state primary schools nearly doubling by mid 1997, reaching a net enrolment rate of 91%. Universal primary education has since sent shock waves through the education system and capacity to deliver even a basic standard of education is severely constrained. It is against this background that the National Curriculum Development Centre (NCDC) proposed a pilot project for an ICT based curriculum delivery strategy for primary and secondary schools entitled 'CurriculumNet'.

With IDRC support, researchers undertook a participatory needs assessment at the primary and secondary level; trained a cadre of trainers (12 participating teachers and four curriculum specialists) in basic computer techniques and ICT curriculum design and development; developed computer based instructional materials in two selected core subjects; tested and delivered these materials in three primary and three secondary schools in rural, peri-urban and urban settings; documented, monitored and evaluated the performance of participating students, teachers and schools; disseminated the knowledge generated by the project. The experience gained in this project informed the policy recommendations with respect to technology enhanced education.

In 2004 the CurriculumNet Project received formal government approval for its ICT-based Curriculum materials in Mathematics and Geography for primary schools and Mathematics and Science for secondary schools. The significance of government approval is that the curriculum developed could be used by all schools in Uganda immediately, provided they had IT access and could go through the formal examination process of the Uganda National Examination Board (UNEB).

ICTS AND LIVELIHOOD

Agriculture is still the principal livelihood activity of the majority of Ugandans. If Uganda does not find effective ways to enhance agricultural productivity and ensure a stable livelihood for subsistence farmers, all its efforts to develop sustainably are worthless. The Acacia supported Electronic Delivery of Agricultural Information to Rural Communities project was developed in recognition of the need

to make agricultural research information accessible to end users (notably farmers and extension agents) and in response to the Government of Uganda's call to improve agricultural productivity. The project developed local content in a local language – Luganda – as well as English, through the acquisition and packaging of useful agricultural information, generated at the National Agricultural Research Organisation (NARO) and other institutions. The project also captured and digitised significant and relevant indigenous knowledge. This content was then disseminated to rural communities through three existing IDRC-funded telecentres (Nakaseke, Buwama and Nabweru). Various electronic delivery options were used including both traditional and modern ICTs, notably radio, television, video, print media, CD-ROM, email and a website.

Another important project focused on rural women entrepreneurs and explored the way in which ICTs could play a role in helping them. Small and medium enterprises (SMEs) make a significant contribution to the economy of Uganda. Over 45% of SMEs are owned and operated by women entrepreneurs in such sectors as beverage production (16%), textiles (9%), services (9%), and retail and trade (66%). A consultative workshop held by the Council for the Economic Empowerment of Women in Africa (CEEWA) revealed that the productivity of enterprises operated by women is hampered by the lack of access to information on resources, markets and support services. In response to this, IDRC's Acacia initiative supported the creation of the Women's Information Resource and Electronic Service (WIRES), in Kampala and connected it to two rural telecentre sites: Nabweru and Buwama. This gave women entrepreneurs access to simplified and repackaged information relevant to the development of entrepreneurial skills and the expansion of their enterprises. The women desired a programme that was simple, did not require a keyboard, and spoke to them in their own language. The end product, entitled: "Rural Women in Africa: Ideas for Earning Money," is packaged as a CD-ROM, and uses browser software, graphics and spoken text. The user moves a mouse across the screen and clicks on pictures or text to hear a voice speaking in their own language, Luganda.

A subsequent evaluation of the project showed that many women were able to start up economic activities after they received training based on the CD-ROM. In fact, 69 out of the 90 women surveyed, were trained in management of small and medium enterprises: 53.6% of them acquired the knowledge and skill to calculate costs and benefits; 24.6% to monitor their activities; 10.1% developed skills in customer service; 4.3% learned to keep statistics; and 11.6% became

personally more experienced in their work. In addition, 78% of the women who were trained also trained their children, partners, neighbours, or relatives and acquaintances. With these new skills, many of the women reported that they have been able to achieve higher incomes and find new markets for their products.

RURAL ACCESS TO ICTS: TELECENTRES

A number of telecentre projects were developed in Uganda to test the viability of telecentres as a tool to achieve universal access. The ITU, UNESCO and IDRC supported the implementation of a multipurpose community telecentre (MCT) in Nakaseke. This project developed and tested a model for integrating rural library and information and communications services to address the needs of identified target groups in Nakaseke. In addition to that project, the Uganda National Council for Science and Technology (UNCST), with support from IDRC's Acacia programme, undertook to implement other multi-purpose community telecentres at Nabweru and Buwama in 1997.

IDRC's Acacia programme undertook an extensive evaluation of these telecentre projects, the results of and were summarised in a book entitled *Information and Communication Technologies for Development in Africa: Vol 2: The Experience with Community Telecentres*. In the book, the authors suggest that "The testimonies of ordinary people indicate that telecentre have made a significant difference in the lives of Ugandans, especially but not exclusively, for those living in the rural areas where the telecentres are located. The nature and degree of impact has been slight for some, yet fundamental for others."

The evaluation also included a survey in Uganda (see Table 16.2), on the changes that occurred in Ugandan communities where telecentres were situated. The table illustrates that many people in Uganda perceived the improvement in communication with family and friends as a significant benefit of telecentres. Moreover, many cited "individual capacity building" as an important change that occurred in Uganda (20%). Also, "job creation" was cited by a significant number of people in the Ugandan communities, as well as "better use of information."

Table 16.2: Changes in communities attributed to ICTs in Uganda*

Observed changes	Number	Percentage
Improvements in contacts and communication with relatives and friends residing outside the village/city	17	25
Job creation	15	22
Individual capacity building	14	20
Better use of information	8	12
Improvement of teaching conditions	5	7
Health	5	7
Increased income	2	3
Improvements in agricultural production	2	3
Total	68	100

*Source: *Inquiries and questionnaires, ICTs and Community Development Study, Uganda, November 2000 (Etta et al, 2001).*

The other key findings of the study on telecentres can be summarised in issues related to three main areas: access, relevance and sustainability of telecentres.

In the area of “access,” the study showed that telecentres introduced ICTs to a part of the Ugandan population that had never had access to these tools before. Some groups, however, were disadvantaged. Among these were the elderly, disabled people, and, to a degree, women. Moreover, as one would expect, education appeared to be a key determinant of telecentre use: university undergraduates, teachers and students made up the largest percentage of users. It should also be noted that, due to high costs, most users were not using the Internet.

With respect to the relevance of telecentres, in general, it was noted: “users expressed satisfaction with the services offered, pointing out that the telecentres had opened them and their communities to wider audiences, facilitated external communication and promoted knowledge of computer technology...” (Etta, 2003, p. xiii). The possibility of social and personal interactions was the most oft-cited use of the telecentres, but a significant proportion of users also mentioned using the telecentres for professional and business purposes, as shown in Table 16.2.

Finally, with respect to the telecentre sustainability, the study found that they were under constant financial threat, mostly due to the high costs of connectivity but also in terms of costs of repairs and maintenance of equipment. Recommendations of the study focused on ensuring appropriate technical training of telecentre staff, so that much of the cost of repair and maintenance could be reduced.

ICT PROJECTS IN UGANDA: THE NATIONAL ACACIA ADVISORY COMMITTEE (NAAC)

The National Acacia Advisory Committee (NAAC) was established as an institution that would offer ICT policy-related advice on the effective implementation of the Acacia programme framework in Uganda. The Uganda National Council for Science and Technology coordinated the NAAC as the chief implementing agency. It had a contract and mandate from IDRC. The NAAC objectives are to track ICT trends and on-going projects, to advocate for the implementation and progressive review of the National ICT policy, to develop and initiate programmes for implementation of the ICT policy, and to enhance the sharing of information, knowledge and experiences. NAAC's existence within the UNCST and its proximity and interactions with many ICT projects in Uganda has enabled it to argue for strategies that enhance ICT awareness and effective ICT policy management. Its chief challenge has been that it has, to date, been unable to take on a nationally representative role, as it does not coordinate activities supported by other development partners.

THE WAY FORWARD

The lessons so far gained from ICT projects and policy formulation and implementation experience, will hopefully contribute to ensuring Uganda, and possibly other countries, gain more from ICTs. The following are a few recommendations that may guarantee Uganda ICT benefits.

Explore new technologies:

ICTs are constantly evolving and new technologies are regularly invented or upgraded that could play a role in ensuring greater access to information and communication at lower costs. Among these are Wireless Fidelity (Wifi) and new satellite technologies like Very Small Aperture Terminals, (VSATs), as well as low cost applications such as Voice Over Internet Protocol (VOIP) and open source software applications. Institutions in Uganda must constantly be willing to test and experiment innovations in ICTs to gauge whether they are more appropriate to their particular context. Moreover, government must take the results of these experiments and ensure that policy and regulatory environments are supportive of appropriate scaling up.

Ensure an enabling regulatory environment:

Although Uganda has been at the forefront of reforming its ICT policy and regulatory environment, there is still work to be done.

Liberalising all telecommunications sectors, including opening up the fixed line sector to more operators, could play an important role in ensuring lower communication costs and subsequently greater access. It is important that the policy that prohibits Internet service providers (ISPs) from having their own international gateways be revised. Indeed, ISPs having access to international gateways would improve bandwidth availability and lower its costs, which would end up benefiting customers. Finally, regulations regarding Wifi and VOIP should also be loosened, as they offer the greatest hope for ensuring that Uganda is able to fully take part in the global information society.

Ensure multi-stakeholder advice and coordination:

The Acacia initiative in Uganda, through the assistance of NAAC, played an important role in coordinating activities and ensuring that learning was maximised and duplication of efforts minimised. However, numerous other ICT activities are taking place in Uganda in an uncoordinated manner. A multi-stakeholder nationally representative advisory body should therefore be created that would help to ensure the effective implementation of Uganda's ICT policy; coordination of ICT initiatives as a way of maximising learning.

Awareness raising and mainstreaming of ICTs:

There is need to adopt a concerted and coordinated strategy aimed at creating awareness amongst the leadership and decision-makers in the public, private and civil society sectors about the value and need for incorporating ICTs into development plans at all levels. Budgets for ICT programmes need to be made, provided and effectively utilised. The government as a major user of ICT services, can play a leading role by ensuring that all government budgets include ICTs and/or targeted financing.

Telecommunications and Information Technology (IT) equipment and services:

Taxes on telecommunications and Information Technology (IT) equipment and services are high. Taxes on equipment (VAT, etc.) and the current excise tax on services are around 10%. A reduction or waiver of taxes would promote acquisition and use of ICT equipment and services.

Media and broadcasting:

The present ICT policy needs to improve its focus on media and broadcasting in the rural areas. This would promote public access to information.

Libraries and documentation centres:

A possible approach to ensuring the sustainability of telecentres could be through scaling up of appropriate models and attempting to reduce the costs of establishing and running the facilities. Use of the existing infrastructure for community libraries and documentation centres would be a good starting point.

CONCLUSION

Uganda has been fortunate with development partners committing significant resources to the formulation, adoption and implementation of Uganda's ICT policy. The contributions of ICTs to the diverse aspects of Uganda's development are evident, particularly in health, education, governance and livelihood. The various pilot projects so far undertaken have facilitated learning from such projects for improvements in planning, implementation and evaluation of ICT policy directions. It is our hope that these lessons and experiences will help other African countries in their policy formulation process.

REFERENCES

- African Development Forum. E/ECA/ADF/99/9. ICT infrastructure in Africa.
- Baguma, G., (2000). The CurriculumNet Programme Proposal. Uganda: NCDC.
- Bellanet, (October, 2004). The African Information Society Initiative (AISI). <http://www.bellanet.org/partners/aisi>
- CRTC, (October, 2004). Competition and culture on Canada's information highway: Managing the realities of transition. <http://www.crtc.gc.ca/>
- Darwin, (October, 2004). E-Business Learning Centre. <http://www.darwinmag.com/learn/ebusiness/basics.html>
- Etta, F.E., & Wamahiu, S.P., (Eds.), (2003). Information and communication technologies for development in Africa: Volume 2: The experience with community telecentres. Dakar: CODESRIA/IDRC.
- Griffiths, P.M., (1998). Keynote speech on the example of Ghana's communication policy. Paper delivered during the National Workshop on Information and Communication Technology Policy for Rwanda, November 30 – December 3. Kigali, Rwanda.
- IDRC, (1997). The Acacia initiative: Communities and the information society in Africa: Overview. <http://www.idrc.ca/acacia>

- ISPO, (October, 2004). Recommendations to the European Council: Europe and the Global Information Society. *<http://www.ispo.cec.be/infosoc/backg/bangeman.html>*
- Republic of Uganda, (1997). Mpigi District: Three years development plan for Nabweru sub-county. Kampala: Republic of Uganda.
- UNESCO/ITU/IDRC, (1999). Nakaseke multi-purpose telecentre baseline survey: An overview of training and methodological techniques and community information and communications profile.
- UNESCO/ITU/ IDRC, (1999). An overview of training and methodological techniques and community information and communications profile.

CHAPTER 17

WOMEN ON ICT POLICY MAKING IN UGANDA

G.Z. Amuriat and D. Okello

Introduction

Information and Communications Technologies (ICTs) are technologies which facilitate communication, processing, and transmission of information by electronic means. ICTs embody a full range of old and new technologies such as radio, television, computers and Internet, telephones – both fixed and mobile, fax, printers, scanners and the print media. As defined, ICTs are tools that can enable the participation of poor women and men in economic and civic life and help them to move out of poverty. Eighty-seven percent of Uganda’s population lives in rural areas – the majority of whom are women. ICTs have an enormous potential for reaching rural populations to provide them with education and training, job opportunities, access to markets, information important for their economic activities, and participation in political processes. Often, however, the poor – especially women – do not access, utilise, or apply ICTs in their daily activities. This is primarily due to limited infrastructure and near total absence of ICT access points in rural areas.

The Telecommunications Sector Policy of 1996, Uganda Communications Act of 1997 together with the duopoly comprising of Mobile Telephone Network (MTN) and the Uganda Telecom Limited (UTL) are all credited with establishing a regulatory environment and a market structure that have had a significantly positive impact on the availability and affordability of telecommunications in Uganda (UCC, 2005, January). However, a telecommunications sector performance review and related analyses conducted in 2003 have established that despite the successes, there are gaps that need to be addressed in the policy if the telecommunications sector is to achieve the expected impact in supporting human development in Uganda.

