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## WHY INVEST IN INFORMATION AND COMMUNICATIONS TECHNOLOGIES IN THE EDUCATION SECTOR?

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**W**hy invest in information and communications technologies (ICTs) when there are people who still live in absolute poverty and do not have enough to eat? This question is discomfoting for everyone concerned with the intersecting issues of ICT and development.

If we can't feed, clothe and cure everyone, why should we invest in ICTs? Why not put all the money into the basics? What will a computer do for someone who is hungry, sick, or illiterate? Perhaps little today, but the benefits tomorrow are potentially enormous. Additionally, we do not want anyone to develop permanent dependencies on foreign assistance, so it is better to teach people how to fend for themselves. Further, countries—down to the village level—simply cannot afford to be marginalized by not participating in the knowledge world. A country that elects to let the digital world pass by in order to respond to the more pressing internal needs runs the risk of being left further and further out of the new global market and its economic and social opportunities. One of the most devastating outcomes of this laissez-faire approach is the loss of a country's most promising young people to better education and employment opportunities elsewhere, possibly to never return and help their own country in its evolution.

Countries able to harness the benefits of ICT have access to global markets, which spurs GDP growth. They have greater access to educational opportunities and up-to-the minute medical information,

which improves standards of living. And citizens in these countries have a means of monitoring their government to ensure protection of human rights. These statements may seem wishful for countries that have little to export but a limited range of natural resources. Yet, reliance on trade in natural resources must be replaced by movement toward the knowledge economy. Japan, Hong Kong, China, and the Republic of Korea have limited natural resources compared many other countries, yet they are prosperous because of the quality of their human capital and their use of information. Perhaps such countries as Kiribati, Bhutan, and Samoa may not become equals to Japan in the short term, but they are certainly capable of moving up the value chain with a little help.

An effective strategy incorporates a balance of investment in basic needs, while at the same time facilitating ICTs. By contributing to both the immediate needs of the country, such as health, education, and security, and by creating an enabling environment that welcomes the use of ICTs through the provision of infrastructure and stimulating and competitive policies, nations can meet the needs of their citizens while participating in developments on the global information highway.

When investment in ICTs is discussed, particularly in education, the normal response is that it is the responsibility of government to provide education as a basic and essential service. With a good policy and regulatory framework, the private sector will address profitable segments of the education sector. However, the sheer volume and complexity of knowledge, available in ever-increasing waves, leaves the traditional approach to teaching unable to cope. Today, as discussed in the following chapter of this paper, the teacher cannot be expected to be fully knowledgeable in even his or her own area specialization. The role of teachers is changing to that of guide, mentor, motivator, and team leader. Significant investments must support this shift and train new cohorts of educators who will be more generalists and resource persons than lecturers.

With the shortage of qualified teachers in developing nations, the learner must take more responsibility for his or her education. To empower the learner and to help the teacher or tutor to support the student, ICTs are the ideal intermediaries to convey relevant knowledge in a timely and captivating fashion regardless of location or time of day. Television, radio, music, graphic arts and dance are universal media in Asia and the Pacific, but books far less so. In many

countries there is a decided aversion to reading. In an ICT-enabled environment, learners can enjoy captivating presentations of relevant knowledge delivered in formats tailored to their personal attributes, enhanced by new ways of facilitating absorption of information through the involvement of the learner in self-testing and seamless iteration with feedback. As a result, the learner feels there are practical applications for this knowledge, and that it can be used to their benefit. Investments in human capacity building for educational institutions, for administrators, for teachers, and for support staff will inevitably have repercussions in other areas of an economy and society as expanded human and material infrastructure is shared with other interests. The newly trained will seek to make use of their new capabilities and knowledge outside of the learning environment.

In the developed world, education and research—which go hand in hand—are often the major locomotives that pave the way for expanded ICT access and network capacity, and increased performance and computing power. Consider where Arpanet has led, with its objective of developing “the best academic computer centers.”<sup>1</sup> As the precursor to the Internet, it has generated a global revolution that has forever changed the way things are done in every sector, and in every country. The consensus among experts, whether from developed nations or not, “...is not whether to respond to the challenges brought about by the revolution in ICT, but how to respond and how to ensure that the process becomes truly global and everyone shares the benefits.”<sup>2</sup>

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<sup>1</sup> See <http://www.dei.isep.ipp.pt/docs/arpa.html>.

<sup>2</sup> Report of the Meeting of the High-Level Panel of Experts on Information and Communication Technology, New York, 17-20 April 2000.