FUTURE SCENARIOS: INFORMATION COMMUNICATION TECHNOLOGY IN LESOTHO, AFRICA

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in partial fulfillment of the requirements

for the degree of

Doctor of Philosophy

PREVIEW

by

Theresa Power-Drutis

April 2007

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I certify that I have read this manuscript and that, in my judgment, it is fully adequate in scope and quality as a dissertation for the degree of Doctor of Philosophy

Sandra Wilson, Ph.D. — April 2007
Committee Chair

James Beebe, Ph.D. — April 2007
Committee Member

Maria Beebe Ph.D. — April 2007
Committee Member

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DEDICATION

To all my mothers and fathers,

especially the original ones who set a gold standard of love I can only aspire to:

Mary Powers (Phinney), a mother of six with an 8th grade education.

She received a set of dentures and a GED at age 42, a BA of education at 47,

And moved our family off the welfare roll forever.

and

Robert Powers (Power), an agrarian man born a century too late.

He loved the earth but clung to nothing.

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Khotso, Pula, Nala! (Peace, Rain and Prosperity)

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ABSTRACT

This study explored perceptions of the most significant opportunities and obstacles related to the future of Information Communication Technology (ICT) for education, training, and development in Lesotho. Interviews were conducted with sixteen participants who had special knowledge and interest in this topic. Participants included leaders from within business, government, broadcasting, research and development, and education.

The methodology used in this study was Ethnographic Futures Research, an approach to studying change. Interviews were used to elicit the participants' perceptions of the optimistic, pessimistic, and most probable future scenarios for ICT in Lesotho given the horizon date of 2025. During the final portion of each interview, participants addressed specific strengths within Lesotho that might be leveraged toward a preferable future as well as challenges that could impede progress toward that goal.

Findings from this study include some commonly held perceptions regarding key drivers of positive ICT development as well as a range of diverse ideas regarding other variables and possible future directions for Lesotho. Two overarching factors, political stability and effective education, were consistently described as essential for the development of a positive ICT future for Lesotho. Other components such as political will, an enabling environment, capacity building, utilization of local expertise, sustainability, fit, and preservation of cultural identity were viewed as both important and interdependent. However, none of these components was expected to be effective unless

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built on a foundation of political stability and national commitment to education. A discussion of current strengths and challenges related to factors such as human capacity, economic development, the environment, the digital divide, and resource distribution suggests potential foci for efforts to enhance the probability of a preferable future for ICT education, training, and development in Lesotho.

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CHAPTER I
INTRODUCTION

Technology transforms the way we manage information and larger, swifter flows of information, in turn, alter the decision making process. Information Communication Technologies (ICT) can create a climate of immediacy where decisions are made quickly, inclusively, and transparently; however, these benefits may conflict with values such as confidentiality, due reflection, and face-to-face interactions (Organisation for Economic Co-operation and Development, 2004a, p. 3). Beyond the workplace, ICT also radically alteres expectations related to response time, quantity, and quality of interactions among family and friends (Hamelink, 1997). Video, audio, and textual material is collapsed and fractured into data packets, distributed through a number of routers, and reassembled on another continent in a matter of seconds, sometimes milliseconds. When information is slowed down or bottlenecked, ever more powerful routers, satellites, and antennae are installed by those who can afford them. Radio, television, Internet, and cell phone connectivity is now possible even in areas that are inaccessible to motor vehicles and off the electrical grid. Within this increasingly "technology mediated" environment, differences in access and infrastructure have come to be viewed as both physical and social limitations that affect the development of individuals, communities, countries, and international organizations (Bridges, 2005).

