## **Preface**

Technology remains as the fountainhead for human development and economic growth. But its spread continues to be painfully slow. Electric power, in spite of its unmatched technical prowess, took almost one hundred years to become commonplace. Even after a century of telephones, billions of people have no access to it. It appears that technological prowess alone is inadequate to guarantee success. Other factors matter: its relevance, availability, affordability, the speed of diffusion, and the social and environmental costs for harnessing it. The development divide we see among and within nations is due to these factors being different across countries, rather than due to technologies per se.

Information and Communications Technology (ICT), with its reach, richness and performance, holds great promise. Is it possible to harness this technology speedily and equitably, learning from the lessons of the past? What are the developmental problems of our society that this technology can address, and does it have all the necessary functionalities and tools or do they have to be developed? What should be the priorities and how can we structure the challenges ahead? These are some of the questions we wanted to discuss in the two workshops we organized in 2003 and 2004.

Instead of allowing ICT experts to discuss their wares, we wanted them to first learn the problems of human and economic development. We therefore structured the first workshop in Washington DC with development experts presenting on the challenges in development to scientists and engineers working in ICT. In the second workshop in Bangalore we invited the ICT professionals to work with development experts and identify areas for research, design and deployment of ICT solutions appropriate for sustainable development. Before the second workshop, we also distributed a questionnaire among the participants to know their views and priorities, and, based on their responses, prepared a discussion note to help the deliberations.

This report provides a summary of the proceedings with a few extensions and analyses. It does not attempt to identify all the challenges discussed in the workshops, but is content to provide the highlights and priorities suggested by the participants. These include not only the technological problems but also suggestions for development and deployment of the innovations. We have also summarized the metrics for assessing ICT-enhanced development. Each area suggested at the workshops as worthy of pursuit deserves greater scrutiny than what we have attempted in this report. These will have to be the focus of further studies.

People and governments are becoming increasingly aware that policy innovations and social changes are essential to make technologies work for common good. They are also becoming impatient of the divides that condemn a large fraction of the global population to poverty, undernourishment and disempowerment, and look to technologies such as ICT to eliminate such glaring disparities. This report confirms that ICT can indeed be shaped to become such a tool.



Raj Reddy
Carnegie Mellon
University

V. S. Arunachalam Carnegie Mellon University

