High Hopes for High Tech

Michael Clarke, director of IDRC’s Information and Communication Technologies for Development (ICT4D) program area.

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By Stephen Dale

A profile of Michael Clarke, director of IDRC’s Information and Communication Technologies for Development (ICT4D) program area

As a professor in the Faculty of Medicine at the University of Western Ontario, Michael Clarke spent years promoting the use of advanced communication technologies to improve the delivery of medical care in the developing world.

“I’ve visited many, many rural clinics where the only health-care worker is a high school graduate who is doing amazing things, but who is struggling and needs more support,” he explains.

“It’s in those remote settings that these technologies can have a real impact — by providing the health-care staff with best practices, with guidelines, and by answering questions. With the right technology, that isolated practitioner can consult, in real time, with a specialist who’s hundreds or thousands of miles away, just as easily as speaking to someone down the corridor. And if you can improve the health-care worker’s skill sets and level of competency, this is bound to improve diagnosis and care for patients.”

Given his background using communication technologies in medical education, it’s appropriate that Michael Clarke’s first journey abroad as the new director of IDRC’s Information and Communication Technologies for Development (ICT4D) program area took him to the Philippines “to watch the birth of an Asia-wide research network dealing with technology and health care,” as he describes the occasion. “It was entirely fortuitous and the best place for me to be, as I was trying to get a grasp on what people are doing and what they are interested in.”

In other words, Clarke — who joined IDRC in January 2007 — is feeling right at home. Not only is there a strong overlap between his own interests and the concerns of the Centre, but additionally,
he says, IDRC’s method of working has much in common with the *modus operandi* of medical research. Both rely heavily on the contributions of academic experts, but measure their success by what they are able to achieve in the real world.

“In medicine we call it ‘bench to bedside’, which means that you are constantly held to account for how your work will have an impact on relieving the burden of illness,” comments Clarke. “To me, the spirit of the learning loop that goes on at IDRC is very much like that, because there is a strong focus on accountability, and measuring how research is applied to change actual conditions.”

**An evolving career path**

Clarke’s journey into the highly specialized world of medical research began serendipitously. After earning a BSc in biology in Canada, he left to teach high school in Sierra Leone as a CUSO cooperator. He stayed on in the country after “a series of very interesting coincidental events led to a job offer with a USAID project in agriculture, looking at the increasing incidence of human disease resulting from the introduction of a new way of growing rice.” This pointed toward new career possibilities, leading Clarke back to Canada for postgraduate studies in biochemistry at the University of Guelph.

The ICT component of his work evolved slowly. A post-doctoral project on sleeping sickness in rural Kenya involved “a lot of cloning and sequencing of genes,” Clarke recalls, “which has a lot of computational requirements.” His new interest in the medical applications of ICTs grew further after he accepted a teaching position at the University of Western Ontario’s Faculty of Medicine. He recalls, in the mid-1980s, “dragging what was then my high end computational equipment into the classroom” so that “250 students could stare at a 20-inch monitor at the front of the class.”

**A wide spectrum of applications**

Although Clarke says his background makes him well-positioned to make the case for increased use of ICTs in both medicine and education, he’s says there’s a vast range of issues where communication technologies have a crucial role to play.

Economics is one area where ICTs have made an impact. For example, IDRC-supported research has shown how mobile phones and Internet technology increased the incomes of Senegalese small-scale farmers and fishers, by giving them reliable, up-to-date information on market prices, and strengthening their positions as they negotiated prices with buyers.

IDRC’s future role in extending the economic impact of ICTs, Clarke believes, includes participating in the expansion of communication infrastructure such as broadband networks so that the benefits of ICTs become more widely accessible. He adds that additional economic advantages will come to developing countries if institutions like IDRC can help foster the conditions where more of the value-added work associated with high technology (such as software development) is undertaken locally.

Clarke also believes that ICTs can play a vital role in environmental monitoring. This may take several forms, including using sophisticated Global Positioning Systems (GPS) to track large-scale environmental changes as well as relying on networks of mobile phone-equipped observers to keep track of occurrences on the ground. Meanwhile, the widespread use of ICTs during recent elections in Kenya shows that new technologies can be powerful tools in the quest for improved standards of governance and increased public participation.

IDRC is likely to have a continued influence in all these areas, Clarke believes, because it approaches the deployment of ICTs not as a discreet, self-contained objective, but as an integral component of its broader goals. “One of the really attractive things about being here,” he says, “is
that we are by definition and default trans- and multidisciplinary. My job is not to be a fanatic for new technologies, but to work with others to deal with themes across a very wide spectrum.”

Clarke has high expectations for how, in the next decade, ICTs can help bring about profound change. On the health front, for instance, he says that “assuming the best case scenario that most of the world has broadband Internet connectivity, what I can see is a new way of educating health-care workers in the developing world.”

“The shortage of health workers could be addressed,” he speculates, “and that would be a major achievement.”

*Stephen Dale is an Ottawa-based writer.*