Development and dissemination of ICT is an expensive and multifaceted undertaking that offers none of the immediate results achieved by providing critical basic needs such as food, shelter, health care, and clean water. In addition, a statistical measure of the effect of ICT on any single economy is difficult to achieve, and the debate over

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whether or not ICT fits the criteria for a development priority continues (Kenny, Navas-Sabater, & Qiang, 2002; Marker, McNamara, &Wallace, 2002). Developing countries are often faced with competing, immediate problems related to limited resources which make it difficult to invest in long-term projects such as development of ICT infrastructure and hardware. However, studies suggest that investment and diffusion of ICT goods and services contribute to significant increases in aggregate productivity and economic growth (David, 2000; Oliner & Sichel, 2000; Organisation for Economic Co-operation and Development, 2004b). Without carefully planned and effectively implemented policies regarding technology development, economic and social development is severely hampered (African Information Society Initiative, 2005), for the diffusion of technology is an important step in addressing the inequity of global incomes (Sachs, 2005a, p. 62).

Globalization and technology have a symbiotic relationship and many entities have emerged to either maximize the profit potential or ameliorate the negative ramifications of this partnership (Selwyn, 2003, p. 3). International initiatives, such as the UN Millennium Development Goals and the New Partnership for Africa's Development (NEPAD) Bridging Strategy, are aimed at promoting sustainable development on global and regional levels, in part, by promoting equal access to new technologies. To date the results of these efforts have been mixed; some regions, including Sub-Saharan Africa, have fallen far short of intermediate target goals and, in some cases, have actually lost ground (UNDP, 2004, p.2; Ya'u, 2002).

National governments often put forward large scale policies and projects aimed at increasing infrastructure and/or access on a national level while private sector and NGO

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initiatives are more often directed toward local and regional efforts. Unfortunately, the effectiveness of these initiatives is hindered by inadequate coordination between the many projects (Day, 2001, ¶ 4). Patchwork approaches are, at best, short term solutions; the greatest potential for the more equitable distribution of the benefits of any resource, including ICT, seems to lie in long-term planning and collaborative networking, not just between organizations but between researchers, policy makers, and those affected by policy (Nutley, 2003). James (2001) suggested,

> Policy change and increased collaboration are needed not only to extend access within countries, but also to facilitate both subregional and regional cooperation, to enhance the capacity of African countries to respond to the global challenges of the emerging new economic order, and finally to participate fully in defining what that new order should mean for Africa. Trade issues and international agreements such as the WTO agreements also have to be considered if Africa is not to be excluded further from the global economy. (2:1.3)

The South African Development Community (SADC) was formed in 1980 to address the problem of exclusion by acting as a block. Starting out as a loose coalition of nine countries in Southern Africa, SADC's goal was to coordinate development projects and lessen economic dependence by member states on apartheid ruled South Africa. The first all-race elections were held in South Africa in 1994 giving birth to a plural democracy; South Africa became a member of SADC that same year. The thirteen other SADC member States are Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe (SADC, 2005).

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ICT development within the SADC region is uneven and, although SADC is currently able to offer limited policy support, these mechanisms are only useful to member states with relatively high human and financial resources. Inadequate research data also impedes policy development and little institutional level support is currently available in Southern Africa for information policy research or for ICT research in general. Building a solid base of ICT research for the SADC region is a key step toward planning and development of an integrated regional network (James, 2001, 2:2).

This study employs Ethnographic Futures Research to explore possible futures for ICT as viewed by leaders involved in ICT education and infrastructure development in the SADC country of Lesotho. As one of the poorest countries in the world, Lesotho is designated a Least Developed Country, and like all poor countries, must overcome capacity limitations in order to develop potential resources, including ICT (Tekere, & Rusare, 2001, p. 3). Other factors, such as globalization, the digital divide, and social networking often play powerful roles in shaping perceptions and in determining the emphasis and direction of ICT development as well (National Research Foundation, 2005).

The physical and cultural environment in which a study is conducted provides context, depth, and complexity to the research process. As this research was conducted in Lesotho, the economic and social status of Least Developed Countries in general, and Lesotho in particular, provide part of the frame through which research data must be viewed. Regional and local communication structures, such as language, education,

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business, governance, and infrastructure are also key components of the cultural and political landscape.

