

Forging Partnerships to Provide Computer Literacy in Swaziland

Cisco M. Magagula

University of Swaziland, Swaziland

INTRODUCTION

The challenges facing the world, especially developing countries like Swaziland, are many and varied. The United Nations Development Programme (UNDP) estimates that over two billion people, out of a global population of six billion, do not have access to education. The majority of these people are found in developing countries. As many as 113 million children do not attend school. More than one billion people still live on less than US\$1 a day and lack access to safe drinking water. More than two billion people in the world in developing countries in particular, lack sanitation. Every year, nearly 11 million young children die before their fifth birthday, mainly from preventable illnesses. The risk of dying in childbirth in developing countries is one in 48 (UNDP, 2003). In most developing countries, especially in remote areas, the situation is exacerbated by lack of electricity.

The key solution to most of these challenges is education. More importantly, it is the acquisition of critical knowledge, skills and attitudes crucial for economic development and growth leading towards the improvement of the quality of life. Indeed, knowledge has been recognized as the heart of economic growth and sustainable development (World Bank, 2002) and it is at the core of a country's comparative advantage (Porter, 1990). Countries endowed with intellectual resources in critical areas have tended to achieve the highest rates of economic growth and have had the fastest growth in science and technology (Iredale, 2003).

A study by the Organization for Economic Cooperation and Development (OECD) on the determinants of growth concluded that underlying long-term growth rates in the OECD economies depended on maintaining and expanding the knowledge base (OECD, 1998). The World Bank Report 1998/1999 noted that most technologically advanced economies were knowledge-based and that comparative advantage among nations was less from abundant natural resources or cheap labour and more from technical innovations and comparative use of knowledge or both (World Bank, 1999).

Invariably, investing in human capital in developing countries would be the most sensible way of creating

wealth for economic growth and for dealing with many social and environmental challenges (Iredale, 2003). Investing in human capital will enable developing countries to produce, select, adapt, commercialise, and use the knowledge economy to sustain their economic development and growth and improve living standards of the people (World Bank, 2002).

One of the key drivers of the knowledge economy, economic development and growth is technological development in Information Communication and Technology (ICT) such as electronics, telecommunications, satellite technology, computers, the Internet, etc. This is because ICT has significantly changed the speed of production, distribution, and the use of information and knowledge. ICT has the potential to close the "digital divide" between the North and South and enable developing countries to effectively participate in the global economy. As Peters (2004) points out, ICT is a key weapon in the war against poverty because when used effectively it offers huge potential to empower people. It overcomes development obstacles, addresses their social challenges, and strengthens communities, democratic institutions, a free press, and local economies.

Indeed, investments in ICT have had positive impacts on developing countries' economic development and growth (World Bank, 2002). For example, an International Labour Organization (ILO) study of some developing countries which had invested in new information and communication technologies found that these technologies had positive impact on their economic development and growth and enabled them to compete in the global market (ILO, 2001).

ICT facilitates government operations and services in health care and information, education and training, employment, job creation, business enterprises, agriculture, and transport. ICT may facilitate protection of the environment, management of natural resources, disaster prevention, and culture (Dark & Eskow, 2000; International Communication Union, 2003). ICT is crucial in sustaining production and consumption patterns and reducing traditional barriers in society by providing opportunities for people to access local and global markets.

THE CHALLENGE

Unfortunately, ICT is not easily accessible to many developing countries due to several factors such as lack of financial resources to pay for Internet connectivity, purchase computer hardware and software, modems, and maintain them. Also, the infrastructure of copper wire telephone lines is unreliable, the bandwidth for Internet Service Providers (ISPs) is limited, and there is inadequate technical capacity to manage and maintain the infrastructure and equipment. As a result, the number of people connected into the Internet in developing countries is far less than the number of people connected into the Internet in developed countries.

In 2002, for example, of the 332 million people connected to the Internet worldwide, only 1% was found in Africa and less than 5% of the computers in developing countries were connected into the Internet (Naidoo, 2001). Similarly, in 2000 Africa had the lowest (0.25%) number of Internet hosts compared to the other regions of the world such as Oceania (1.9%), Asia (6%), and the Americas. In the same year, the USA alone accounted for 73.9% of the total Internet hosts in the world (Reddy & Manjulika, 2002). In 2001, Nigeria, with a population of over 108 million people, had a negligible Internet connectivity of fewer than 500,000 lines (Naidoo, 2001). In Africa, each computer with an Internet or e-mail connection supports about three to five users. Thus, the estimated number of Internet users in Africa, apart from North Africa and South Africa is between 1.5 to 2.5 million. This is about 1 user for every 250-400 people, compared to a world average of about one user for every 15 people, and 1 in every 2 in North America (The African Internet: Status Report, 2002).