WOMEN'S ACCESS, UTILISATION AND APPLICATION OF ICTS

One major factor that explains women's limited access to ICTs: infrastructure or infostructure. As in any other developing country, communications infrastructure or infostructure is concentrated around business centres and areas strategic to government, such as political headquarters and industrial areas.

Due to the uneven distribution of ICT infrastructure, the distribution of ICT centres in rural areas is limited. In the few areas where ICT access points are located, the distance, packaging of content, literacy among local people, especially women, the cost of services, gender roles and socially ascribed responsibilities in traditional societies, are secondary factors which account for the limited access to ICTs by women.

The lack of access to ICTs has a direct impact on ICT utilisation levels. However, in some areas where ICTs are accessible, women have demonstrated their capabilities in exploring ICT opportunities in business, agriculture, and participation in social, political, and economic processes that affect their well-being.

A local example of the use of ICTs in business can be seen in the Council for the Economic Empowerment of Women in Africa (CEEWA – Uganda) ICT project sites in Buwama and Nabweru. Here local women use telephones to source, order, and sell their goods or products (CEEWA-Uganda, 2003, December). In addition, women use telephones to participate in radio talk shows to express their views on issues affecting their communities, and also to raise their voices on issues affecting them and gender relations.

Factors that have been advanced to explain women's limited access and utilisation of ICTs also relate to the ability to utilise ICTs. About 65% of women in rural areas can hardly read or write. Even where opportunities exist for use, culture hampers utilisation. Parents still prefer to send boys to school rather than girls, and consequently, women's ability to explore their opportunities in science and technology is constrained. There is also stereotyping that suggests that women have no capacity to explore technology opportunities.

The conclusion that access, utilisation, and application by the most vulnerable groups is still limited in spite of efforts by both government and civil society to promote access of ICTs to all people is unavoidable.

UGANDA ICT POLICY INTERVENTIONS

To enhance and streamline developments in the ICT sector, the government through the Uganda National Council for Science and Technology (UNSCT) formulated a national ICT policy framework. The aim is to meet the challenges and harness the potentials and opportunities offered by ICTs (UNCST, 2002).

Other efforts by government include the establishment of the Rural Communications Development Fund (RCDF) administered by the Uganda Communication Commission (UCC, 2001). The fund provides subsidies to facilitate access to basic communication services such as telephones, computers and Internet within reachable distances for all in Uganda. The implementation focus areas for the RCDF are those areas considered commercially unviable by commercial telecommunication operators. The government has also removed taxes on all imported ICT equipment. This is gradually reducing the costs of providing ICT services. When UCC instituted zero licence fees for the provision of public communication services, a new and vibrant industry erupted in telephone kiosks and Internet café services (UCC, 2005, January).

The private sector and NGOs have made efforts to expand ICT centres in rural areas and to increase and expand infrastructure coverage. In addition to CEEWA-Uganda, other examples of NGO's working to achieve similar goals include Busoga Rural Open Source Development Initiatives (BROSDI), Community Organisation for Empowerment of Young People in Uganda (COFEY-Uganda), Conservation Through Public Health (CTPH), Uganda Development Services (UDS), and SchoolNet-Uganda. Private sector efforts have largely been through the large scale telecommunication operators – Mobile Telephone Network (MTN), Uganda Telecom Limited (UTL), and Celtel.

Despite the above efforts, gender concerns of access, utilisation and the application of ICT remain largely gendered to the disfavour of women (poor women) and unaddressed.

WOMEN AND ICTS: THE CASE OF CEEWA-UGANDA

CEEWA-Uganda's mission is to promote the economic empowerment of women.

With support from the International Development Research Centre (IDRC), CEEWA-Uganda implemented an ICT project to promote economic empowerment (CEEWA-Uganda, 2000) at the

community level. CEEWA-Uganda integrated gender aspects into multipurpose community telecentres in Buwama, Nabweru, and Nakaseke, all rural areas at varying distances from Kampala. A number of strategies were applied, including the following:

1. Establishing the Women Information Resource Electronic Services (WIRES): a centre where women would access ICTs such as computers, telephones, fax, Internet, and relevant business information and best practices in agriculture on a database driven website;
2. ICT as well as entrepreneurship training materials were developed on CDs tailored to the needs of the local women. The materials were in both audio and visual formats and were translated into the local language;
3. Building the capacity of women in ICT use and application in entrepreneurship development and entrepreneurship skills such as business management skills;
4. Content was translated into the local languages and repackaged in easy to read formats such as booklets and fliers on best practices in agriculture, for example;
5. Building local human resource capacity to pass on skills in ICTs and entrepreneurship. This was done through training of trainers that were drawn from the three project sites for purposes of sustaining project ideals and outcomes within the communities.

Business linkages were established between women producers and buyers. Markets were found for women, especially women who were involved in the making of crafts. Information on where they could find markets and business opportunities was provided. Services, which could not be provided under the project, were given through a linkage programme. Rural women were linked to microfinance institutions and were able to receive credit to support their enterprises.

Throughout project implementation, a number of findings and lessons on gender issues were obtained that were used to advocate for the integration of gender concerns into the national ICT policy framework.

WHAT WORKED?

Achievements of the CEEWA-Uganda ICT project can be categorised as follows (CEEWA-Uganda, 2003, May).

- *Building Capacity of Women in ICT Use and Application*
The project addressed ICT skills gaps among women entrepreneurs. Women were able to apply ICTs in their enterprises

such as using the telephone to place orders for goods and services and to find markets for their products. This enabled them to tap the benefits of ICTs such a reduction in costs, time, and distance.

- *Development of Training Materials*
The project provided locally required knowledge in entrepreneurship development and ICT use and application. The development of a variety of materials and met the skills needs of women entrepreneurs.
- *Localised Content*
The project translated the information into local language and packaged it into user-friendly formats, such as booklets, fliers and CD ROMs. This addressed the local and language needs issues of both literate and illiterate local women.
- *Women Information Resource Electronic Services (WIRES)*
The project provided electronic (database driven website) access to relevant information. WIRES enables access to tailor-made information.

WHAT DID NOT WORK?

Telecentre design at the three project sites assumed that rural women would be able to pay for ICT services such as telephone, training, and access to information on the Internet. However, due to low incomes, high illiteracy, and a lack of appreciation or perhaps relevance, this did not work. The other assumption was that ICTs are a priority need among women. This was a total misconception. Women expressed the need for credit, yet this was left out of the project design. This appeared to have contributed to the limited use of ICT facilities in rural areas.

IMPLICATIONS FOR ICT POLICY MAKING

CEEWA-Uganda's work with rural women suggests that there is a direct connection between ICT policy issues and conditions at local community levels which affect women's full participation in and application of ICTs in the development process – for example:

- Low incomes make women unable to afford to pay for ICT services or to buy services for business application;
- High illiteracy levels mean that women cannot experience English reliant ICTs in their daily lives;
- The Immediate needs of women entrepreneurs and business people is credit and not the provision for ICT services. They cannot see or appreciate the link between ICTs and the much needed credit;

- Domestic responsibilities such as reproductive and production roles limit women's participation. There is no time left to travel long distances to where ICT centres are usually located or spend a long time getting the information.

However, the contribution by women in the country's development cannot be under-estimated or undervalued. Women's roles as producers and mothers are central to the country's development.

ICT POLICY ACTION AREAS

Given the above situation, policies are needed to address gaps that exist which hinder women's access to ICTs. The following actions are recommended to ensure that equality in access, application and utilisation is achieved. The actions are multi-sectoral and require that line ministries integrate relevant action areas into their development programmes. These action areas would include:

1. Integration of gender concerns into ICT policy/programme design and implementation, for example, review of the existing National Information Communication Technology and integrate gender issues;
2. Increase awareness about the importance of ICTs in national development: Stakeholders involved in ICTs and development should organise seminars/workshops to sensitise the population about the importance of ICTs in development;
3. Advocacy for more rural/upcountry-focused projects such as the Rural Communications Development Fund (RCDF);
4. Integration of gender and rights based monitoring and evaluation into ICT policy activities and programmes;
5. Clear definition of beneficiaries and benefits to take care of women's and men's needs;
6. Advocacy for countrywide telecommunications infrastructure decentralisation: Projects such as RCDF should be emphasised;
7. Provision of incentives for ICT investors and training such as tax breaks and exemptions, to bring down costs.

UGANDA'S ICT POLICY FRAMEWORK

The Uganda national ICT policy framework, approved by Cabinet in December 2003, envisions a country where national development, especially human development and good governance, are sustainably enhanced, promoted, and accelerated by the efficient application and use of ICTs including timely access to information.

The policy draws upon a number of strategies to accomplish its vision, including mainstreaming gender into policy programmes and implementation strategies; sensitisation and awareness creation; ICT

capacity development among rural people; building appropriate infrastructure; supporting favourable investment environment; supporting innovative ICT projects; stimulating production, storage, and dissemination of national information; and facilitation of access to public domain information. The government envisages that by implementing the above strategies, major problems such as access, application, and utilisation will be appropriately addressed.

ISSUES OF CONCERN WITH THE ICT POLICY

A number of issues emerged in the process of developing the national ICT policy. These issues are quite diverse and provide a learning experience for countries that are in the process of developing policies. The total sum of these issues accounts for why women's access, application, and utilisation of ICTs are still limited and why collective effort is required to address them. Concerns with the ICT policy framework include the following:

- Research on women and ICT needs to be undertaken to generate gender-desegregated data in order to mainstream gender in ICT policies and programmes.
- A large part of rural Uganda, where 80% of women live, has no telecommunications infrastructure. This directly affects access to ICTs.
- Women's participation in planning, implementation and ownership of ICT services is low.
- Women are not represented at fora where major decisions on ICTs are made. The result is women insensitive programmes.
- Low incomes still affect women's access in areas where ICTs are accessible.
- Better coordination of ICT training in the country is required. For example, integrating ICT training in school curricula to provide IT literacy courses to all students at school and building the capacity of women in ICT at all levels.

UGANDA WOMEN CAUCUS ON ICT – ICT POLICY ADVOCACY ACTIVITIES

In recognition of the need to develop an appropriate and deliberate policy framework to enhance the role of ICTs in poverty eradication, the government initiated a consultative and participatory process to formulate the national ICT policy.

In response to the need to address gender concerns within the ICT policy framework and the implementation strategy, the Uganda Women Caucus on ICT (UWCI) was initiated, its secretariat located in Women of Uganda Network (WOUGNET). UWCI is comprised of women and gender practitioners working on issues of women

and ICTs in Uganda. UWCI's mission is to engender ICT policy processes in Uganda, including policy formulation, implementation, monitoring and evaluation. Activities undertaken by UWCI include a review of the national ICT policy framework and identification of the gender issues therein, as well as a review of the ICT policy implementation stakeholder matrix. Recommendations were sent to the institution leading the policy process, the Uganda National Council for Science and Technology (UNCST).

The UNCST organised the ICT policy formulation process into sector policy working groups, namely; e-commerce, e-information, e-health, e-education, and e-government. Strategies for the implementation of sector ICT policies have been developed. UWCI participated in the e-information and e-government sector working groups. The UNCST is in the process of developing national ICT policy implementation strategies. It is UWCI's intention to lobby for the active involvement of UWCI in this phase, too.

In July 2004, the Association for Progressive Communications (APC) and Catalysing Access to ICTs in Africa (CATIA) hosted a regional ICT policy advocacy workshop with the overall aim of broadening the knowledge base of people actively involved in ICT policy awareness raising and advocacy (APC, 2004). The workshop, which brought together participants from the private sector, media, and civil society, offered an opportunity to establish common ground and facilitate debate among people from these three groups as a means to encourage and strengthen national level policy advocacy campaigning.

At this regional workshop, in which a member of UWCI participated, a multi-stakeholder Uganda National Advocacy Plan was conceived. The main objective of the advocacy plan is to ensure that there is inclusive and affordable access to communications nationwide, with emphasis on rural areas. The expected outputs of the plan include:

1. More applications from upcountry projects to RCDF and Energy for Rural Transformation (ERT) funds;
2. More media attention to address the lack of awareness by the public about the RCDF and ERT funds;
3. More project formulation training for small and medium enterprises (SMEs) to access the RCDF and ERT funds;
4. Evaluation of RCDF and ERT funds on issues of funding, support for non-communication activities such as power, rural roads, content training of local communities, etc.
5. A strategy to enhance the expansion of terrestrial (landline) infrastructure, including connection to submarines and other regional telecommunications infrastructure;

6. Clear guidelines on the post-duopoly period, which ends in July 2005;
7. Clear guidelines for postal codes, particularly for rural areas;
8. A gender sensitive perspective in all ICT processes.

UWCI has since expanded the initial national advocacy plan proposing a detailed twelve-month work plan for an advocacy programme addressing the issue of women and ICTs.

CHALLENGES TO A GENDER-SENSITIVE ICT POLICY

Implementing recommendations with respect to women and ICTs within the Uganda National ICT Policy requires a well-informed position on women's levels of application and utilisation of ICTs. This requires research on women and ICTs in Uganda to equip advocacy efforts with facts on how many, and in which ways, women use ICTs. This is very important especially for government in directing resources and prioritising finances.

Strategic partnerships with other like-minded organisations to form a strong voice that can be heard by policy makers are lacking.

Awareness, is critical. Both the policy makers/implementers and the beneficiaries need to be aware of what is happening in the area of ICTs, understand and appreciate the relevance of ICTs in the development process. Awareness can be raised using media such as radio, TV, newspapers, and community radios, among other types of media.

Participation is key in the policy development process. It is important to form a forum of different people with different needs to ensure that every group is addressed. Therefore, women stakeholders, NGOs, and women caucuses need to participate in policy review meetings, write position papers on issues of gender and ICTs concern, and hold advocacy meetings, fora or debates with key institutions on the issues.

Resource mobilisation is an essential aspect in this process. Fundraising efforts must be given momentum, because advocacy requires resources. Fundraising capacity is currently weak and should be strengthened among women stakeholders.