Conceptual Framework: ICT and Development

United Nations Development Programme (UNDP, 2004a) defined Information Communication Technology (ICT) as:

> Tools used to produce, store, process, distribute and exchange information. They include the "old" ICTs of radio, television and telephone, and the "new" ICTs of computers, satellite and wireless technology and the Internet. The different tools are now able to work together, and combine to form the "networked world"- a massive infrastructure of interconnected telephone services, standardized computing hardware, the Internet, radio and television, which reaches into every corner of the globe. (¶1)

ICTs act as a conduit for the rapid global movement of resources that involves people, products, raw materials, and a continuous, massive flow of information. Geographic barriers are diminished or ignored as ICT expands and morphs its way into almost every facet of development and globalization. It is this ubiquitous aspect of ICT that raises concerns among policy makers, educators, human rights activists, and others who ask, "How does ICT development impact the most vulnerable populations?" (Ya'u, 2002). Concepts such as "vulnerable populations," poverty, production, growth, and equality are central to the discussion of "development" as a framework for international relations and aid (Sachs, 1996, p. 4).

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Esteva (1996) traced the current concept of "development" to the inaugural address of U.S President Harry Truman on January 20, 1949 when Truman declared that we must "embark on a bold new program" to spread the benefits of industrial progress to "underdeveloped areas" (p. 6). Esteva claimed, however, that,

> On that day, two billion people became underdeveloped. In a real sense, from that time on, they ceased being what they were, in all their diversity, and were transmogrified into an inverted mirror of other's reality: a mirror that belittles them and sends them off to the end of the queue, a mirror that defines their identity, which is really that of a heterogeneous and diverse majority, simply in the terms of a homogenizing and narrow minority. (p. 7)

The idea of development as a negative concept is shared by Sachs (1996) who asserted that development, "stands like a ruin in the intellectual landscape," after a 40 year reign of injustice, dysfunction, and destruction of indigenous cultures (p. 1). However, even if it were possible to fix traditional beliefs and practices in some permanent and unchangeable form, who would benefit? Cultural tourists might bemoan the loss of innocence and authenticity when they spot a television satellite jutting out of a thatched roof, but do they rush home to toss out their 42 inch plasma screens in honor of the their own ancestral traditions? The human tendency to equate progress with the accumulation of material goods is the subject of a Public Broadcasting Station (PBS, 1998) program that explored creeping affluence as an influenza-like illness defined as:

> affluenza, n. 1. The bloated, sluggish and unfulfilled feeling that results from efforts to keep up with the Joneses. 2. An epidemic of stress, overwork, waste and

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> indebtedness caused by dogged pursuit of the American Dream. 3. An unsustainable addiction to economic growth. (p. 1)

In keeping with the idea that more is better, countries have traditionally been categorized as first/second/third world and, more recently, as developed/transitional/ developing, based on per capita GNP (gross national product) or GNI (gross national income). The Development Co-operation Directorate (2003) defined a developing country as any country eligible to receive Official Development Assistance, so countries move in and out of the category based on applying for and qualifying for aid. Developing countries are further classified by the Development Co-operation Directorate (2005) as falling into one of the following categories:

1. Least Developed Country: 50 lowest per capita GNI countries
2. Low Income Country per capita GNI <$825
3. Lower Middle Income Country per capita GNI $826-$3,255
4. Upper Middle Income Country per capita GNI $3,256-$10,065
5. High Income Country per capita GNI> $10,066

A separate group of countries is categorized by the Development Co-operation Directorate as "Countries and Territories in Transition" based on receiving Official Aid but not qualifying for Official Development Assistance (p. 1).