In Swaziland, there is an acute shortage of computers in schools. Indeed, lack of Internet connectivity has resulted in many children graduating from high school without having seen or touched a computer (Kunene, 2004). In 2002, for example, 98% of the school children in Swaziland graduated from high schools without having seen or touched a computer (Kunene, 2004; Hesselmark & Sibiya, 2002). The average number of computers per school was less than 1%. Where a computer was available in a school, it was generally used for administrative purposes rather than for educational purposes. What worsened the situation was that teachers had not been trained in teacher training institutions on how to use computers for teaching purposes, nor was ICT included in teacher education curricula. This then resulted to a serious shortage of professionals with computer skills in the private and public sectors, non-governmental organizations, and schools. This article describes how a group of partners collaborated to intro-

duce computer literacy in primary and secondary schools of Swaziland.

THE COMPUTER EDUCATION TRUST (CET)

In light of the importance of the knowledge economy and ICT in economic development and growth, and the fact that so many children graduated from school education without having seen or touched a computer, a Computer Education Trust (CET) was established in Swaziland in 1999. The Computer Education Trust was established by Nathan Kirsh, a business magnate, in collaboration with the Ministry of Education and other partners [the Computer Aid International (CAI) and Department for International Development (DFID) in the United Kingdom, the Mobile Telephone Network (MTN) in Swaziland, and the Swaziland Post and Telecommunication Corporation (SPTC)] (Hesselmark & Sibiya, 2002). The Computer Education Trust is a non-profit, non-governmental organization legally registered in Swaziland. It is managed by a board of directors, whilst the executive director manages the day-to-day activities of the Trust.

Objectives of the Computer Education Trust

The main goal of the Computer Education Trust is to extend computer literacy and vocational ICT to every child in secondary and high schools in Swaziland by providing refurbished computers. The objectives of the Computer Education Trust are to:

- access refurbished computers from Computer Aid International (CAI);
- facilitate custom clearance, distribution logistics and installation of computers into each school;
- provide full technical back-up and maintenance services in schools;
- collaborate with the National Curriculum Centre (NCC) in producing teaching materials;
- develop and produce a manual for training teachers;
- provide technical support and on-going advisory services to schools through part-time staff (i.e., on-the-job-training);
- provide minimal teacher training in computer literacy; and
- coordinate and lobby interest groups, opinion leaders, and decision makers to support the initiative for computer education in schools.

3 more pages are available in the full version of this document, which may be purchased using the "Add to Cart" button on the publisher's webpage: www.igi-global.com/chapter/forging-partnerships-provide-computer-literacy/11395

Related Content

Technology Adoption and Economic Development: Trajectories within the African Agricultural Industry

Taiwo E. Mafimisebi (2012). *Regional Development: Concepts, Methodologies, Tools, and Applications* (pp. 58-73). www.irma-international.org/chapter/technology-adoption-economic-development/66109

E-Planning and Public Participation: Addressing or Aggravating the Challenges of Public Participation in Planning?

Mhairi Aitken (2014). *International Journal of E-Planning Research* (pp. 38-53). www.irma-international.org/article/e-planning-and-public-participation/114160

How Technologies Can Enhance Open Policy Making and Citizen-Responsive Urban Planning: MiraMap - A Governing Tool for the Mirafiori Sud District in Turin (Italy)

Francesca De Filippi, Cristina Coscia and Roberta Guido (2017). *International Journal of E-Planning Research* (pp. 23-42). www.irma-international.org/article/how-technologies-can-enhance-open-policy-making-and-citizen-responsive-urban-planning/169812

Urban Planning 2.0

Ari-Veikko Anttiroiko (2012). *International Journal of E-Planning Research* (pp. 16-30). www.irma-international.org/article/urban-planning/62037

COVID-19 Contact Tracing: From Local to Global and Back Again

Teresa Scassa (2021). *International Journal of E-Planning Research* (pp. 45-58). www.irma-international.org/article/covid-19-contact-tracing/262507