CONCLUSION

Policy formulation is not a responsibility of governments alone. It is a collective responsibility for all development players and stakeholders. Learning from current experiences in Africa, the process requires government commitment, political good will, local participation and proper visioning. For effective policy formulation

and implementation, to benefit both men and women, the following steps need to be taken:

1. Integrate gender concerns in ICT policy and programmes;
2. Increase awareness about the importance of ICTs in national development;
3. Strengthen projects such as RCDF that have a rural focus;
4. Integrate gender sensitive monitoring and evaluation into ICT policy activities;
5. Advocate for country-wide decentralisation of ICT infrastructure;
6. Offer incentives to ICT investors.

The result will yield real access and utilisation of ICTs.

REFERENCES

- Association for Progressive Communications (APC), (2004). APC regional ICT policy advocacy workshop report. Accessed October 31, 2004 from <http://www.apc.org/events/Nairobi-july04/Nairobi.shtml>
- Council for the Economic Empowerment of Women in African (CEEWA)-Uganda, (2000). CEEWA-Uganda baseline survey report.
- Council for the Economic Empowerment of Women in African (CEEWA)-Uganda, (May, 2003), CEEWA-Uganda ICT project evaluation report.
- Council for the Economic Empowerment of Women in African (CEEWA)-Uganda, (December, 2003). Documentation of CEEWA-Uganda ICT project experiences, lessons, challenges and recommendations.
- Uganda Communications Commission (UCC), (2001). Rural Communications Development Fund (RCDF).
- Uganda Communications Commission (UCC), (January, 2005). Uganda Telecommunications Sector Policy Review Report, Draft 4.
- Uganda National Council for Science and Technology (UNCST), (2002). National Information Communication Technology Policy Framework.

CHAPTER 18

THE E-THINKTANKTZ AND ICT POLICY MAKING IN TANZANIA

David Sawe

Introduction

Beyond the ballot box, what influence – if any – can individuals wield on the policies of their national government? Going by the experience of the eThinkTankTz in Tanzania, it would appear that a group of organised and well-intentioned professionals can make significant contributions to government policy, yet eThinkTankTz was not created for that purpose. It was originally intended to serve as a networking tool among ICT professionals in Tanzania.

THE E-THINKTANKTZ

Tanzania's community of information and communications technology (ICT) professionals had, beginning in the late 1980s, made a number of attempts at gaining recognition through creating formal associations. The objectives of these associations were typically to promote the interests of ICT users, and the companies. But none of these associations lasted more than a few years before falling apart for various reasons, not least, the lack of broad representative membership. During the build-up to the third millennium in reaction to fears of a global computer catastrophe, year 2000, the 'National bug (Y2K) Campaign' brought together key players with ICT expertise from the private, public and non-profit sectors, from national or international organisations, and from various levels of organisational hierarchy and areas of professional expertise. These key players were also brought into contact, in many cases, with their counterparts from the other East Africa Community partner states or from the Southern Africa Development Community. This time the cement lasted, and at the end

of the Y2K rollover fervour, eight individuals worked hard to maintain the precious and valuable networking experience that had developed during the 18 months of the Y2K campaign. Among this initial group were management consultants, sales persons, government officials and lawyers. They were united by knowing one another and wanted to carry forward a vision of the role of ICTs in accelerating national development. Taking into cognisance the failed earlier attempts at creating formal ICT associations, they agreed simply to hold regular meetings to discuss issues that were of relevance to the development of ICTs in support of socioeconomic progress for Tanzanians. The focus was on evolving a shared interest based on a vision of the successful application of ICTs to Tanzania's development. The intention was to broaden the scope for ICTs to be more widely accessible within the country, and to explore the avenues to raise productivity of the ICT sector and of other economic sectors that were increasingly relying on ICTs for their own productivity and market growth. This new networking community was also aimed at nurturing a spirit of knowledge sharing and "cooperation to improve competition," or what was named "co-opetition", among the fledgling Tanzanian ICT sector's users and vendors.

The first meeting was held on 8 February 2000 in the conference hall that was owned by an international consulting firm and a local partnership of legal advocates, within a newly inaugurated tower building in the centre of Dar es Salaam. Both of these organisations were among the eight initial members, five of whom were present on this auspicious day. At the maiden session it was resolved that focused discussions similar to those of the Y2K Campaign, should henceforth be held weekly, every Thursday afternoon at 16hrs for one hour only. Participants were encouraged to invite other interested parties to join the sessions. In time, a mailing list was developed so that discussion materials and agenda could be shared, and those unable to attend were requested to email their views in order for these to be included in the deliberations.

Within about a year from that beginning, the eThinkTankTz had grown into a community with a web site, meeting mostly online via an email discussion forum, with occasional physical meetings. In its fifth year, the forum's membership was over 700 active members. It has gained the recognition of Tanzania's government and of international organisations and become a household name within Tanzania's ICT sector. Although still deliberately unstructured and unregistered, eThinkTankTz enjoys the endorsement of ICT stakeholders in private, public, and non-profit sectors (notably

academia), and is recognised by the Government as a progressive multisectoral partnership which contributes towards ICT developments in Tanzania.

ACHIEVEMENTS

Among the earliest tangible outcomes of the eThinkTankTz was the lobbying of the Ministry of Finance to stop taxation on computer equipment in a bid to improve accessibility and affordability at all levels. The move was an attempt to reverse the effects of a 20-year period (1974-1993) during which computer importation into the country was officially discouraged on the grounds that it was unaffordable. A representative committee of members of the eThinkTankTz volunteered to engage with the Ministry of Finance on the issue. EThinkers were elated when, as a consequence of this engagement, the Minister of Finance announced, as part of his government budget speech of June 2000, that taxes on computer systems were to be suspended pending a review. The taxes were never reinstated.

At about the same time, the eThinkTankTz discussion group agreed to put together an "Information Document", a background statement about the community and its areas of interest. This document, developed over two months of weekly meetings, including online reviews, was completed on June 22, 2000. The Information Document sets out key concepts that had emerged from the presentations and discussions held during the regular Thursday meetings, as well as a vision with a two-phased mission which the community intended to work to achieve. The eThinkTankTz's vision was stated thus: 'to offer ICT leadership by catalysing policy changes and by supporting related developments aimed at enabling Tanzanians to participate effectively in the modern Internet based global economy, benefiting their nation and partners.' The mission was articulated as: 'to a) catalyse the formation of a national ICT organisation, with mandates from the Government and b) support the national ICT organisation.' The initial stakeholder organisations and potential partners were named. This helped to ensure that the Information Document would not be misrepresented as reflecting any specific political party or affiliation. Early drafts of this document were shared very effectively when the lobbying for the aforementioned removal of taxes on computer systems was underway.

Once the Information Document was completed, a committee was formed to popularise it and broaden its ownership base. The UNDP office in Dar es Salaam was approached for access to knowledge resources from other countries that had undertaken similar grassroots initiatives intended to establish a national ICT policy formulation process. Although well received by the UNDP

Resident Representative in person, the committee was informed that an enquiry had revealed that there was no awareness of any similar community-led initiative elsewhere in the world. However, UNDP stated its willingness to support the eThinkTankTz's emerging initiative in building a framework for a national ICT policy, on condition that the Government of Tanzania was involved.

When informed about this turn of events, members of eThinkTankTz, by this time about 90, agreed to pursue this opportunity of partnering with UNDP and the Government to articulate a national ICT policy for Tanzania. By then, several eThinkers had become involved in international ICT policy activities such as the G8 Digital Opportunity Task Force, the African Union's Africa Connection, UNDP's Digital Opportunities Initiative, etc. Discussions for moving the policy formulation process forward in its new and expanded form led to the formation of a steering committee consisting of three persons: one representative from eThinkTankTz private sector members, the Government's Permanent Secretary responsible for the Public Service Reform Programme, and the Resident Representative of UNDP in Tanzania. The steering committee was supported by what was called an eSecretariat also of three persons, consisting of another representative of eThinkTankTz from the private sector sponsored by UNDP, one staff member having ICT responsibilities in the offices of the Permanent Secretary and another staff member from UNDP's Resident Representative's office.

The task of compiling the document that came to be titled "Proposal for Tanzania's ICT Policy Formulation Framework" fell on the steering committee. Drafts of the "Framework", as it came to be known, were made available for discussion and comment by eThinkers and the general public before the document was finished and presented officially to the Government. Work on the framework began on 21 February 2001 after a well-publicised inaugural meeting during which the web- site *www.eThinkTankTz.org* was launched. The national context surrounding the launch and within which the eThinkTankTz was immersed can be characterised as follows:

- the absence of coordination of – or a focal point for – ICT activities in Tanzania;
- Tanzania was unable to participate effectively in the new global economy;
- absence of national ICT strategies and standards;
- the policies, regulations and laws were not in support of an enabling environment for ICT;
- poor quality and cost of ICT services including Internet access;
- poor basic ICT infrastructure.

The stated intentions and outcomes of the committee and the eSecretariat were as follows:

- UNDP and the Public Service Reform Programme agreed to undertake a joint consultancy to propose to the Government how to form a national ICT organisation;
- UNDP agreed to contract a consultancy firm to form the eSecretariat under the supervision of the Interim Steering Committee, chaired by the PSRP chairman;
- The eSecretariat was to prepare a proposal for presentation to government.

As this team was preparing the proposals, the question of ICT leadership in Government was discussed at a meeting of Cabinet Ministers. A decision was announced in April 2001 that the Ministry of Communications and Transport would be the focal government point in the preparations for a national ICT policy. A multi-sectoral task force was created to support the ministry in this effort. This development turned out to be very convenient as it meant that the multi-sectoral task force assembled by the ministry was in place just in time to receive the final framework document completed in November 2001. Another factor of note was that the majority of the members of that Task Force also happened to be members of eThinkTankTz and were, therefore, already conversant with the Framework. This also made it possible to involve eThinkers in the discussions and public events surrounding the policy formulation process. This made it possible to compress the timeline for the Task Force, as shown in the following summary of milestones:

- September 2001: National ICT Policy Task Force announced as a Public-Private-Nonprofit sector partnership, to advise the Ministry of Communications and Transport, using eThinkTank resources (and members), with SIDA funding;
- November 2001: Official delivery by the eSecretariat of eThinkTank's ICT Policy Framework to the Ministry of Communications and Transport;
- May 2002: Public launch of 1st draft of the National ICT Policy document by H.E. Vice President Mohammed Shein at a one-day open conference in Dar es Salaam, where presentations were made by Task Force members to lead public discussions on various issues concerning ICT policy;
- July 2002: Seminar for parliamentarians to discuss and contribute proposals to the draft ICT policy document;
- December 2002: Deadline for receiving inputs to the draft ICT policy document;
- January 2003: Final draft of national ICT policy document delivered to the Minister by the Task Force;

- March 2003: “National ICT Policy” document officially approved by Cabinet Ministers;
- April 2004: Proposals for an e-government strategy based on the National ICT Policy approved by Cabinet;
- November 2004: The “National ICT Policy Implementation Strategy” document delivered to the Ministry of Communications and Transport.

During all the public debates, members of eThinkTankTz were prominent participants, and indeed the whole policy-formulation exercise helped to swell the number of eThinkers beyond 260 by May 2002. By aligning the policy to Tanzania’s National Vision 2025, it was also relatively easy for interested parties and stakeholders to envision their role within it, and, thereby, contributed meaningfully towards enriching the drafts.

LOOKING BACK, LOOKING TO THE FUTURE

It has never been clear whether the eThinkTankTz experience can be directly replicated in any other country, although it is not in doubt that adaptations could be developed in one form or another. One significant contributory factor behind the success of the eThinkTankTz has been the ability of members to relate to each other, regardless of common social barriers such as age, seniority, qualifications, ethnicity, etc. This peer strategy was already evident when face-to-face meetings were the primary mode of discourse, and the apparent anonymity of the Internet is likely to have helped this tendency. Concerns of students, investors, professionals, novices, all were allowed their space online. Moderation of discussions mostly involved weeding out the few discordant contributions, and, when necessary, suspend list members. To date only two individuals have seen their online memberships terminated – in one case because of shameless advertising, and in another case because of abusiveness. The community still functions as a network of interested individuals and topics of discussion evolve as all members are free to contribute. Occasionally, there are topics of greater dominance that are taken up with the stakeholder organisations in question, particularly the Tanzania Communications Regulatory Authority, and many of the firms have members who keep members enlightened and updated.

More information on the eThinkTankTz experience can be found at www.eThinkTankTz.org as well as in the message archive available upon joining the forum. The website also has a Document Archive that contains all of the documents referred to in this chapter as well

as many other useful materials. Other initiatives spawned by eThinkers include: *www.swopnet.or.tz*; *www.gateway.or.tz*; *www.tix.or.tz*; *www.incubation.co.tz*; *www.tafossa.or.tz*

All in all, this experience over a period of five years has helped Tanzania's ICT community to forge a sense of identity and confidence by working together. It has also helped provide a reference point through which informal contacts can be made with government institutions as well as with private sector organisations. This often happens when members share valuable insights from their respective places of work. Job vacancies are often announced through the network, and requests for support or information generally receive authoritative responses very quickly. Tanzanians living abroad are especially pleased by the network, as it enables them to contribute directly to ICT discussions at home, knowing that their voices will be heard and respected. Members of eThinkTankTz are now also contributing towards specific sector policy formulation processes (most notably in the education sector), within the context provided by the National ICT Policy. Particularly exceptional is the growth in membership from eight to around eight hundred members, merely by word of mouth, in the same way that the community itself was created five years earlier. In the meantime, other online communities have emerged in different areas of interest in Tanzania to emulate the eThinkTankTz.