The UNDP Human Development Index rejects the use of income as the sole measure of development and relies, instead, on a composite index that measures human development based on three dimensions: "a long and healthy life, as measured by life expectancy at birth; knowledge, as measured by the adult literacy rate and the combined gross enrollment ratio for primary, secondary and tertiary schools; and a decent standard

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of living, as measured by GDP per capita in purchasing power parity (PPP) US dollars" (UNDP, 2005, p. 214). Critics of the Human Development Index note the high correlation between Human Development Index scores and simple income measures such as per capita GNI and question the inclusion of redundant development indicators (McGillivray, 1991). This correlation holds true for Lesotho which is categorized by the Development Co-operation Directorate as a Least Developed Country (LDC) (p. 1) and is also one of 31 countries identified as having a low level of human development according to the Human Development Index (p. 221).

More accurate, complex indicators may lie ahead, but Sachs (1996, p. 22) suggested that all economic measures of development are false and that efforts should be redirected away from economic growth and toward autonomous progress based on the core, self-defined values and traditions of common people within their own cultures. It is possible that, even where external value systems are not imposed, common people might choose economic growth as a core, self-defined value. Nonetheless, the tension between environmental, economic, and social considerations may vary greatly between countries if grass roots decision-making is employed. Even within individual developing countries, central planning has yielded poor results and many governments have implemented decentralization programs in an effort to increase consensus and sustainability as well as to tailor reforms to both national and local governments (Smoke, 2000, ¶1). However, long term, inclusive planning is expensive and time consuming; once the programs are initiated, capacity building limitations often negate the benefits of decentralization (¶ 4). Several successful efforts to decentralize decision making or improve access to

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governmental services are reported in a collection of 68 case studies involving the use of e-governance (Digital Governance, 2003). E-governance, or digital governance, refers to processes that make significant use of ICT in delivery of government services and in facilitation of civic involvement (p. 1). Unfortunately, in most developing countries, access to these e-governance services is limited to those with relatively high economic resources.

ICT and the Digital Divide

According to the Bridges Organization (2005), "The 'digital divide' is the wide division between those who have access to ICT and are using it effectively, and those who do not" (p.1). This definition neatly avoids the trap of framing inequity in simplistic terms that isolate economics or possession of hardware as the sole criteria for locating one's position along the digital divide. The benefits of ICT are experienced unequally due to a wide range of factors. DiMaggio and Hargittai (2001, p. 8) delineated five aspects of the digital divide, (a) technical access, e.g., specific software, hardware, and network structure; (b) autonomy of use, conditions of access, e.g., home, school, work, or only via an Internet café, library or other public access point; (c) skill level, the individual's ability to use ICT effectively and efficiently; (d) technical and emotional social support; and (e) patterns/purpose of use, e.g., frequency, depth, and variety of applications and tasks. Inequities exist within each of these areas and initiatives aimed at diminishing the effects of these inequities will flounder or flourish based largely on how well the "solution" fits the issues perceived as important from an emic, or culturally contextualized, perspective. But knowledge of the desired solution is not enough in itself. A six year study of

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information policy in Southern Africa conducted by the International Development Research Centre found that many factors influence a state's successful integration into the global economy and development of effective information societies, but that two of these factors are absolute requirements: political will and visionary leadership (James, 2001, 3.7). The study also concluded that effective national policies focus on macro-level strategies that "create conditions for successful, organic growth of micro-level activity" (4.7). Macro-level issues include (a) improving roads, telecommunications, and managing costs to keep these infrastructures affordable; (b) building capacity of people and organizations to sustain ICT in education; and (c) ensuring financial accountability by including ongoing ICT expenditures into the budget.

National ICT policies tend to address education as a key component of a successful implementation plan, but adequate resources to carry out this pivotal role are often missing from the equation and policies that micromanage the educational system for which they are designed can be cumbersome and even contradictory (James, 2001, 4.6). Issues related to ICT in education cannot be isolated from the overarching governmental policies or social problems that may, or may not, be addressed at the macro level. Nonetheless, educators and administrators continue to face challenges specific to their professions.

ICT, Education, and Training

A study conducted by the South African Department of Education (1997, ¶ 30) indicated that new technologies were generally used to reinforce traditional teaching methods rather than to transform pedagogy, and that many technology expenditures were

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