EDITORIAL

Creating Necessary Knowledge

The contributors to this issue demonstrate a basic truth of our times—the ubiquitous accelerating search for "necessary knowledge." The essays in this issue of ITID discuss each in its own way the creation, measurement, diffusion, and use of necessary knowledge. The authors carefully document in Africa, Asia, and Latin America efforts to understand this process, the way data becomes information, and information may be turned into knowledge by individuals to aid in their various development aims. The authors, Norma Miller in particular (referring back to Castells), point out that the knowledge gap may well constitute the most important dimension of the digital divide

It seems to us that necessary knowledge (a term used by the president of the Social Science Research Council, Craig Calhoun) about development is in great demand for several reasons, many of them prompted by the advent of new information and communications technologies. Change in all countries is occurring so fast from so many quarters—both domestic and foreign—that we feel the need to understand and selectively to resist and adjust, whether we are in Bamako or Beijing. Many of these changes are enabled by ICTs, and they are disrupting traditional demographic, economic, and political patterns as people spread in new ways across urban and rural areas, or investment spreads in new ways across different regions. And as our authors demonstrate, beyond the diagnostic questions, people in developing countries pose the creative strategic questions too—how can ICT resources be employed to enhance rather than undercut development. In this sense Schumpeter's idea of "creative destruction" is as apt for LDCs today as for other developing regions.

There is a second factor that works on the growing search for necessary knowledge about ICTs for development. The media constantly reminds us of the vast and growing store of knowledge being created and gathered around the world. They have affected and altered our expectations. We believe that somewhere "out there" there may be knowledge that can help solve a difficult local problem—in health, or in education. Maybe a doctor or teacher or technologist in Asia or Africa has found a solution to a difficult problem bedeviling someone in Mexico—if only we could find it, and maybe we can find it through a listserv or a Google question. Need and expectation are coming together to create a kind of tension of expectation.

Yet while there is a lot of truth to these new expectations of new knowledge being more readily accessible, our year of editing ITID has left us somewhat skeptical—there is probably less useful knowledge out there than we may believe. "Best or good practices" (lessons learned) exist in people's heads, but there is still too little careful assessment and measurement and vetting to see if they really are good practices in their own setting, much less useful in other social and cultural contexts.

Here is where another important element of the work of ITID enters the picture. Capturing, measuring, and assessing best practices—or any kind of knowledge, for that matter, necessary or other-

wise—is an inherently social exercise. Capture and assessment occurs within institutions and networks deeply embedded in society. Knowledge is produced across networks that span institutions and, indeed, nations. Much of development, in fact, results from crafting more and more intersecting networks where knowledge can be willingly shared and carefully applied to matters of consequence for society.

A big part of our purpose at ITID is to facilitate the growth of precisely this kind of community within which such disciplined conversations can occur among engaged scholars and thoughtful practitioners from around the world. This issue of the journal is, we hope, another contribution both to the creation of necessary knowledge, as well as to the fostering of a global community of scholars and practitioners interested in development and ICT.

Norma Miller traces the "first and most obvious aspect of the divide," the connectivity gap, in her study of infoplazas—the first study of this kind in Panama. The findings emphasize the fact that these public community information centers might be the only Internet access option for people in less densely populated areas in the developing world. However, according to Miller's estimates, infoplazas account for only a small percentage of Panama's Internet users—due largely to the limited number of infoplazas—which contrasts sharply with the mass roll-out of *cabinas públicas* in Peru. The author's thorough methodology sets a benchmark for studies of community information centers, and the findings support the call for a further roll-out of these services to marginalized communities.

Another contribution to ICT4D methodology and its application comes from Corbett and Keller. Their study traces the use of participatory geographic information and multimedia systems (PGIMS) by rural communities in Indonesia. It explains how digital community mapping can be combined with appropriate multimedia technology to offer disadvantaged sectors of the community tools to express their own conceptualizations of space and, thus, contribute to their empowerment. The authors present an analytical framework to measure the notoriously elusive concept of empowerment on both the individual and the community level.

Just what the benefits of an ICT intervention are at this grassroots level is what Cecchini and Raina set out to evaluate in their study of the Gyandoot e-government project in the rural district of Dhar in Madhya Pradesh for the local population. The findings show that much of the potential of e-government has not been realized and outreach to the poorest people is particularly difficult. The authors conclude that apart from appropriate technology, appropriate change agents, community participation, availability of pro-poor services and campaigns to raise awareness are also key to make e-government better benefit the poor.

Moving to a more macro level, strategic viewpoint, Li et al., in their thoughtful piece on the possible growth strategies for the Chinese software industry, highlight the difficulties software companies in developing companies face due to the influx of products from the big software makers in developed countries. China is a rapidly expanding market for software products and services. The authors argue that the Chinese government should promote open source software as a strategy to assist China's own software industry in this highly competitive environment.

Finally, our *Forum* piece relates back to the contributions on ICT4D methodology. Dhingra and Misra introduce an information needs assessment model, which aims at identifying the information needs of end-users in rural communities. Using an inductive approach, the authors clustered the heterogeneous information needs data they collected in a map of information-needs-categories. This diagram has been used in several related projects and may be a useful tool for other researchers and practitioners concerned with the needs of the rural poor.

Our authors are only a few more of those knowledgeable actors that roam the planet. The Internet as a medium has created not only new ways of connecting these knowledgeable actor, but also a new form of cognitive dissonance, a new kind of tension in each one of us. We know the information we seek, which we could turn into useful knowledge for ourselves, is out there—"It's on the web"—or at least we believe it is. Too many times we discover that it isn't actually there. Hence, the purpose of this volume is to help create more of this knowledge that we seek—necessary knowledge.

Ernest J. Wilson III
Editor-in-Chief

Michael L. Best
Editor-in-Chief