CHAPTER 19

BENCHMARKING INFORMATION AND COMMUNICATION TECHNOLOGY (ICT) PERFORMANCE: LESSONS FOR KENYA

Eric M. Aligula

Introduction

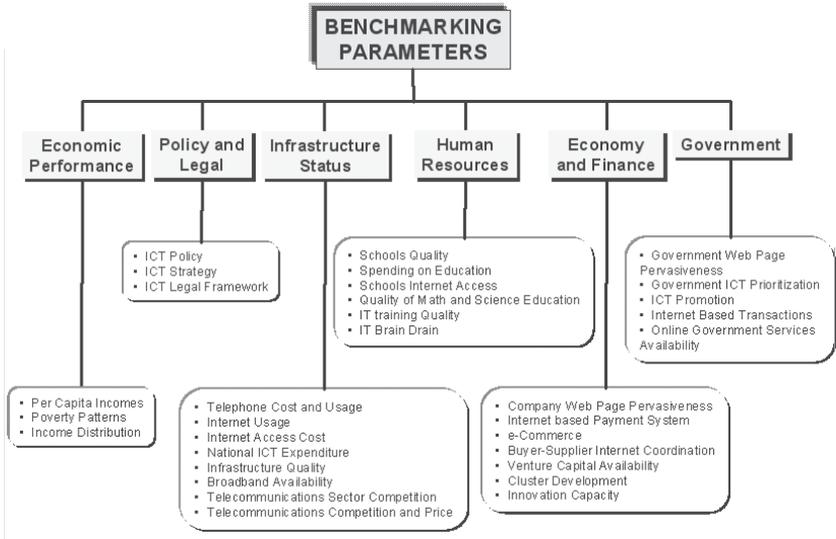
Countries all over the world are striving to appropriate for themselves and their citizens the benefits that Information and Communication Technologies (ICTs) offer. Drivers of the ICT promise rest on the potential ability of ICTs to enhance productivity, knowledge and to fundamentally change governance, learning, and business. The rapidity of change in ICTs makes it possible only for the fast and flexible fully benefit. It has recently been suggested that new technologies go through two broad stages, “installation period” and the “deployment period.” The move between these stages implies major changes in the way institutions involved in the production of goods and services are organised (Curtain, 2003).

This chapter compares the ICT strategies in Kenya and other countries, an engagement now commonly referred to as *benchmarking*. Figure 19.1 shows some common parameters employed in benchmarking. Kelly (2002) sees three main roles for benchmarking in respect of ICTs:

- Policy analysis to make comparisons before and after policy changes and to measure the impact of ICTs on general economic investment and performance;
- Regulatory purposes to formulate, monitor, and evaluate ICT sector policy and competition policy;

- International comparisons to allow comparisons with other countries and monitor changes in various rankings.

Figure 19.1: Benchmarking Parameters



Various studies have applied a number of parameters to compare and evaluate ICT sector performance between countries. This benchmarking process aims at highlighting Kenya’s relatively poor performance in applying ICTs to achieve its development goals. In doing so, comparisons are made between what Kenya has not done and what these other countries have done. Subsequently, lessons are drawn in respect of what Kenya ought to focus on if it is to successfully use ICTs to foster its development agenda of wealth and employment creation, as well as poverty reduction.

Specifically, this contribution compares the relative performance of Kenya with four other countries namely, South Africa, Egypt, Malaysia, and Singapore.

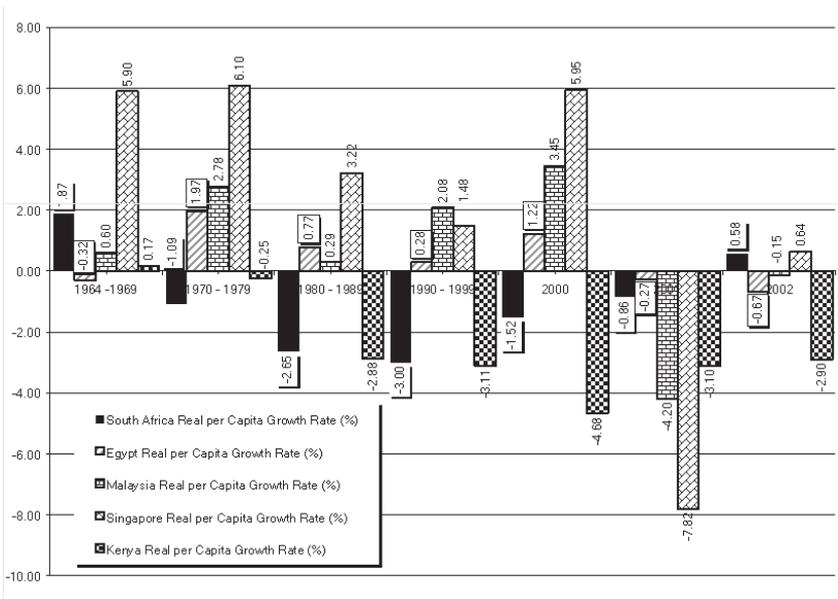
Three broad criteria were applied in selecting these countries. First, each of these countries shares a similar colonial legacy with Kenya. Second, these countries are in trade competition with Kenya. Therefore, the more efficient producer will be in a better position to gain market share for its exports. Third, ICTs are important elements in the investment climate of a country, implying that the nation able to effectively apply them will necessarily attract foreign direct investment, a sine qua non of economic development.

ECONOMIC AND ICT SECTOR PERFORMANCE

The per capita Gross Domestic Product (GDP) or Gross National Income (GNI) provides a good estimate of the market size in the sense of a population’s purchasing power. Figure 19.2 shows the economic growth rates for the five countries, while Figure 19.3 shows the GDP per Capita based on purchasing power parity (PPP).

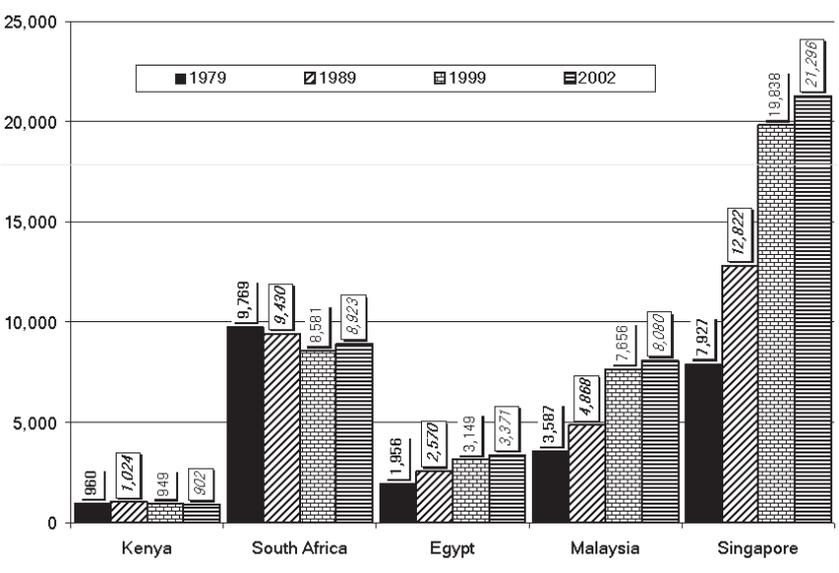
The GDP growth rate data in Figure 19.3 shows that Kenya’s performance relative to the other countries has been poor. In the period 1964-1969, its GDP growth rate averaged 0.17%, compared to 5.9%, 0.60% and 1.87% for Singapore, Malaysia, and South Africa respectively. Only Egypt had a poorer economic growth rate in the period.

Figure 19.2: Comparative Economic Growth Rates, 1964 - 2002



Source: World Bank Development Indicators Database, 2004

Figure 19.3: GDP Per Capita, PPP (constant 1995 US \$), 1979 - 2002



Source: World Bank, International Comparison Programme database, 2004

The consequences of this pattern of growth are evident from Figure 19.3, which shows that Kenya’s per capita GDP at PPP rose to US\$ 1024 in 1989, but has been declining ever since, whereas it has been rising in the other three countries except in South Africa.

INSTITUTIONAL INFRASTRUCTURE

Table 19.1 illustrates elements of institutional infrastructure in the five countries. In terms of government ministries involved with the ICT sector, Kenya has three. This is in contrast with the other countries where only one ministry is primarily involved with the sector.

Table 19.1: Primary Institutions Responsible for the ICT Sector

Country	Ministry Responsible	Regulatory Indicators		
		Independent Regulator	Converged Regulator	National ICT Strategy
Kenya	Office of the President Information and Communications Finance Communications	Yes Communications Commission of Kenya	No No	No Yes
South Africa		Yes Telecommunications Regulatory Authority		
Egypt	Communications and Information Technology	Yes Telecommunications Regulatory Authority	No	Yes
Malaysia	Energy, Telecommunications and Multimedia	No Communications and Multimedia Commission	No	Yes
Singapore	Information, Communications and the Arts	Yes Telecommunications Authority of Singapore	No	Yes

Kenya with one independent regulator, is no different from the other countries. None of the countries has a converged regulator, but all the countries, except Kenya, have developed and are implementing a national ICT strategy. This is a fundamental difference because an ICT strategy, as pointed out by Hanna (2003) is necessary to address the following issues:

1. Raise awareness, resources, and drive commitment to action;
2. Build coalitions in support of policy and institutional reforms;
3. Clarify roles, build public-private partnerships, and facilitate participation by all stakeholders, including NGOs;
4. Focus scarce resources in exploiting ICTs for national priorities and help sequence and phase complementary investments;
5. Complement market forces, promote societal applications, enable bottom up efforts, and ensure shared learning and scaling up;
6. Address special needs and dynamics of promising segments of the ICT industry for export and economy-wide competitiveness;
7. Reorient the national innovation system to meet the substantial and cumulative technological learning requirements of ICTs (as a general purpose technology);
8. Address coordination failures, exploit network effects, and secure complementarity.

Each of the four countries, except Kenya, has defined a strategy supported by key interventions whose aim is to address issues of ICT investment and diffusion within its economy. These strategies attempt to position the countries as:

- Producers of ICTs through the development and deployment of ICT goods, services and infrastructure;
- Facilitators of ICTs through the creation of an enabling environment, including a conducive macroeconomic environment; a fiscal, legal, and regulatory framework, and education policies;
- Leaders of ICTs by implementing e-government (i.e. becoming users of ICT), addressing digital divides in the country, and making ICT a national priority (e.g. through projects).

Table 19.2 shows the key dimensions in the strategies of each of these countries.

Table 19.2: Comparison of Country ICT Strategies

Country	Strategy overview	Keyinterventions	Some challenges identified
South Africa	<ul style="list-style-type: none"> • ICT targeted as an enabler of development • Combines public sector vision and private sector development 	<ul style="list-style-type: none"> • National Skills • Development Initiative • E-rate – subsidy for schools internet costs 	<ul style="list-style-type: none"> • IT Brain Drain • Poverty • IT illiteracy
Egypt	<ul style="list-style-type: none"> • National ICT Plan focusing on human resource development, development of ICT infrastructure, and building local demand for ICT through effective Private-Public Partnerships 	<ul style="list-style-type: none"> • Smart Village • Egypt Cyber Centre 	<ul style="list-style-type: none"> • Lack of a predictable legal framework around consumer rights and electronic transactions • Education, intermittent instability and poverty
Malaysia	<ul style="list-style-type: none"> • Government led policies and initiatives aimed at attracting high-end foreign investment and leading a transition to a knowledge economy 	<ul style="list-style-type: none"> • Multimedia Super Corridor economy 	<ul style="list-style-type: none"> • A highly rural developing
Singapore	<ul style="list-style-type: none"> • An industry led strategy, in which the government acts as a catalyst 	<ul style="list-style-type: none"> • Master plan on IT Education • Liberalisation of the telecoms market 	<ul style="list-style-type: none"> • Inadequate supply of ICT-skilled workforce • Facilitating SME adoption of e-Commerce • Small Domestic Market

Source:

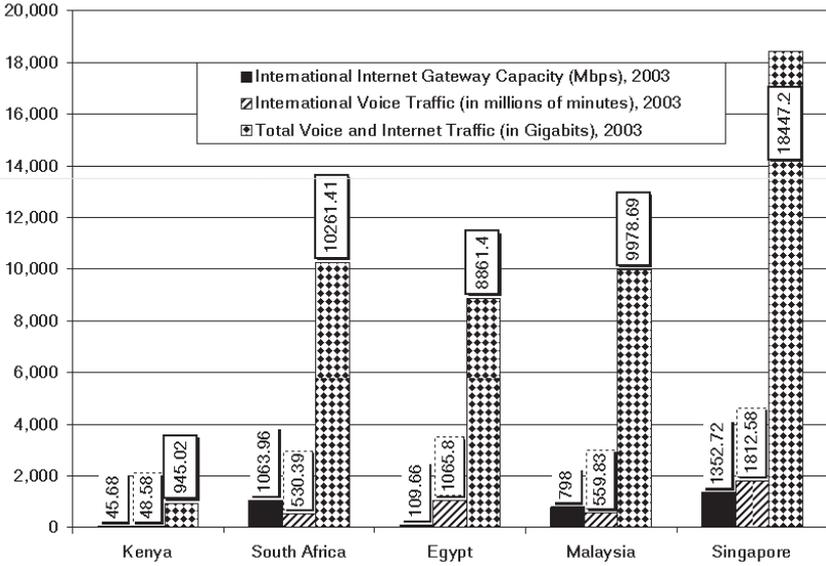
The policies also identify each country's overall perspective as to whether it perceives ICTs as enablers or sectors in the national economy. Although Kenya has a number of ICT initiatives unfolding, including an incipient e-government strategy and recognises the role of ICTs in economic recovery efforts, the absence of a serious and accepted national ICT policy and strategy is a major handicap in its efforts to harness the promise of ICTs.

USE OF ICTS

The utilisation of ICTs by people and businesses is manifested in a number of ways, and a number of indicators can be used to assess this including the level of performance and utilisation of ICTs, teledensity and traffic flows, information technology, and gateway capacity (World Economic Forum and INSEAD, 2003).

Dutta and Jain (2003) note that ICT forms the "backbone" of several industries and is today a dominant force in enabling companies to exploit new distribution channels, create new products, and deliver differentiated value added services to customers. ICT is also an important catalyst for social transformation and national progress. Disparities in levels of ICT readiness and usage could translate into disparities in levels of productivity and, hence, different rates of economic growth. It is also important to observe that ICTs can lead to economic growth but not development. In the absence of other mitigating measures, usually only the skilled and highly educated benefit from ICT-engineered growth. The social exclusion of large groups of persons, especially women, children, and people living in rural areas, is a common phenomenon when adequate planning has not accompanied ICT exploitation.

Figure 19.4: Comparative ICT Infrastructure, 2003



Source: *International Telecommunications Union (ITU), 2003*

Internet gateway capacity is basically an estimate of a country’s international Internet connectivity. As is evident from Figure 19.4, Kenya’s Internet gateway capacity is way below that of the other countries, although this is set to change with the new rules in the near future. Table 19.3 shows the level of ICT utilisation in terms of teledensity, ICT utilisation, and e-government ranking. Teledensity has historically been used as the benchmark for the development of a country’s telecommunication infrastructure (Arquette, 2004). Teledensity has traditionally been defined as the number of telephone main lines per 100 persons. However, this definition has been expanded in recent years to take cognisance of expansions in mobile telephony. As can be seen in Table 19.3 and in spite of rapid advances in mobile telephony over the last five years, Kenya still ranks far behind the other countries in teledensity for both mobile and fixed lines.

Table 19.3: Common Information and Communication Technology Statistics

Parameter	Kenya	South Africa	Egypt	Malaysia	Singapore
Teledensity					
Main Telephone Lines Per 100 Persons	1.03	10.66	11.04	19.04	46.28
Mobile Subscribers Per 100 Persons	4.15	30.39	6.68	37.68	79.56
ICTS UTILISATION					
Internet Users per 10,000 persons	125.27	682.01	282.26	3,196.89	5,043.59
Internet Hosts per 10,000 persons	0.93	43.75	0.45	35.18	812.62
PCs per 100 persons	0.64	7.26	1.66	14.68	62.2
E-Government Ranking, 2003 (%)	25.7	31.8	28	36.7	46.3

Source: ITU, 2003 and EIU, 2003

ICT utilisation, as measured by the level of access to personal computers and the Internet, also shows a similar trend. In terms of e-government application, Kenya also ranks behind the other countries. This Global E-government ranking is based on an assessment of 2,166 national government web sites for 198 nations around the world. The web sites were evaluated for the presence of various features dealing with information availability, service delivery, and public access. Features assessed included: online publications, online database, audio clips, video clips, non-native languages or foreign language translations, commercial advertising, premium fees, restricted areas, user payments, disability access, privacy policy, security features, presence of online services, number of different services, digital signatures, credit card payments, email address, comment form, automatic email updates, web site personalisation, personal digital assistant (PDA) access, and an English web site. Table 19.3 examined the number and type of online services offered.

Table 19.4: Networked Readiness Status and Country Competitiveness

Country	Networked Readiness Index		Growth Competitiveness Index Ranking		Business Competitiveness Ranking	
	2003	2004	2003	2004	2003	2004
Kenya	2.81	-0.62	83	78	66	63
South Africa	3.72	0.33	42	41	27	25
Mauritius	3.62	0.08	46	49	43	53
Egypt	3.19	-0.24	58	62	58	66
Malaysia	4.19	0.69	29	31	26	23
Singapore	5.40	1.73	6	7	8	10

Source: Dutta et. al. (2005); Dutta and Lopez-Claros (2005); Porter et. al. 2004

The Networked Readiness Index (NRI) is defined as “the degree of preparation of a nation or community to participate in and benefit from ICT development” (Dutta and Jain, 2004). Based on a NRI assessment of 102 countries, as shown in Table 19.4, Kenya was ranked 84th, with a NRI of 2.81, compared to Singapore’s 2nd, Malaysia’s 26th, and Egypt’s 65th position. The data suggests a relationship between NRI and the competitiveness of each country.

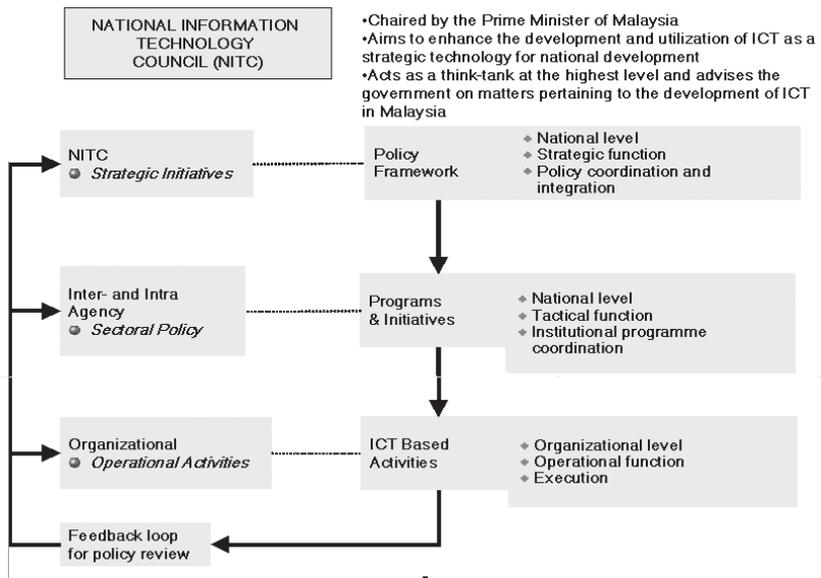
All the indicators show that Kenya lags behind all the other countries in this comparative study. This gloomy picture, especially in the light of Kenya having adopted an “export-led strategy” for economic recovery and growth, is a cause for concern. It also presents enormous opportunities, which can only be beneficially exploited if the right policy and accompanying political, investment, and regulatory environment is put in place, urgently. In the section follows, a brief discussion of the Malaysian case is presented.

MALAYSIA

In the 1990s, Malaysia recognised that it was losing its comparative advantage in its traditional economic sectors. The need was felt to urgently drive the economy towards higher productivity through technology and high value-added economic activities. ICTs were seen as the best opportunity for socioeconomic transformation, and identified as the tools to achieve development goals for a knowledge-based society and economy. Malaysia recognised the significance

of ICTs as a tool and a strategic enabler and formed the National Information Technology Council (NITC) in 1994, which acts as a think-tank at the highest level. It advises the government on matters pertaining to the development of ICTs in Malaysia. The NITC facilitated the formulation of a National Information Technology Agenda (NITA), which revolved around a wider national development agenda dubbed Vision 2020 and was launched in 1996. NITA had three basic pillars, as illustrated in Figure 19.5.

Figure 19.5: The Malaysian ICT Model



Source: NITA

The NITA vision is to use ICTs to transform Malaysia, first into an information society, then a knowledge society, and finally a “values-based” knowledge society in 8 strategic areas:

1. E-economy aimed at creating value and wealth through successful participation in the emerging knowledge driven economy.
2. E-public services focused on the provision of people oriented, customer focused electronic services.
3. E-community facilitated interaction and communication among communities to improve the quality of life.
4. E-learning focused on cultivating a life-long learning culture.
5. E-sovereignty focused on building a resilient national identity.
6. Conferences and expositions to grow a framework and a platform for dialogue and the exchange of national and international

experiences on ICT, as well as for raising the awareness of the Malaysian public about information age developments.

7. Demonstrator application grants to promote the use of ICT and multimedia for socioeconomic development through developing communities enabled by electronic networks, e.g., NutriWeb, CyberCare, and Neighbourhood Centres.
8. The Multi-media Super Corridor (MSC) to provide a comprehensive world-class ICT environment and act as a global test bed for innovative solutions as well as a hub for the development of both local and foreign ICT SMEs.

All these initiatives were premised on 'thinking globally, leading regionally', to enhance domestic productivity, and gain maximum value from the information age. The most comprehensive of these thrusts can be seen in the MSC technology park. The MSC has been accompanied by a series of support mechanisms including a comprehensive ICT legal framework, financial and non-financial incentives, and a MSC development grant scheme amongst other mechanisms. The MSC development is envisaged in three phases for manageability and maximum impact.

LESSONS FOR KENYA

There is a clear absence of a vision that harmonises the efforts of public and private sectors and communities. On account of this lack of vision, issues of infrastructure development, human resource capacity building, and digital divide concerns have been poorly addressed in Kenya.

From the comparisons, a number of critical success factors, can be gleaned:

1. Strong political and administrative leadership;
2. Detailed project management with clearly identified goals and benefits;
3. Required business process reengineering;
4. Focused change management initiatives;
5. Established standards and protocols;
6. Expansive training opportunities;
7. Well-articulated national vision and mission with regard to ICTs;
8. Developed, enabling ICT infrastructure and infostructure;
9. Nurtured and networked human resources to support ICT development and application;
10. An enabling legal and funding framework.

CONCLUSION

In conclusion, it is important to state that: firstly, in order to fully exploit the promise of ICTs for the benefit of its people, a country must be very clear regarding its national development vision and agenda. It must clearly articulate where it wants to be as a country in terms of the various development issues – social, educational, technological, and spiritual/moral. This is important, because it provides the context for answering the question of what ICTs are to do. Secondly, how a country organises to meet the challenge is crucial. Thirdly, the ICT initiatives need to be harmonised so that optimal use is made of the scarce resources available.

There is a need to identify priority areas for intervention, which is dependent on what a country wants ICTs to achieve. Identifying priority areas will also facilitate the identification and selection of the principal partners and stakeholders. More importantly, it must identify measures to address digital divide issues that will emerge to ensure that women, the poor, and rural or far-flung areas benefit from the application of ICTs to development. Last, but certainly not least, a robust monitoring and evaluation framework needs to be incorporated in all ICT endeavours. This is crucial given the rapid evolution and the cost of investment in ICTs. Finally, having an ICT Champion at the highest levels acts as a major motivation for positive action.

REFERENCES

- Adeya, C., (2002). ICTs and poverty: A literature review. IDRC, Acacia Initiative.
- Ali, S., (1999). Competitive benchmarking for the new millennium. http://216.239.57.104/search?q=cache:sNufuDrK12cj:www.asq509.org/Library/Article_Syed_2.PDF+need+for++%22+Benchmarking%22&hl=en (4/12/2004)
- Arquette, T. J., (2004). Rethinking teledensity as the ITU Info-Dev Benchmark. www.sla.purdue.edu/people/comm/arquette/teledensity.pdf (4/12/2004)
- Curtain, R., (2003). Information and communication technologies, and development: Help or hindrance?
- Dutta, S., et al., (2003). The global information technology report 2002-2003: Readiness for the networked world. New York: Oxford University Press.
- Dutta, Soumitra and Augusto Lopez-Claros (eds), (2005). Global Information Technology Report 2004-2005. 4th Edition. Palgrave Macmillan. ISBN: 1-4039-4800-3

- Dutta, Soumitra Dutta and Amit Jain, (2004). The Networked Readiness Index 2003–2004: Overview and Analysis Framework. www.weforum.org/pdf/Gcr/GITR_2003_2004/Framework_Chapter.pdf. Retrieved on 4/12/2004.
- Dutta, Soumitra, Bruno Lanvin and Fiona Paua (eds), (2004). The Global Information Technology Report 2003-2004: Towards an Equitable Information Society World Economic Forum. 0195173619.
- Economist Intelligence Unit, (2003). The 2003 e-readiness rankings: A white paper from the Economist Intelligence Unit, London.
- Hanna, Nagy K., (2003). Why National Strategies are Needed for an ICT Enabled Development. ISG Staff Working Paper No. 3. http://www.apdip.net/documents/policy/misc/policy_strategy1.pdf. Retrieved on 4/12/2004
- http://www.3nw.com/doi/appendices/appendix_3/appendix_3_5_malasia_case_study.htm (4/12/2004)
- <http://www.Curtain-Consulting.net.au> (4/12/2004)
- <http://www.infodev.org/projects/internet/375pyramid/fin375.htm> (4/12/2004)
- <http://www.mimos.my> (4/12/2004)
- <http://www.nitc.org.my> (4/12/2004)
- Information and Communications Technology for Development. In Corporate Africa, Autumn/Winter 2004, Issue 33, Vol. 1, No. 888.
- International Telecommunications Union (ITU), (2003). World Telecommunications Indicators. <http://www.itu.int/ITU-D/ict/statistics/>
- Kelly, T. (June 2002) ICT Statistics for benchmarking economic performance. A paper presented to the Chinese Delegation, Geneva. tim.kelly@itu.int (4/12/2004)
- Lefebvre, E., & Lefebvre, L. A., (1996). Information and communication technologies: The impact of their adoption on small and medium-sized enterprises. Ottawa: IDRC. <http://www.idrc.ca> Retrieved on 4/12/2004.
- Porter, Michael E., (2005). Building the Microeconomic Foundations of Prosperity: Findings from the Business Competitiveness Index. CHAPTER 1.2. www.weforum.org/pdf/Gcr/GCR_2003_2004/BCI_Chapter.pdf. Retrieved on Monday, April 04, 2005.
- Porter, Michael E., Klaus Schwab, Xavier Sala-i-Martin and Augusto Lopez-Carlos (eds), (2004). *The Global Competitiveness Report*

2003-2004. World Economic Forum. Oxford University Press. 0-19-517360-0.

Pupius, Mike, (2005). Benchmarking: EFQM Education Community of Practice. University of Bergen. 10 January 2005. Retrieved Friday, April 01, 2005. <http://www.shu.ac.uk/research/integralexcellence/docs/Benchmarking%20ECoP%20Bergen%20Jan%2005.ppt>

The World Bank (n.d.) Information Infrastructure Indicators, 1990-2010.

West, D., (2003). Global e-government. Center for Public Policy, Brown University, Providence, Rhode Island.

World Bank, (August 2004) World development indicators database. <http://www.worldbank.org/data/countrydata/countrydata.html>. Retrieved on 4/12/2004.

www.insidepolitics.org/egovt03int.html. Retrieved on 4/12/2004.

CHAPTER 20

THE MAKING OF AN INFORMATION SOCIETY – THE FINNISH EXPERIENCE

Matti Kääriäinen

Introduction

The words “Information Society” usually initially bring to mind technical surface-level matters. Information and communications technology (ICT) can be seen as a prominent sector of the hi-tech industry with a huge potential for global business. We can also speak of ICTs for Development (ICT4D), when the emphasis is on aspects and benefits of ICT applications in development. However, the development of an information society is the development of the deep-set structures of society. An information society can be defined as a creative society based on interaction. It is not just about new technology; it is more about a new way of doing things. Technological development can help society only when it is combined with changes in the underlying social structures.

Since the beginning of the 1990s Finland has led the field in Internet statistics by the number of hosts per capita and the number of Internet users as a proportion of the population. During the same time period, Finland also had the highest penetration rate of mobile phones. The Finnish welfare state provides totally free, high-quality public education from kindergarten to university, universal public health coverage in addition to universal retirement and unemployment insurance. This has not always been the case.

Unlike other Nordic countries, three generations ago Finland was a very poor country with most of its population involved in the agricultural sector. It was largely dependent on its forest resources and was only loosely integrated into the main channels of global capital, markets and technology. Finland was a society surviving

under harsh climatic conditions. Both the Finnish welfare state and the information society have been built in the past couple of decades. The Finnish case makes interesting reading. A true case for study.

Societies and economies can reach very similar technological levels despite starting from different histories and cultures and using a variety of institutions. There is some commonality in information technology, and there is undeniably a global economy, in the midst of human diversity. The Finnish example of an information society has been developed under specific circumstances that may not be exactly replicable in other contexts. There is no one model of information society, which should serve as a standard of modernity for the rest of the world. However, there are a number of key lessons that can be learned from the Finnish experience that could serve as a source of valuable lessons for other countries and regions of the world.

MAIN ELEMENTS OF THE FINNISH INFORMATION SOCIETY

Information society as a welfare society

The information society and a welfare society are not only compatible with each other but are also mutually reinforcing and can be said to be prerequisites one for the other. A truly dynamic information society runs counter to the trend of connecting networks only of individuals who create value while disconnecting those who do not. In a transformational society, this creates social injustice and exclusion. Instead of being stagnant and defensive, an informational welfare society forms a virtuous cycle with its informational economy. A high-productivity information society creates the economic basis for the welfare state, which in turn provides the human foundation for the labour which in time generates knowledge required for further development. This creates the informational development model which epitomises the Finnish experience.

Traditional Scandinavian welfare state structures with free education, affordable health care and a wide social safety net for the elderly, the unemployed and parents of young children can come under a heavy strain during recessions, as did Finland in the early 1990s after the collapse of the national economy. These structures were saved only by the rapid transformation of the country into an information economy. This was a difficult and disruptive process in itself, but succeeded because the welfare state made the development socially acceptable and assured people that both cost and benefits would be shared.

Information society as an inclusive society

The information society can easily become an exclusive club both at national and global levels. Digital divides exist within countries as well as between them. Finland has made the conscious effort to resist these trends.

The public sector can, by using new technologies, implement ICT-based systems, which create new links with the structures and needs of the welfare society. New applications facilitate the provision of health care services, an independent life for senior citizens and high quality education for large segments of society. The creation of hi-tech Internet-based tools is not enough. Information must be available and accessible only if benefits from the dissemination of new technologies are to be reaped.

Public libraries are key institutions of an inclusive information society. They collect and help to analyse information that is becoming increasingly fragmented. Finland was the first Nordic country to have a Public Library Act - in 1928, later Acts date from 1961, 1986, 1992 and 1999. It is the duty of local authorities to arrange library and information services. Since 1928, both the use and lending of all library collections have been free of charge; nowadays this also applies to videos and CDs. Finland has actively created and developed a digital public library and archive services. Of library activities, 97% are computerised and nine out of ten municipal libraries provide Internet facilities. The libraries also network regionally.

Information society as an innovation society

Innovation is the ultimate driver of growth productivity in the information economy and of the development of the information society. Without innovation there is no forward movement which means lagging behind, since standing still is neither possible nor an option in a time bound universe, that is in constant motion.

Some roots of the Finnish innovation system go back a long way. The diversity of Finnish IT innovation was facilitated by the existence of many telecommunications operators. This was because in the 1870s, when Finland was still an autonomous part of the Russian empire, the Finns wanted to prevent telephony being turned into a monopoly of the imperial government. In the 1930s, there were more than 800 telephone companies in the country, serving a population of less than four million.

An innovative system needs educated people, a functioning financial system, and a culture of innovation. Putting these three in

place in Finland was a long process. Starting from the 1960s, the university network was expanded from three to twenty and public financing institutions for business-oriented research and development, as well as for a public venture capital, were set up. Despite the existence of this public institutional infrastructure, the bulk of research and development financing comes from the private sector (73% in 2002). To promote and deepen the culture of innovation, the government has taken an active role in promoting deregulation, liberalisation and privatisation as well as open standards. But the culture itself has to a large extent been created by motivated, talented individuals and the businesses they set up.

A good example is the development of the open source operating system, Linux. The process was initiated by a student – Torvaldis – from the University of Helsinki. Through the utilisation of global information networks, Linux was developed and tested globally by thousands of volunteers who had an interest in developing the system further.

Information society as a networking society

Networking is the essence of an information society. A high level of networking among companies, universities, research institutes and creative individuals is a cornerstone in the formation of whole new sectors of industry, as happened in Finland in the 1980s and 1990s. The emergence of a national mobile phone industry based on new standards is an example of fruitful interaction between private and public elements of an innovative system. Technology villages have sprouted up around technology-oriented universities.

Networking is an advantage to a small country such as Finland where people from government, from the business community and from universities frequently meet each other socially and professionally, in various committees or other groups. Regardless of the size of the nation, a network society can be built on two specific features, namely clarification of the roles of all stakeholders and adequate mutual trust. The sum of these two elements is social capital. This is the only way for all stakeholders to utilise their comparative advantage.

An information society is never complete but is in a state of continuous reform. In its latest Information society programme, from September 2003, the Finnish Government has been promoting social and regional equality and improving citizens' well-being and quality of life through effective utilisation of information and communication technologies. Citizens are promised rapid Internet

access and training in skills necessary in an information society. The aim is for all government services to be available on-line whenever feasible. The Information society programme also aims to boost competitiveness and productivity and to maintain Finland's status as a leading producer and user of information and communication technologies.

FUTURE CHALLENGES: ENCOURAGEMENT AND CREATIVITY

Finland's special strengths include the combination of an information society and a welfare state education, health, social services, local information-society initiatives, a national identity that is technology-positive which favours networking. All information societies and welfare states also have weaknesses. An ageing population, for example, is one of the most important trends in Finland, which means a shift from the "society of the young" to a "society of pensioners." An ageing population leads to problems in the financing of a welfare state. At the same time, greater global tax competition and the new global division of labour puts increased pressure on the welfare state. The future focus of the information society will and needs to be more on larger social matters than just technological development. To guarantee and maintain the development of a welfare state and the information society, a number of challenges must be met.

It is fundamental that we learn to accept and encourage the climate of innovations and creativity. Encouragement means both support and motivation, rather than discouraging people from acting on their own initiatives, they should be encouraged to identify and capitalise on new opportunities. The future of the welfare society is in creativity. Creativity and new modes of action, based on the opportunities provided by technology, pave the way for economic development and the maintenance and development of public welfare services.

In the new economy, Finland can compete only with the tools of expertise and creativity, not through mass production. The creative economy needs investments in education and training. This means, that the equality of basic education must be improved and creative learning environments and learning arrangements must be developed at all levels of education and training. In an information society, learning continues throughout life, schools should, therefore, not only distribute information but build self-confidence and social skills, and help students to identify their talents and creative passions. The challenge of lifelong learning in the information society is that people must learn to learn. More attention needs to be paid to matters related to entrepreneurship at all levels of education.

Countries need to look for new solutions, particularly to the sharing of risks related to innovation and business processes. If Finland is to become an innovation-driven economy based on high expertise, new businesses must be established and extensive business skills developed. The information society provides opportunities for increasing creativity, which in turn make it possible to establish new forms of businesses and work.

In a digital era, standards are of supreme importance to growth. The winner is one who controls or owns the standards that are accepted in markets. In a supranational production network, companies no longer use factories as their strategic weapons. What matters is the ability to manage the supply chain. Finnish companies can use their small size as an asset when they operate in the converging production and service sector and participate in the development of global standards and production chains.

Finland has an explicit policy to include the whole of its population in the information society. In so doing, it is developing a wide range of public users for information technology. This ultimately results in new products and new markets. However, in times of great social changes, part of the population is easily left behind. The risk is that society will be divided into those who succeed and those who are on the margins. This division is often linked to generational, educational or locational differences (place of residence). The current development seems to have a spatial characteristic in which strong nodes are becoming stronger and weak nodes even weaker. The distribution of economic activity and income creation also follow the same spatial quality.

It has been predicted that the maintenance of welfare services in Finland will become more difficult, as the need for services increases, production costs rise and resources dwindle. There is a need for strong nation-wide cooperation across traditional organisational boundaries. The government and local authorities are responsible for the availability, quality and organisation of services, but the services could be produced by the public, private or third sector.

A cultural identity and a strong national sentiment appear to be key components of the Finnish experience of the information society. A strong national identity provides a platform to build technological capacity and to develop social experimentation. Local and national identities add value to Finnish business and Finnish innovation in global networks. National and cultural identities are important sources of meaning and value, but only on condition that people and countries are engaged in a multicultural dialogue. Finnish knowledge and expertise have traditionally been built on Finland's international contacts. As globalisation progresses, it is increasingly important for small nations such as Finland to be tolerant towards

different ideas, peoples and influences. It is important to see multiculturalism as a rich source of economic and cultural growth and for Finland to shape itself as an attractive open node in the global network since the world is increasingly interconnected, not only economically but also culturally.

INTERNATIONAL INTERACTION: SHARING AND CARING

Global developments of the past few years appear to be a turning point in history, as great old cultures and nations, such as China and India, are re-inserting themselves and re-asserting their positions in the global economy. However, not all developing countries have been able to get in the slipstream of the China phenomena. Inequality and marginalisation have become aggravated both globally and nationally. From the 1960s to the turn of the 21st century, the gap between the poorest 20% and the richest 20% of the world's population doubled and is now approximately 75:1. At present the majority of people in the world are not benefiting from the new technologies. The digital divide between the developed and developing countries is rapidly widening, as ICTs act as the world's economic and social engine.

The promotion of the information society and the utilisation of new technologies globally is a new area of Finnish cooperation, which provides opportunities for developing innovative forms of cooperation. It is essential that a supportive environment is created for all stakeholders: the private sector, NGOs, and the public sectors of partner and financing countries. Investment in human capacity is the key element of development cooperation in the information society. Everyone should have the skills necessary to benefit fully from the information society. Therefore capacity building and ICT literacy are absolutely essential.

Information and communication technologies and other positive elements of the information society should be mainstreamed in bilateral and multilateral development cooperation, and partnership projects between public and private sectors should be established. Developing countries should incorporate information society strategies in their national development programmes, including their poverty reduction strategies.

The information society should not be built at the expense of universal human rights. On the contrary, citizens' fundamental rights must be protected. New technology can either protect or undermine these rights. It can provide innovative opportunities to realise the freedom of expression and the protection of privacy, but it can also lead a controlling society. An all-inclusive information society

promotes the diversity of cultural identities and languages. There are some trends in global ICT development that may have unfavourable side effects for cultural diversity. These trends should be taken into consideration at the planning stages of information society policies. The preservation of cultural heritage is a crucial component of identity and self-understanding of individuals that can encourage social and economic development and stimulate participation of all stakeholders, even including people living in rural, remote and marginal areas.

Realism is called for in promoting information societies and ICTs. There is no leapfrogging into the information age as is often touted. Progress towards an information society needs to be measured by social and intellectual development and not solely by technological advancement. Modern technology is embedded in knowledge related to certain social processes (like networking, learning, collaboration) and certain institutional models (global, networked, information based) that should be developed only through social, cultural and intellectual learning processes by the people.

REFERENCES

- Castells, M., & Himanen, P., (2002). The information society and the welfare state. The Finnish model. New York: Oxford University Press.
- Committee for the Future, Parliament of Finland, (2004). The future of the Finnish information society: A caring, encouraging and creative Finland - a review of the challenges of our information society. A proposal presented to the 2004 Parliamentary Session. Committee for the Future, Parliament of Finland.
- Finnish Policy Programme on Information Society
www.infosoc.fi
- Himanen, P., (2004). Challenges of the global information society. Helsinki: Committee for the Future, Parliament of Finland.
- Ministry for Foreign Affairs of Finland, (February, 2003). Development Policy: Government Resolution 5.2.2004. Helsinki: Ministry for Foreign Affairs of Finland.

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PART 5: CONCLUSIONS

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CHAPTER 21

POSTSCRIPT: CHALLENGES OF THE ICT REVOLUTION IN EAST AFRICA

Paul Tiyambe Zeleza

Introduction

The contributions in this volume provide invaluable information on the development, use, and challenges of information and communication technologies (ICTs) in Kenya and to a lesser degree East Africa. Specifically, the papers raise critical questions about ICT policy and implementation in the East African region, the respective roles of the public and private sectors, and the application of ICTs in government, education, and in various economic sectors. Based on extensive empirical research, these papers demonstrate the considerable progress that has been made in the region to promote ICT initiatives and projects as part of a comprehensive development agenda and offer rich insights into the various problems facing the drive to promote ICTs. These problems are infrastructural, technical, regulatory, distributional, social, cultural, and economic in nature. In this postscript, I would like to, first, place the development of ICTs specifically in Kenya and Uganda in a continental context and, second, to comment briefly on a series of questions, implied in many of the chapters, concerning the complex intersections between ICTs, the information society, knowledge economies, development and globalisation, issues on which, I believe, we need more critical reflection and research.

THE REGIONAL DISTRIBUTION OF ICTS

It is quite remarkable how quickly the new ICTs have spread across Africa and have come to be seen as essential to the continent's

economic development, political democratisation, social advancement, cultural progress, as well as for its global presence and competitiveness. The statistics for Internet usage and mobile telephones – two of the newest technologies – tell an eloquent story. In 1996, a year after African states adopted the African Information Society Initiative at the behest of the United Nations Economic Commission for Africa (UNECA) to actively promote and integrate ICTs in national development plans, only five countries had Internet connectivity. Five years later all African states did have, and the number of Internet users had shot up to 6.2 million. By the beginning of 2005, the number had more than doubled to 12.9 million. In fact, between 2000-2005 Africa posted the fastest growth rate of Internet usage—186.6 percent as compared to the world average of 126.4 percent. The growth in mobile telephones was even more spectacular. By the beginning of 2005 there were 82 million mobile phone users, up from 51 million in 2003, and 4.2 million in 1998. Again, Africa claimed the world's fastest growth rate in mobile phone usage. In 1998 there were four times as many landlines as there were mobile phones; by 2003 there were more than twice as many mobile phones as landlines.

But the figures only tell part of the story. Africa remains the least connected continent in the world. In the period 2000-2005 the rate of Internet penetration remained well below the world average—1.4 percent compared to 12.7 percent. And Africa's Internet users only made up 1.6 percent of world Internet users. Similarly, despite its rapid growth, mobile phone usage was lower than the world average and comprised a small percentage of the world's total—3.6 percent in 2003. No less important, the continental statistics hide great national disparities. Nearly half of the Internet users at the beginning of 2005 were in two countries, South Africa (27.2 percent), and Egypt (20.9 percent). Thirty-five countries (or 66%) had an Internet penetration rate of less than 1.4 percent, the continental average. The rate was less than 0.5 percent in nineteen countries (or 36%). Patterns of unequal distribution are equally evident for mobile phones. In 2003, South Africa claimed a third (33.0 percent) of the continent's mobile phones, followed by Morocco with 14.4 percent, and Egypt with 11.4 percent. Thus, between them the three countries had nearly three-fifths of Africa's mobile phone users. Clearly, the new ICTs are unequally distributed among African countries so that for many, the ICT revolution has yet to arrive. Looking at the teledensity (main telephone lines and mobile users per 1000 inhabitants) of the sub-Saharan countries, the picture is rather bleak and shows how much catching up these countries have to do. In 2002 it stood at 5.3 (up from 1.0 in 1992), which was higher only in comparison to the Pacific with 4.7 (up from 2.3) and South Asia with

4.5 (up from 0.7). But it was much lower than the Caribbean with 52.6 (up from 9.8), developing Europe and Central Asia with 44.1 (up from 14.1), Latin America with 35.4 (up from 7.1), East Asia with 27.4 (up from 1.2), and the Middle East and North Africa with 18.0 (up from 4.5) (ICU 2004: 74).

How do the East African countries of Kenya, Tanzania and Uganda compare? The chapters tracing the development of ICT policies, projects, and provision in the region – the one by David Obot et al on stakeholders and ICT awareness in Uganda, and the other three on Kenya by Timothy Mwololo Waema that offers a historical overview, Sammy Kirui's on the country's experience handling the challenge of universal access, and Charles Nduati's and Warigia Bowman's on the role of the Kenya ICT Federation – clearly demonstrate that considerable efforts have been made by various stakeholders including policy makers, the private sector, and civil society groups to lay a firm foundation for ICT development in the countries. The available data indicates that Kenya had 400,000 Internet users in February 2005, up from 200,000 in December 2000, while Uganda had 125,000 up from 40,000 during the same period. This entails a growth rate for Kenya of 100 percent and for Uganda of 212.5 percent. Kenya leads Uganda both in terms of its penetration rate – 1.2 percent compared to 0.5 percent in 2005 – and in its relative share of continent users – 3.1 percent compared to 1 percent – which ranks Kenya eighth and Uganda thirteenth among African countries. As for mobile phone users, in 2003 Kenya had twice as many as Uganda – 1,590,800 million (up from 10,800 in 1998) compared to 776,200 (up from 30,000 in 1998) – which placed the two countries in sixth and thirteenth positions, respectively, among African countries. Kenya's share was 3.1 percent and Uganda's 1.5 percent of the total number of mobile phones on the continent.

As numerous studies have demonstrated, including those in this volume, the uneven distribution of ICTs among countries is a product of many complex factors. For example, the rate of Internet use is positively correlated with the levels of socioeconomic development, including the purchasing power of individuals, the availability of information technologies and telecommunication infrastructures, especially access to computers and the existence of reliable telephone systems, and the number of Internet service providers (ISPs) and ISP service charges – both setup costs and operating costs (Kamsu, Siekpe and Ellzy 2004). In Africa, the highest rates of Internet use can be found among those countries, such as South Africa, whose economies are more developed and per capita incomes higher than continental averages. Such countries also enjoy higher rates of access to computers and telephones and more affordable ISP charges

relative to national incomes. For example, in 2002 there were 72.6 personal computers per 1000 people in South Africa as compared to 6.4 in Kenya and 3.3 in Uganda. The continental average was 12.9 up from 10.9 in 2001. In terms of Internet hosts per 10,000 people, South Africa had 43.12 compared to Kenya's 0.32 and Uganda's 0.07. Both Kenya and Uganda were below the continental average of 2.71 (World Bank, 2004: 250).

The digital divide is also reproduced within countries along the enduring spatial, social, and sectoral divisions and hierarchies of geographical location; social inscription; and institutional configuration. ICTs are more available in the urban than the rural areas, and likewise for the capital cities than in the provincial towns. Access to ICTs is also mediated in powerful ways by the social constructs and boundaries of class, gender, and generation so that the elites and middle classes have better access than the working classes and peasantries, men more than women, and the young more than the elderly. Amuriat and Okello insightfully analyse the gender dynamics of ICT policy in Uganda in this volume. Finally, access differs for people working in the public and private sectors and within each sector depending on an institution's technological intensity and its levels of transnational integration. On the whole, in many African countries the incorporation of and access to ICTs tend to be higher in the private sector than in the public sector, and within the latter the banking industry leads. In the public sector there are greater pressures for connectivity in the economic ministries (treasury or finance) than in the public service ministries. Institutions with universalistic aspirations or pretensions, such as universities, or with transnational affiliations, as is the case with branches of multinational corporations or international NGOs, associations, and professional networks, tend to enjoy higher levels of access to ICTs than their local counterparts.

Despite the considerable progress that has been made over the past decade, access to ICTs continues to be severely limited to the vast majority of people across the continent, including Kenya and Uganda. Universal access – defined or described in terms of geographical availability of ICTs within a country, its accessibility to all those who need to use it, affordability, use of common technology standards, and participation – remains a pipe dream for much of Africa. To be sure, many African countries have been trying to overcome the disparities of access by encouraging the development of community telecentres in the rural areas and in poor urban neighbourhoods, a subject discussed in a previous volume on telecentres (Etta and Parvyn-Wamahiu, 2003). Typically, telecentres will contain older technologies (e.g. telephone, television, videos, photocopying and facsimile) and the newer ones (computers with

Internet connectivity). The available evidence seems to indicate that telecentres have expanded access to ICTs for a large number of people in disadvantaged and underserved communities, although inequalities persist between men and women (for example, in Mali, Senegal, and Uganda, more than 70 percent of the users were men), and in terms of education levels (dominated by those with secondary level education or higher). Among the impediments to the use of telecentres are the relatively high costs of services, equipment, maintenance and supplies, inadequate physical facilities, poor management, hours of operation, inappropriate location, poor publicity, and low literacy levels and the dominance of European rather than local languages in ICT content especially on the Internet. Many of these challenges reflect infrastructural and policy underdevelopment in the wider society and underscore the need for strategies that address the issues of connectivity, content, capacity, costs, and the conceptual framework of telecentres in a comprehensive manner.

The configuration of the telecentres reminds us that ICTs consist of both older and newer technologies. The challenge facing African countries including Kenya and Uganda is to spread access to both types of ICTs as part of the continent's age-old struggles for development, democratisation, and self-determination. The growth of the older ICTs – principally radio and television – is a story of mixed results, similar to that of the newer ICTs. Growth has continued to be rapid, but Africa still lags behind the rest of the world. In 1996-2002, radios were available to 213 people out of 1000 and television sets to 89 people. Looked at over a twenty-year period, the growth in radio and television availability was quite phenomenal. The number of television receivers grew by more than five and half times between 1980 and 2000, and the receivers per capita more than trebled. The rates for Kenya in terms of radio and television availability per 1000 were 221 and 26, respectively, and for Uganda 127 and 18, respectively. Thus, radio availability in Kenya was higher than the continental average while it was lower in Uganda, and both were much lower in terms of televisions sets, registering about one third and one fifth of the continental average, respectively. On the whole, the two countries fared much worse in the distribution of the older ICTs than of the newer ICTs. Kenya ranked twenty-sixth in terms of radio availability and fortieth in terms of television sets and Uganda forty-eighth and forty-third, respectively. Kenya and Uganda, therefore, face an even greater challenge of catching up with the ICT leaders in Africa in terms of the older ICTs versus the newer ICTs.

Apart from the challenges of distribution and access to ICTs, in other words, consumption of ICT products and services, African countries including Kenya, Uganda and Tanzania must increase

their role and capacity as producers in terms of designing and manufacturing both ICT hardware and software. This entails promoting technological literacy and technological entrepreneurship. Technological literacy can be promoted primarily through the educational system by incorporating ICTs in the curriculum as discussed in the chapter by Obura, Musili, and Etta on ICTs in Kenyan schools in this volume and the book on networking schools (James, 2004), and encouraging ICT research in institutions of higher learning and industry. Technological entrepreneurship requires the establishment of and investment in ICT companies (ranging from service providers, operators and consultants to product manufacturers, engineers, and researchers). In countries such as South Africa and Egypt, the ICT sector has experienced rapid growth and has become an important engine of economic expansion (Benner 2003; Ismail 2003). The two countries are among a handful of African countries that have the industrial capacity to manufacture telecommunications equipment, but even South Africa and Egypt remain heavily dependent on imports for much of their hardware and software industries. They both also suffer from the “brain drain” of highly skilled ICT personnel to the global North. For countries like Kenya, Uganda and Tanzania, dependency on telecommunications imports is even greater and the contribution of the ICT sector is relatively small. However, the number of ICT entrepreneurs in both countries, as shown in some chapters in this volume, has grown, which bodes well for the future of the sector given sufficient capital investment, conducive policy and regulatory environments, and effective strategies to stem the “brain drain.” Among the success stories of ICT entrepreneurship in Kenya was the establishment of Africa Online by Kenyan expatriates who returned home.

THE DEVELOPMENTAL IMPLICATIONS OF ICTS

The role of ICTs in promoting development has become an article of faith in national, regional, and international policy and business circles. The ICT revolution has become the latest benchmark of modernity that Africa must catch up with, or it will perish in isolation. The new computer-mediated ICTs developed over the last two and a half decades lie at the heart of the sense that the world has entered a new era, variously baptised as the era of globalisation, the information society, network society, knowledge society, or knowledge economy. There can be little doubt that the world is more interconnected than ever before; that the flows of capital and commodities, ideas and information, and even values and viruses have never been more rapid; and that a global consciousness or global reflexivity has grown in all parts of the world. I would like

to suggest, however, that viewed from a historical and developmental perspective, the celebratory views of globalisation, knowledge society, and knowledge economy are flawed and that we need to develop a more comprehensive and nuanced understanding of the complex and sometimes contradictory effects of ICTs on African and global economies, politics, societies, and cultures.

If we understand *globalisation* as the growing circuits of interconnectedness among communities and countries across continents in an ever expanding circle of economic, political, cultural, and social engagements, then before the current phase of globalisation, dated to the spread of the new ICTs and the end of the Cold War, other phases of globalisation had come. Several historians have argued, for example, that in terms of trade, the world was more globalised in 1913 than it was in 1993. More importantly, from a developmental perspective, the last twenty years, the period of the current wave of globalisation, have witnessed slower economic growth than the boom years between 1945 and 1965. Inequalities among and within nations have also widened. This is to suggest that globalisation and the ICTs that have facilitated it do not, in themselves, guarantee rapid economic growth or more equitable socioeconomic development. The reasons for this become evident when we distinguish between the historical and ideological registers of globalisation, and the technical and social dimensions of technology.

As a historical process, the world has been globalising for a long time, and the contemporary era has brought it even closer together, intensifying its spatio-temporal compression. As an ideological project, globalisation entails global capitalism, a regime of neo-liberal restructuring, and free-market fundamentalism, which in Africa's case was enacted from the 1980s through structural adjustment programmes that wreaked havoc on many African economies sending them into a tailspin of stagnation and even decline. As for technology, it offers more than a set of technical capabilities, for it is always socially embodied and embedded so that it reflects and often reproduces prevailing social divisions and inequalities even if in new ways. The much-bemoaned digital divides among and within countries show that the new information technologies are not innocuous tools; rather, they are technocultural products rooted in the prevailing structural and institutional contexts in which they function and the broader material conditions and social relations in which they are used.

The notions of knowledge and knowledge society also need to be given more careful consideration. Although the concept of knowledge society has gained currency in recent years in academic,

public, and policy circles, the idea of knowledge society can hardly be new since knowledge has always been central to human existence and has played a role in all phases of historical development in every society. Academic definitions of knowledge society are often framed in epistemological, sociological, and economic terms. The epistemological debates centre on the meanings, forms, and claims of knowledge, in which various binaries battle it out for supremacy (scientific and ordinary knowledge, scholarly and social knowledge, explicit and implicit knowledge, codified and tacit knowledge, experiential and reflective knowledge, theoretical and practical knowledge, and constructivist and objectivist views of knowledge). Sociological and economic literatures tend to focus on the changing relations between science and technology, knowledge and industry, knowledge and information. The increasing knowledge intensity of economic activity has caught academic attention while the emergence and recognition of knowledge as the fourth factor of production, has fuelled the growth of knowledge-based companies. Post-industrial societies have emerged, dominated by a new class of professional knowledge workers known as an expertise. This development has eclipsed the old divisions between the bourgeoisie and workers of industrial capitalism and is characterised by post-modern consciousness with its reflexivities and multiplicities of identities and multitasking, and the proliferation of knowledge production sites away from the universities.

Much of this is happening, but not happening with the same levels of intensity or directionality everywhere, much of it is not new. Moreover, while knowledge and information have indeed become increasingly important commodities, material production still matters – people will always need to be physically fed, clothed, sheltered, and transported. In short, while ICTs improve and change our communicative practices and possibilities, the demands engendered by the materiality of social life are no less pressing or indeed present. The same can be said about the notion of a network society, made up of electronically mediated networks as well as, interactive information networks that transcend national boundaries, old hierarchies and centres. The attributes of this so-called new society are neither truly global nor new, even if they might accurately describe many aspects of social transformations in parts of the global North. But the North is not the world; even though old and discredited Eurocentric tendencies to universalise Western experiences and developments die hard. According to Manuel Castells (2000), the network society is characterised by the deployment and ubiquity of new information technologies, an unprecedented globalisation that supersedes previous forms of internationalisation, the emergence of the culture of real virtuality

based on an interactive, electronic hypertext, the demise of the sovereign nation-state and the patriarchal family, and the rise of a deep ecological consciousness. Sociological indices derived from the dominant realities and trends in Africa or other parts of the global South appear quite different.

All too often, ICTs and information are fetishised as a public good, their availability, accessibility and acquisition seen almost a moral virtue. There can be little doubt that in many African countries and other parts of the world, the ICT revolution has facilitated democratisation and vice-versa. This mutual reinforcement has been crucial to the erosion of authoritarianism, the demise of autocracies, the spread of political liberalisation, and the emergence of new cultures and regimes of human rights (Zezeza 2005a, 2005b). Yet, it is not all a virtuous cycle. As information has increased in its value, it has become more commoditised, which has led to the emergence of large global and regional corporations in the ICT industry at both ends of the spectrum – among the producers of ICT equipment and the providers of ICT services. This commercialisation of information and knowledge has resulted in the marginalisation of those who cannot afford to market or access information. The concentration of the ICT sector can be seen quite readily in the media industry, which in effect nullifies many of the positive effects of the liberalisation of media laws and the proliferation of media outlets.

The explosion of ICTs has not been matched by the expansion of enlightenment. There is no better example of this than the United States, the country that boasts of the largest and most advanced information and knowledge system in the world in the sheer scale and size of its ICT and media industries and number of universities. Yet, the ignorance of the American public about world affairs is proverbial. The mismatch in the U.S. between mass production and consumption of ICTs and mass ignorance is staggering. There is definitely a lot more to the development of a global or even national civic consciousness than the mere availability of ICTs. This raises fundamental questions, from ethical and epistemological perspectives, about the meaning of terms such as information-rich and information-poor that are frequently bandied about, of the relationship between information overproduction and knowledge under-consumption, ICT growth and human development.

The role of cultural factors including language cannot be overlooked in the development and impact of ICTs, especially the Internet. The dominance of European languages, especially English, has been a limiting factor in the growth of Internet use in many parts of Africa. In this sense the Internet excludes not only the illiterate but those with low English literacy levels, which in most cases means those without secondary education. The question of language must

be taken seriously and is part of the larger question of the cultural content of ICT products and services. Some have gone so far as to argue that the Internet represents a form of electronic colonisation that undermines and suppresses local cultures by promoting Western languages and values (Ngwainmbi 2000: 538-41). There is no question that the full potential of the Internet for Africa will only be realised if indigenous languages, the languages of the majority in African countries, are fully incorporated. It is for this reason that the announcement in April 2004 by the software giant, Microsoft, that it would launch Microsoft Windows and Office programs in Kiswahili and would collaborate with regional governments, key local language authorities, universities, and partners in the creation of the Microsoft Kiswahili Program, was widely welcomed.

The Microsoft initiative and similar ones by Google that has in recent years launched several national web portals in several African countries shows an interesting new trend: attempts by global IT companies to enter new markets by going local, which opens new possibilities for local languages by challenging the supremacy of English. In fact, English is gradually losing its hegemony on the Internet. In 1997 users of the net were predominantly English speakers – 45 million compared to 16 million non-English speakers. In 2003, the equivalent figures were 203 million and 403 million for English-speakers and non-English speakers, respectively. Estimates for 2004 are 280 million to 657 million. Thus, the Internet is becoming a more multilingual arena as the dominance of English declines and the number of other languages increases. At play here are the contradictory tendencies of economic and cultural globalisations: global capital needs local languages and cultural codes to penetrate local markets because, as consumer research indicates, “native linguistic identity plays a crucial role in consumers’ decision-making processes” (Dor 2004: 104).

The challenge for Internet providers and users in Africa is to aggressively expand their linguistic presence on the Internet and not to leave the initiatives to global software, media, and advertising industries. To do so will be to surrender the development of their languages in the Internet age to the authority of foreign capital, to market-based linguistic calculations. East Africa is fortunate in having a language, Kiswahili, which is not only already a regional language but has the capacity to become a global language (Moshi 2005). But East Africans need to be the architects of Swahili’s globalisation rather than leave it to the Microsofts of this world. For if this happens, it will result in loss of control and ownership over the language as software and hardware designers in far away places set new protocols of linguistic standardisation as is already happening to some languages in several parts of the world. The result will be, as

happened during the colonial period with European Christian missionaries, the creation of what Makoni and Pennycook (2005) have called “foreign indigenous languages.” ICTs must be used to empower, not further disempower Africa’s already historically and globally marginalised countries, communities, and cultures. That is the measure by which the contribution of ICTs to African development must ultimately be judged.

REFERENCES

- Barnett R., and Griffin A., (1997). *The end of knowledge in higher education*. Trowbridge: Redwood Books.
- Benner, C., (2003). *Information Technology, Employment, and Equity in South Africa: The Role of national ICT Policy,*” in Paul Tiyambe Zeleza and Ibulaimu Kakoma, (eds.). *Science and Technology in Africa* (pp.127-155) Trenton, New Jersey: Africa World Press.
- Blackmore, J., (2002). *Globalisation and the Restructuring of Higher Education for New Knowledge Economies: New Dangers or Old Habits Troubling Gender Equity Work in Universities?* *Higher Education Quarterly* (56, 4: 419-441).
- Castells, M., (2000). *Toward a Sociology of the Network Society*. *Contemporary Sociology* 29(5): 693-699.
- Dor, D., (2004). *From Englishisation to imposed multilingualism: Globalisation, the Internet, and the political economy of the linguistic code*. *Public Culture* 16(1): 97-118.
- Enders, J., (1999). *Crisis? What crisis? The academic profession in the knowledge society?* *Higher Education* 38: 71-81.
- Etta, F.E., & Parvyn-Wamahiu S., (2003). *Information and communication technologies for development in Africa: VOL. 2. The Experience With Community Telecentres*. Dakar and Ottawa: CODESRIA and IDRC.
- Hodges, D., & Lustig L., (2002). *Bourgeoisie Out, Expertoisie In: The new political economies at loggerheads*. *The American Journal of Economics and Sociology* 61(1): 367-81.
- International Telecommunications Union (ITU), (2004). *World Telecommunication Development Report 2003: Access for the Information Society*. Geneva: ITU.
- Ismail, K., (2003). *Development and Retention of Technology Skills in Egypt*, in Paul Tiyambe Zeleza and Ibulaimu Kakoma, (eds.). *Science and Technology in Africa* (pp.257-265). Trenton, New Jersey: Africa World Press.

- James, T. (ed.), (2004). *Information and Communication Technologies for Development in Africa*. Vol. 3. *Networking Institutions of Learning–SchoolNet*. Dakar and Ottawa: CODESRIA and IDRC.
- Kamssu, A. J., Siekpe J.S., & Ellzy J.A., (2004). Shortcomings to Globalisation: Using Internet Technology and Electronic Commerce in Developing Countries. *The Journal of Developing Areas* 38 (1):151-169.
- Makoni, S., (2005). The Modern Mission: The language Effects of Christianity. *Journal of Language, Identity, and Education* 4 (2): 137-155.
- Moshi, L., (March-April, 2005). African Languages in a Global Age: The Case of Kiswahili. paper presented at the 36th Conference on African Linguistics, Savannah, GA.
- Ngwainmbi, E. K., (2000). Africa in the Global Infosupermarket: Perspectives and Prospects. *Journal of Black Studies* 30 (4): 534-552.
- Stehr, N., (1994). *Knowledge Societies*. London: Sage Publications.
- Weert, E. de., (1999). Contours of the emergent knowledge society: Theoretical debate and implications for higher education research. *Higher Education* 38: 49-69.
- World Bank, (2004). *African Development Indicators 2004*. Washington, DC: World Bank.
- Zezeza, P.T., (2003). *Rethinking Africa’s ‘Globalisation’ Volume1. The Intellectual Challenges*. Trenton, NJ: Africa World Press.
- Zezeza, P. T., (2005a). Human rights and development in Africa: Current contexts, challenges, and opportunities. In Lennart Wohlgemuth and Ebrima Sall, (eds.) *African Commission on Human and Peoples’ Rights and the Current Challenges of Promoting and Protecting Human Rights*. Uppsala: Nordic Africa Institute (forthcoming).
- Zezeza, P. T., (2005a). The media in social development. In Kimani Njogu and John Middleton, (eds.) *Media and the Construction of African Identities*. London: International African Institute (forthcoming).

CHAPTER 22

POLICY MATTERS : RECOMMENDATIONS FOR RESPONSIBLE POLICY MAKING

Florence Etta

Introduction

The growing consensus is that policy matters, and that policy matters are directly implicated in the widespread state failures of the 1980s, and 1990s, in Africa. It is also self-evident that there is a yawning need for the rectification and restoration of responsible policy making. The number of efforts and huge amounts of money committed to Public Sector Reforms in the recent past in many African countries can be seen as efforts in this direction.

In this concluding chapter, we review the evidence and experiences presented, summarise the key elements of success and failures and make recommendations for what we refer to as responsible policy making. Responsible policy making (rpm) does not obliterate the good work of yesterday's generation. It builds on it to take care of today's problems while keeping an eye on the future i.e. not jeopardising the chances and opportunities of the next generation.

REVIEW OF EXPERIENCES

The ICT policy making landscape in Kenya is strewn with many carcasses; of attempts, drafts, and communiqués, but the latest 2004-2005 attempt and draft have the makings of a fine piece of work like those of Uganda, Tanzania and Rwanda before it. It is not because IDRC's Kenya ICT policy project or other donors have been closely involved with this effort but because it has the ingredients

for a good quality job. Responsible policy making values are manifest in this particular exercise. There has been wide stakeholder participation, multiple interests have been tabled, the government has taken the lead but allowed others to be involved, and although the final policy document is yet to be released to the public, it is hoped that the policy directions will be good for the powerless as well as responsive to the future.

The Rwanda ICT policy making process is often touted as among the best on the continent. From our analysis it appears that the Rwanda experience had three responsible policy making (rpm) values that need to be highlighted:

Firstly, it had a clear and simple vision which was constructed around the lived history and realistic aspirations of the people. What hugely impressed us was that all those (6) interviewed in Rwanda recounted the same vision. It was evident that there was unanimity.

Secondly, the mission for ICTs is solidly entrenched in the lived and living history of the people, and based on the national 2020 vision. The ICT policy has been constructed around this vision, in its service, so to speak. It is easy to connect the pillars of the policy implementation plan to the Vision 2020 document. This linkage is a little harder to see in other countries. A vision is said to have informed the Tanzanian ICT Policy. In Kenya, the earlier drafts were not closely tied to the predominant paradigm for national development the “Economic Recovery Strategy for Wealth Creation” and although the current draft is not yet in public hands, the vision was well reformed by public input for the final policy document.

Thirdly, and finally the president was personally invested in the process. Stories are told of how he would laboriously sit through the initial policy consultations asking questions as part of the listening audience. “Tell me, if the president himself is there who would not be,” one of the interview respondents remarked. It is for this reason that many ICT policy observers believe in the value of political champions and championing.

There are many ways to champion causes and many people can and usually get involved. In all the countries, Kenya, Uganda, Tanzania, it is possible to identify those who have advanced the cause of ICT policy making and a close reading of the contributions from Tim Waema, Mike Eldon, David Sawe and Obot et al in this volume will shed some light on these.

We have also learnt from the histories recounted in this volume that:

1. Too many organisations with similar responsibilities do not facilitate policy making.

2. Policy making is a long expensive process involving many people for which leadership is required. It is commonly expected that government officials and institutions will provide this leadership. But with ICTs as with many contemporary issues, the capacity and expertise to formulate responsive policies is not the exclusive responsibility of state bureaucracy nor is it the expectation.
3. The bureaucratic apparatus needs to learn to work smoothly and purposefully with other stakeholders to achieve results in this case, responsible policy making.
4. Policy making is a political act as well as a technical requirement and it, therefore, needs a balance of skills.
5. As a political act it requires extensive consultation and this needs time and resources.
6. Policy making involves agenda setting, policy formulation and policy implementation, and in each of these stages there are winners and potential losers. A point that must always inform the process and the outcomes.
7. International organisations (development agencies or bilaterals) are generally concerned about and usually involved in national level policy making.

RECOMMENDATIONS

These recommendations are made only as additions to what others have suggested in the preceding chapters.

Firstly, as Zeleza (2003) says, 'Africa's modernity has to be continuously reformulated out of a history that has been both unique and an integral part of world history'. To reformulate this history, it must first be objectified, studied, understood and documented. Our first exhortation therefore is for continued study of the process of policy making as a way of improving the associated outcomes.

Secondly, as many writers on economic policy making have observed, and as is the case in all the three East African countries, there is a heavy dependence on donors and other experts for preparing policy documents. Zeleza (2003) quotes Ali Mazrui, the eminent Kenyan scholar, as suggesting that indigenisation, domestication, and diversification are good strategies for transcending dependency. Taking this cue it is thus recommended that policy making be indigenised and domesticated and the process involve diversification through broader participation. But the government does not have a tradition of participation. What is required to make participation or partnerships, as they are now called, work, is a clear articulation of roles and responsibilities.

However, it is designated, whether as participation, partnering (as in PPPs) or multi-stakeholder partnerships, it is certain that governments need to share costs and the associated risks of ICT use and application, (Yirenkyi, 2004). ICTs are very specialised and their rise and application requires familiarity and frequently updated information and knowledge. The earliest users and adopters of ICTs in Africa are certainly not governments. There is more knowledge of and familiarity with ICTs in the private sector and among civil society organisations.

It is evident from the chapters in this book that much still needs to be understood in order for these partnerships to yield the desired results. It seems that the government is content to dance to tunes of international development agencies, to use private sector investments and innovation, apply civil society energy but refuses to yield space to these latter two on the policy making table.

The third and final recommendation, therefore, is for all parties, international agencies, private sector, civil society and government, to be supported through research, documentation and innovative capacity building to understand their roles, their limits and their responsibilities. It is important that analyses of the nature of power relations between and among all partners be undertaken and made objects of popular discussion. Only then can the long journey to responsible policy making and effective policy implementation be well on the way.

CONCLUSION

ICT Policy making is at a crossroads in Kenya as in other countries, and not only ICT policy making, but all other types as well. At this crossroads, the decision is whether to carry on with business as usual or to take a new road. On this new road many interests are aligned, past, present, and future possibilities are important and the powerless should also have sway. The time to choose is now for today as for tomorrow.

REFERENCES

- Yirenkyi, O., (2004). *E-Aligning Africa: Private Sector E-Government Solutions* in Soltane B.B.K., Fluck N.O, Opoku- Mensah A. , & Salih, M.A.M, (eds) (2004). *Africa Networking Development Information, ICTs and Governance; Governance, Information & the Public Sphere*. M.A Mohammed Salih, International Books & ECA, Addis Ababa.
- Kakoma I., & Zeleza, P.T., (2003). *Science and Technology in Africa*. Africa World Press Inc. Asmara.



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